CATALOG 103

NEWARK ELECTRONICS

56 years of publication

- Over 100,000 electronic devices through your nearest Newark warehouse
- 180 major product lines
- All products listed are stocked

- Completely indexed by product and brand name... many valuable cross-references
- Over 600 Pages of product information for industrial electronics
- Material arranged by product category for quick reference
- Computerized price, delivery and order entry service
- A fully stocked Newark warehouse is as near as your phone

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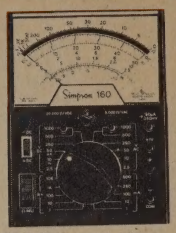
Newark Electronics stocks the complete line of Simpson Instruments

panel meters ■ testers ■ instrumentation accessories

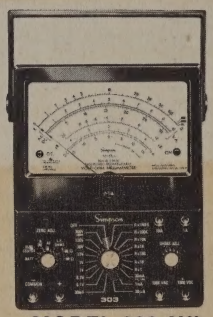
VOMs

260-6 VOM

260-6XL VOM

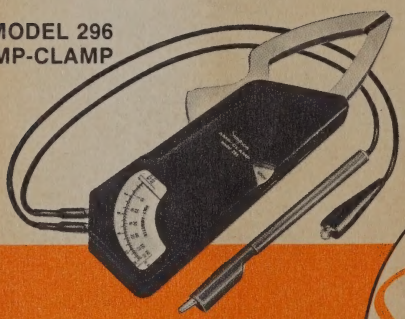


MODEL 160 VOM



MODEL 303-3XL SOLID-STATE VOM

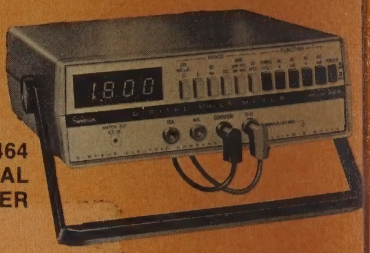
MODEL 296 AMP-CLAMP



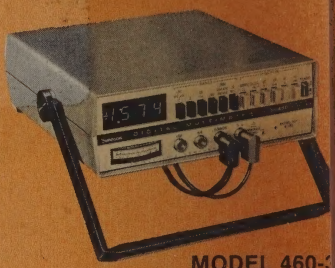
MODEL 7527 ANA-LED PANEL METERS

DIGITAL MULTIMETERS

MODEL 464 DIGITAL MULTIMETER



MODEL 360-2 DIGITAL VOM



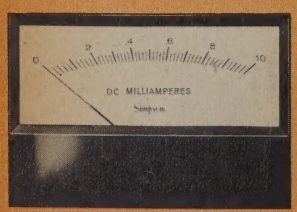
MODEL 460-3 DIGITAL MULTIMETER

MODEL 886 SOUND LEVEL METER

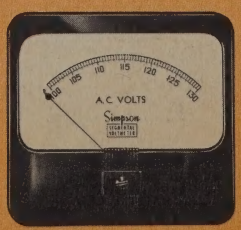
Simpson®

INSTRUMENTS THAT STAY ACCURATE

PANEL METERS OVER 2,000 SIZES, RANGES, TYPES



MODEL 2850 DIGITAL PANEL METERS



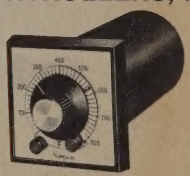
MODEL 29 4-1/2 METERS

WIDE-VUE MODELS 1-1/2, 2-1/2, 3-1/2, 4-1/2, 4x6, 8"

KATY INDUSTRIES

INDUSTRIAL EQUIPMENT GROUP

EDGEWISE MODELS, METER RELAYS, CONTROLLERS, RECORDERS



MODEL 5850 TEMPERATURE CONTROLLERS

BOLD-VUE MODELS

250° METERS

MODEL 3623XA EDGEWISE CONTROLLERS

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NEWARK ELECTRONICS

AN ENTERPRISE OF PREMIER INDUSTRIAL CORPORATION

OVER 100,000 ELECTRONIC DEVICES AVAILABLE

Your Newark catalog is a directory and guide to the standard components of hundreds of internationally recognized manufacturers of high quality electronic components. Select the components you need, and contact the Newark facility nearest you for prompt shipment from stock.

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TOLEDO, OHIO 43614
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Telex 46-4428

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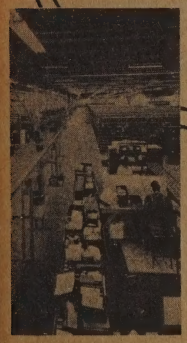
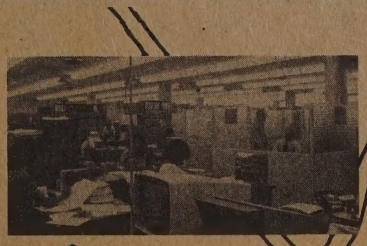


We can handle your electronic needs anywhere in the world. Our international sales office, located in our Chicago headquarters building, may be reached by phone, Telex or Cable. See page 680.



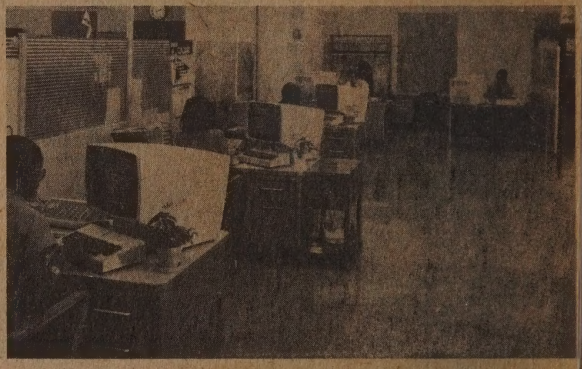
OUR 56TH YEAR

DEDICATED TO SERVING YOU FIRST WITH THE ELECTRONIC COMPONENTS YOU WANT WHEN YOU WANT THEM

NEWARK ELECTRONICS ...where serving you begins before you even call.

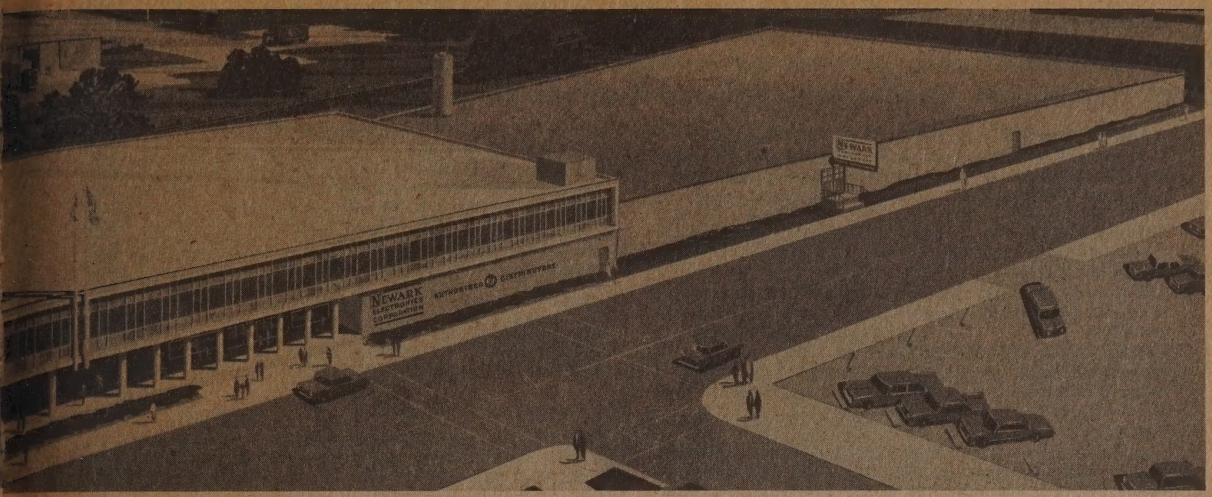
Newark's advanced communications system is designed to make phone ordering fast and simple. Our switchboard handles numerous calls simultaneously; so you won't get a busy signal. And each of our salesmen has access to outgoing WATS lines to ensure the fastest possible responses to your inquiries.

Each of our salesmen has direct access to Newark's inventory control computers, to eliminate guesswork on product availability. With these leased lines, they can tell you exactly what we have on hand, how much it costs, when we will ship, when more products will arrive, and how soon you can get it.

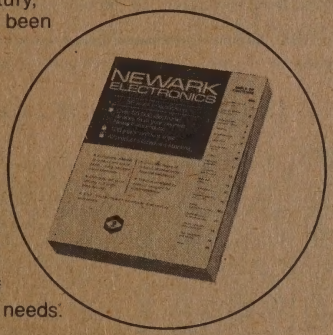


Our main warehouse and strategically located regional warehouses hold a multi-million dollar inventory of electronic components and equipment—over 100,000 items from 180 manufacturers on hand at Newark in quantity to see that you get the off-the-shelf deliveries you need ... of leading brand-name products—never an unauthorized substitution.

When you place your order, it immediately goes to our 125,000 square foot automated warehouse, or nearest stocking facility, where it is filled and sent to our shipping department. In most cases, your order will go out the same day. Most orders are shipped *in full* within 24 hours of receipt.

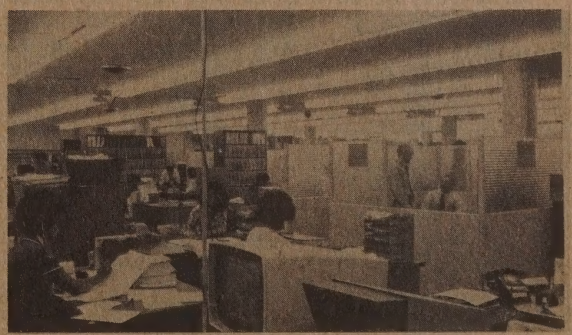


For more than half a century, the Newark catalog has been the industry's leading sourcebook on electronic components. And it's your general guide to off-the-shelf product availability. "If we list it, we stock it." As an engineering aid, it contains complete technical specifications, parameter data and selection guides. It's your product guide for all of your electronic component needs.



You get what you need from Newark, including important value-added services like connector assembly and switch assembly. But whatever the services, it's our people that make the most important difference.

In addition to the Newark catalog, we stock a complete library of manufacturers' literature for your use when you want specific product information. And our comprehensive mailing program keeps you informed on new products, availabilities and purchase opportunities.



We have product specialists in each important component area—like semiconductors and connectors—to provide in-depth technical back-up to our sales force—and to you. And all Newark people are dedicated to serving your needs first, with the answers you need, the products you want, and the service you deserve.

Wherever you are located, Newark can provide fast, efficient service for your electronic component requirements. A list of facilities are on page one.

OPEN ACCOUNTS FOR INDUSTRIAL CUSTOMERS
Orders are accepted for open account billing from well-rated firms, institutional and school accounts and government agencies. Firms without a published rating may apply for credit by submitting trade and bank references. Terms of payment are net, 10th and 25th of the month. Past due accounts subject to late payment charge of 1½% per month.

MINIMUM BILLING
Minimum is $25.00 to rated accounts, $25.00 to non-rated accounts. On non-catalog items, minimum billing is $25.00 per item.

LARGE QUANTITY QUOTATION OR BIDS
Newark will quote on quantities in excess of the maximum amounts shown in the catalog. Contact your nearest Newark branch for current prices and delivery.

PRICES
Catalog prices are net, F.O.B. Chicago. The prices shown in this catalog are based upon the manufacturer's suggested resale prices where published for the quantities ordered as of the catalog preparation date. They are subject to change without notice. Orders are filled at the prices in effect at the date of shipment and these prices may vary from those shown, depending upon the price changes.
For up to the minute prices and for prices on quantities in excess of those shown, contact the Newark branch nearest you. Prices do not include any federal, state or local taxes.

WARRANTY
SINCE THE SELLER, NEWARK ELECTRONICS, DOES NOT CONTROL THE USE OF ITS PRODUCTS, THERE ARE NO EXPRESS WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF. SELLER DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE. SINCE SELLER CANNOT CONTROL THE MANNER OR USE OF ITS PRODUCTS AFTER THEIR SALE, SELLER WILL NOT BE RESPONSIBLE FOR ANY CONSEQUENTIAL OR INDIRECT DAMAGES. SINCE SELLER IS ONLY ACTING AS A DISTRIBUTOR OF PRODUCTS MANUFACTURED BY OTHER COMPANIES, SELLER EXPRESSLY LIMITS ITS LIABILITIES TO ANY GUARANTEES EXTENDED BY THE MANUFACTURER, WHICH GUARANTEES SELLER WILL PASS THROUGH TO THE CUSTOMER. SELLER WILL, AT ITS OPTION, EITHER REPLACE THE GOODS SOLD OR REFUND THE PURCHASE PRICE.

NON-CATALOG ITEMS
Merchandise not listed in our catalog, if available from our regular suppliers, may be subject to minimum order quantities and/or special handling charges. Shipment is made as quickly as deliveries are received from our source. Special order products are sold on a non-returnable basis.

RETURNS
Returns must be accompanied by a "Return Authorization." Authorization may be obtained from the Newark facility in your area. Returns may be subject to a restocking charge.

ORDERING AND SHIPPING INFORMATION

UNITED PARCEL SERVICE

United Parcel Service (UPS) now handles shipments to the 48 states and island of Oahu in Hawaii. To calculate UPS charges, use the Parcel Post Zip Code/Zone chart below to determine your area zone. Then use the chart at the right. Any fraction of a pound takes the next higher pound rate. Maximum weight, 100 pounds. Maximum size, 108 inches in length and girth combined. The minimum charge for a package over 84 inches in length and girth combined is for 25 pounds. Rates are subject to change without notice.

Weight not to exceed lbs.	ZONES							Weight not to exceed lbs.	ZONES						
	1-2	3	4	5	6	7	8		1-2	3	4	5	6	7	8
1	$ .69	$ .70	$ .73	$ .75	$ .79	$ .83	$ .88	35	$2.79	$3.32	$4.23	$5.14	$6.40	$7.83	$9.44
2	.75	.78	.83	.88	.95	1.04	1.13	40	3.10	3.70	4.74	5.78	7.22	8.86	10.70
3	.81	.86	.93	1.01	1.12	1.24	1.38	45	3.41	4.09	5.26	6.43	8.05	9.89	11.96
4	.87	.93	1.04	1.14	1.28	1.45	1.63	50	3.72	4.47	5.77	7.07	8.87	10.92	13.22
5	.93	1.01	1.14	1.27	1.45	1.65	1.88	55	4.65	5.48	6.91	8.34	10.32	12.57	15.10
6	1.00	1.09	1.24	1.40	1.61	1.86	2.14	60	4.96	5.86	7.42	8.98	11.14	13.60	16.36
7	1.06	1.16	1.35	1.53	1.78	2.07	2.39	65	5.27	6.26	7.94	9.63	11.97	14.63	17.62
8	1.12	1.24	1.45	1.66	1.94	2.27	2.64	70	5.58	6.63	8.45	10.27	12.79	15.66	18.90
9	1.18	1.32	1.55	1.79	2.11	2.48	2.89	75	5.89	7.02	8.97	10.92	13.62	16.69	20.14
10	1.24	1.39	1.65	1.91	2.27	2.68	3.14	80	6.20	7.40	9.48	11.56	14.44	17.72	21.40
15	1.55	1.78	2.17	2.56	3.10	3.71	4.40	85	6.51	7.79	10.00	12.21	15.27	18.75	22.66
20	1.86	2.16	2.68	3.20	3.92	4.74	5.68	90	6.82	8.17	10.51	12.85	16.09	19.78	23.92
25	2.17	2.55	3.20	3.85	4.75	5.77	6.92	95	7.13	8.56	11.03	13.50	16.92	20.81	25.18
30	2.48	2.93	3.71	4.49	5.57	6.80	8.18	100	7.44	8.89	11.54	14.14	17.74	21.84	26.44

ZIP CODE/ZONE CHART Use Your Zip Code To Find Your Parcel Post Or UPS Zone

Zip Code Prefixes	Zone
006-009	8
010-046	5
047	6
048-098	5
100-129	5
130-132	4
133-139	5
140-179	4
180-199	5
200-215	4
216	5
217	4
218-219	5
220-232	4
233-238	5
239-274	4
275-279	5
280-282	4
283-285	5
286-289	4
290-292	5
293	4
294-295	5
296-297	4
298-299	5
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304	5
305-307	4
308-329	5
330-334	6
335-338	5
339-349	6
350-359	4
360-361	5
362	4
363-369	5
370-389	4
390-396	5
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400-406	3
407-409	4
410	3
411-419	4
420	3
421-422	4
423-424	3
425-426	4
427-438	3
439	4
440-443	3
444-447	4
448-456	3
457	4
458-459	3
460-462	2
463-464	1
465-469	2
470-472	3
473	2
474-478	3
479	2
480-489	3
490-491	2
492	3
493-495	2
496-499	3
500-504	3
505	4
506-507	3
508-519	4
520	2
521-526	3
527-539	2
540	4
541-547	3
548	4
549	3
550-558	4
559	3
560-574	4
575-579	5
580-581	4
582-589	5
590-591	6
592-593	5
594-599	6
600-605	1
606	Local
607-609	1
610-619	2
620-636	3
637-649	4
650-652	3
653-675	4
676-679	5
680-689	4
690-699	5
700-715	5
716-717	4
718	5
719-729	4
730-739	5
740-744	4
745	5
746	4
747-748	5
749	4
750-778	5
779-785	6
786-787	5
788	6
789-796	5
797-799	6
800-812	5
813-819	6
820-823	5
824-825	6
826-828	5
829-834	6
835-839	7
840-849	6
850-854	7
855-863	6
864	7
865-880	6
881	5
882-883	6
884-889	5
890-899	7
900-933	7
934	8
935-938	7
939-951	8
952-953	7
954-955	8
956-961	7
962-969	8
970-994	7
995-999	8

Use the first 3 digits of your Zip Code to determine your Parcel Post Zone. Example: If your Zip Code is 16606, use the first 3 numbers (166), and refer to the chart above for your Zone, which is 4.

NEWARK ELECTRONICS

CASH ORDERS

Use your own purchase orders or stationery. Print or type name and full address. Be sure to clearly indicate stock numbers, quantity, manufacturer's type number and description. Remit full amount including the cost of postage and insurance—any excess will be refunded. **Mail orders must be at least $25.00. Non-catalog items—$25.00 minimum per item.** We ship the most economical way. Remit by money order or check, not cash or stamps.

APO AND FPO SHIPMENTS

APO and FPO shipments are made by Parcel Post. Maximum weight: 70 lbs. Maximum size: 100 inches (length plus girth). Surface and Air postage is at the applicable Zone rate.

C.O.D. SHIPMENTS

25% deposit required. On parcel post C.O.D. shipments, the Post Office charges a collection fee and a money order fee. Save money by sending full remittance with your order.

IF YOU WRITE US . . .

When writing to us regarding Open Account orders please give your purchase order number and our invoice number. If you are returning a cash order include your original order papers (These are returned to you after your order is shipped) with stock numbers and item descriptions.

METHOD OF SHIPMENT

All terms are F.O.B. shipping point

UNITED PARCEL SERVICE. UPS now serves the 48 states and the island of Oahu in Hawaii. See page 4.

AIR SHIPMENT. For rush orders we will ship by air Freight if you so request, shipping charges collect. Or we will ship by Air Parcel Post or UPS Air.

TRUCK. For heavy shipments, Common Carrier is most economical. Charges are F.O.B. shipping point.

SHIPMENT DAMAGE

Merchandise we ship is carefully packed or pre-packaged by our suppliers in compliance with carrier requirements. Claims for loss or damage in transit must be made with the carrier by the customer.

Concealed Loss or Damage. Does not become apparent until shipment is unpacked. Make a request for inspection by the carrier's agent and file claim with the carrier.

Visible Loss or Damage. Any external evidence of loss or damage must be noted on the freight bill or carrier's receipt and signed by the carrier's agent. Failure to do this will result in the carrier refusing to honor the claim. Newark is not responsible for damage incurred in transit. The transportation company rates cover insurance and they will settle damage and loss claims.

PARCEL POST RATE CHART

Weight 1 lb. and not to exceed	Local Zone	Up to 150 miles 1-2	150 to 300 miles 3	300 to 600 miles 4	600 to 1,000 miles 5	1,000 to 1,400 miles 6	1,400 to 1,800 miles 7	Over 1,800 miles 8
2	$0.77	$0.90	$0.93	$1.04	$1.15	$1.28	$1.40	$1.48
3	.82	.97	1.02	1.15	1.29	1.46	1.62	1.74
4	.86	1.04	1.10	1.25	1.42	1.63	1.84	2.00
5	.91	1.11	1.19	1.36	1.56	1.81	2.06	2.26
6	.95	1.18	1.27	1.46	1.69	1.98	2.28	2.52
7	1.00	1.25	1.36	1.57	1.83	2.16	2.50	2.78
8	1.04	1.32	1.44	1.67	1.96	2.33	2.72	3.04
9	1.09	1.39	1.53	1.78	2.10	2.51	2.94	3.30
9	1.13	1.46	1.61	1.88	2.23	2.68	3.16	3.56
10	1.18	1.53	1.70	1.99	2.57	2.86	3.38	3.82
12	1.22	1.60	1.78	2.09	2.50	3.03	3.60	4.08
13	1.27	1.67	1.87	2.20	2.64	3.21	3.82	4.34
14	1.31	1.74	1.95	2.30	2.77	3.38	4.04	4.60
15	1.36	1.81	2.04	2.41	2.91	3.56	4.26	4.86
16	1.40	1.88	2.12	2.51	3.04	3.73	4.48	5.12
17	1.45	1.95	2.21	2.62	3.18	3.91	4.70	5.38
18	1.49	2.02	2.29	2.72	3.31	4.08	4.92	5.64
19	1.54	2.09	2.38	2.83	3.45	4.26	5.14	5.90
20	1.58	2.16	2.46	2.93	3.58	4.43	5.36	6.16
25	1.81	2.51	2.89	3.46	4.26	5.31	6.46	7.46
30	2.03	2.86	3.31	3.98	4.93	6.18	7.56	8.76
35	2.26	3.21	3.74	4.51	5.61	7.06	8.66	10.06
40	2.48	3.56	4.16	5.03	6.28	7.93	9.76	11.36
50	2.93	4.26	5.01	6.08	7.63	9.68	11.96	13.96

PARCEL POST RATES

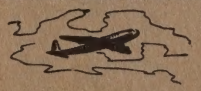
Find the weight or your merchandise in the "Weight" column of the chart below. Pay the amount shown for Parcel Post delivery to your zone. A fraction of a pound is charged as a full pound. Packages weighing over 40 pounds are shipped by Truck or UPS.

PARCEL POST INSURANCE

To protect you, we insure all Parcel Post shipments with a private insurance company. The fee is minimum, and in the event of loss or damage, adjustments are fast and easy.

Liability	Insurance Fee
$5.00 to $15.00	$0.40
$15.01 to $50.00	.60
$50.01 to $100.00	.80
$100.01 to $150.00	1.00
$150.01 to $200.00	1.20

AIR PARCEL POST



Orders shipped Air Parcel Post upon request. Maximum weight: 70 lbs. Maximum size: 100" (length plus girth).

Weight in pounds	Zones 1, 2, 3	4	5	6	7	8
1	$1.56	$1.58	$1.60	$1.62	$1.64	$1.67
1.5	1.73	1.77	1.84	1.90	1.97	2.07
2.0	1.89	1.96	2.07	2.18	2.29	2.46
2.5	2.05	2.15	2.29	2.43	2.59	2.78
3.0	2.21	2.33	2.50	2.68	2.88	3.09
3.5	2.37	2.51	2.70	2.91	3.15	3.38
4.0	2.53	2.69	2.90	3.14	3.41	3.67
4.5	2.68	2.86	3.09	3.35	3.65	3.94
5.0	2.83	3.03	3.27	3.56	3.88	4.20
Add per lb.	30c	34c	37c	42c	47c	52c

All Rates Are Subject to Change Without Notice

NEW TYPES STOCKED AS SOON AS RELEASED

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfr	1-24	—
CA308AT	RCA	9.55	—
CA308T	RCA	2.35	—
CA324G	RCA	3.00	—
CA339G	RCA	2.70	—
CA555CE	RCA	.89	—
CA555E	RCA	.99	—
CA741CE	RCA	.60	—
CA741CG	RCA	.60	—
CA741CS	RCA	.80	—
CA741CT	RCA	.80	—
CA741G	RCA	1.30	—
CA741S	RCA	1.30	—
CA741T	RCA	1.30	—
CA747CE	RCA	1.50	—
CA747CG	RCA	1.50	—
CA747CT	RCA	2.10	—
CA747E	RCA	2.10	—
CA747G	RCA	2.10	—
CA747T	RCA	4.10	—
CA748CS	RCA	.78	—
CA748CT	RCA	.78	—
CA748S	RCA	2.00	—
CA748T	RCA	2.00	—
CA1456S	RCA	1.40	—
CA1458T	RCA	1.40	—
CA1541D	RCA	9.90	—
CA1558S	RCA	4.10	—
CA1558T	RCA	4.10	—
CA2111AE	RCA	1.73	—
CA3000	RCA	3.80	—
CA3001	RCA	5.55	—
CA3002	RCA	3.71	—
CA3004	RCA	3.71	—
CA3005	RCA	2.48	—
CA3006	RCA	5.80	—
CA3007	RCA	5.35	—
CA3008	RCA	3.14	—
CA3008A	RCA	5.10	—
CA3010	RCA	.89	—
CA3010A	RCA	1.07	—
CA3011	RCA	1.47	—
CA3012	RCA	1.82	—
CA3013	RCA	2.15	—
CA3014	RCA	2.48	—
CA3015	RCA	2.14	—
CA3015A	RCA	3.05	—
CA3016	RCA	4.30	—
CA3016A	RCA	6.52	—
CA3018	RCA	1.05	—
CA3018A	RCA	1.75	—
CA3018A-4	RCA	5.50	—
CA3019	RCA	1.07	—
CA3020	RCA	2.56	—
CA3020A	RCA	3.26	—
CA3021	RCA	3.14	—
CA3022	RCA	2.64	—
CA3023	RCA	2.56	—
CA3026	RCA	1.35	—
CA3028A	RCA	1.25	—
CA3028AS	RCA	1.25	—
CA3028B	RCA	1.66	—
CA3028BS	RCA	1.66	—
CA3029	RCA	.81	—
CA3029A	RCA	.98	—
CA3030	RCA	1.82	—
CA3030A	RCA	2.72	—
CA3033	RCA	4.79	—
CA3033A	RCA	8.09	—
CA3034	RCA	2.89	—
CA3035	RCA	2.48	—
CA3035V1	RCA	2.48	—
CA3036	RCA	3.35	—
CA3037	RCA	2.80	—
CA3037A	RCA	4.29	—
CA3038	RCA	4.29	—
CA3038A	RCA	5.78	—
CA3039	RCA	1.07	—
CA3040	RCA	4.87	—
CA3041	RCA	2.06	—
CA3042	RCA	2.06	—
CA3043	RCA	2.81	—
CA3044	RCA	2.31	—
CA3044V1	RCA	2.31	—
CA3045	RCA	4.50	—
CA3045F	RCA	1.21	—
CA3046	RCA	1.29	—
CA3047	RCA	2.61	—
CA3047A	RCA	4.79	—
CA3048	RCA	4.04	—
CA3049T	RCA	2.40	—
CA3050	RCA	3.71	—
CA3051	RCA	2.72	—
CA3052	RCA	3.14	—
CA3053	RCA	.81	—
CA3054	RCA	1.25	—
CA3058	RCA	5.80	—
CA3059	RCA	3.20	—
CA3060AD	RCA	5.78	—
CA3060BD	RCA	9.80	—
CA3060D	RCA	8.16	—
CA3060E	RCA	3.25	—
CA3062	RCA	4.86	—
CA3064	RCA	2.31	—
CA3065	RCA	2.31	—
CA3066	RCA	4.25	—
CA3067	RCA	4.46	—
CA3068	RCA	4.95	—
CA3070	RCA	3.47	—
CA3071	RCA	3.30	—
CA3072	RCA	3.38	—
CA3075	RCA	2.31	—
CA3076	RCA	2.64	—
CA3078AS	RCA	3.50	—
CA3078AT	RCA	3.50	—
CA3078S	RCA	1.75	—
CA3078T	RCA	1.75	—
CA3079	RCA	1.63	—
CA3080	RCA	.97	—
CA3080A	RCA	3.22	—
CA3080AS	RCA	3.22	—
CA3080E	RCA	.79	—
CA3080S	RCA	.00	—
CA3081	RCA	1.49	—
CA3082	RCA	1.49	—
CA3082E	RCA	1.49	—
CA3083	RCA	1.57	—
CA3084	RCA	2.95	—
CA3085	RCA	.98	—
CA3085A	RCA	2.39	—
CA3085AS	RCA	2.39	—
CA3085B	RCA	6.52	—
CA3085S	RCA	.98	—
CA3086	RCA	.81	—
CA3088E	RCA	2.31	—
CA3089E	RCA	3.63	—
CA3090Q	RCA	7.43	—
CA3091D	RCA	10.70	—
CA3093E	RCA	1.85	—
CA3094AS	RCA	1.63	—
CA3094AT	RCA	1.63	—
CA3094BT	RCA	2.29	—
CA3094S	RCA	.90	—
CA3094T	RCA	.90	—
CA3096AE	RCA	2.05	—
CA3096E	RCA	1.87	—
CA3097E	RCA	1.75	—
CA3099E	RCA	1.63	—
CA3100T	RCA	2.10	—
CA3102E	RCA	2.75	—
CA3118AT	RCA	2.31	—
CA3118T	RCA	1.62	—
CA3121E	RCA	5.52	—
CA3130AS	RCA	4.15	—
CA3130AT	RCA	4.15	—
CA3130BS	RCA	13.95	—
CA3130BT	RCA	13.95	—
CA3130T	RCA	1.39	—
CA3131EM	RCA	4.29	—
CA3132EM	RCA	4.29	—
CA3140AT	RCA	2.50	—
CA3140S	RCA	.80	—
CA3140T	RCA	.80	—
CA3146AE	RCA	2.31	—
CA3146E	RCA	1.62	—
CA3183AE	RCA	2.48	—
CA3183E	RCA	2.06	—
CA3401E	RCA	.94	—
CA3600E	RCA	1.75	—
CA3724G	RCA	1.75	—
CA3725G	RCA	2.90	—
CA6078T	RCA	2.25	—
CA6741T	RCA	1.95	—
CD1418AF	RCA	5.44	—
CD2500E	RCA	4.62	—
CD2501E	RCA	4.62	—
CD2502E	RCA	4.95	—
CD2503E	RCA	4.95	—
CD4000AD	RCA	3.77	—
CD4000AE	RCA	.32	—
CD4000AF	RCA	.63	—
CD4001AD	RCA	3.99	—
CD4001AE	RCA	.32	—
CD4001AF	RCA	.63	—
CD4001AK	RCA	3.99	—
CD4002AD	RCA	4.13	—
CD4002AE	RCA	.32	—
CD4002AF	RCA	.63	—
CD4002AK	RCA	4.13	—
CD4004AD	RCA	10.88	—
CD4004AE	RCA	2.36	—
CD4004AK	RCA	11.89	—
CD4006AD	RCA	11.02	—
CD4006AE	RCA	1.75	—
CD4006AF	RCA	3.60	—
CD4007AD	RCA	3.19	—
CD4007AE	RCA	.32	—
CD4007AF	RCA	.63	—
CD4007AK	RCA	3.19	—
CD4008AD	RCA	12.25	—
CD4008AE	RCA	1.44	—
CD4008AF	RCA	3.76	—
CD4009AD	RCA	6.38	—
CD4009AE	RCA	.84	—
CD4009AK	RCA	5.73	—
CD4010AD	RCA	6.38	—
CD4010AD-4	RCA	11.30	—
CD4010AE	RCA	.84	—
CD4010AK	RCA	6.38	—
CD4011AD	RCA	3.99	—
CD4011AE	RCA	.32	—
CD4011AF	RCA	.63	—
CD4011AK	RCA	3.99	—
CD4012AD	RCA	4.18	—
CD4012AE	RCA	.32	—
CD4012AF	RCA	.63	—
CD4012AK	RCA	4.18	—
CD4013AD	RCA	5.73	—
CD4013AE	RCA	.84	—
CD4013AF	RCA	1.32	—
CD4013AK	RCA	5.73	—
CD4014AD	RCA	12.25	—
CD4014AE	RCA	1.51	—
CD4014AF	RCA	3.92	—
CD4015AC	RCA	12.25	—
CD4015AD	RCA	12.25	—
CD4015AE	RCA	1.51	—
CD4015AF	RCA	3.92	—
CD4016AD	RCA	6.24	—
CD4016AD-3	RCA	12.60	—
CD4016AE	RCA	.84	—
CD4016AF	RCA	1.32	—
CD4016AK	RCA	6.24	—
CD4017AD	RCA	12.76	—
CD4017AE	RCA	1.51	—
CD4017AF	RCA	3.92	—
CD4017AK	RCA	12.76	—
CD4018AD	RCA	11.17	—
CD4018AE	RCA	1.51	—
CD4018AF	RCA	5.44	—
CD4018AK	RCA	11.17	—
CD4019AD	RCA	6.09	—
CD4019AE	RCA	.84	—
CD4019AF	RCA	2.17	—
CD4019E	RCA	.84	—
CD4020AD	RCA	14.50	—
CD4020AE	RCA	1.68	—
CD4020AF	RCA	4.14	—
CD4020AK	RCA	14.50	—
CD4021AD	RCA	11.82	—
CD4021AE	RCA	1.51	—
CD4021AF	RCA	3.92	—
CD4021AK	RCA	11.82	—
CD4022AD	RCA	11.60	—
CD4022AE	RCA	1.44	—
CD4022AF	RCA	3.82	—
CD4023AD	RCA	4.18	—
CD4023AE	RCA	.32	—
CD4023AF	RCA	.63	—
CD4023AK	RCA	4.18	—
CD4024AD	RCA	8.70	—
CD4024AE	RCA	1.17	—
CD4024AF	RCA	3.46	—
CD4024AK	RCA	8.70	—
CD4024AT	RCA	10.88	—
CD4025AD	RCA	4.18	—
CD4025AE	RCA	.32	—
CD4025AF	RCA	.63	—
CD4025AK	RCA	4.18	—
CD4026AD/4	RCA	23.50	—
CD4026AE	RCA	2.58	—
CD4026AF	RCA	4.65	—
CD4026AK	RCA	14.54	—
CD4027AD	RCA	6.38	—
CD4027AE	RCA	.84	—
CD4027AF	RCA	1.98	—
CD4028AD	RCA	9.56	—
CD4028AE	RCA	1.34	—
CD4028AF	RCA	3.24	—
CD4029AD	RCA	12.84	—
CD4029AE	RCA	1.71	—
CD4029AF	RCA	4.48	—
CD4030AD	RCA	4.58	—
CD4030AE	RCA	.84	—
CD4030AF	RCA	1.46	—
CD4030AK	RCA	4.58	—
CD4031AD	RCA	15.08	—
CD4031AE	RCA	3.31	—
CD4032AD	RCA	8.35	—
CD4032AE	RCA	1.59	—
CD4033AD	RCA	14.50	—
CD4033AE	RCA	2.08	—
CD4033AF	RCA	4.65	—
CD4034AD	RCA	14.50	—
CD4035AD	RCA	8.72	—
CD4035AE	RCA	1.76	—
CD4035AF	RCA	3.92	—
CD4036AD	RCA	13.85	—
CD4036AK	RCA	13.85	—
CD4037AD	RCA	7.14	—
CD4037AE	RCA	1.42	—
CD4037AF	RCA	4.33	—
CD4038AD	RCA	8.35	—
CD4038AE	RCA	1.61	—
CD4039AD	RCA	13.85	—
CD4040AD	RCA	12.34	—
CD4040AE	RCA	1.59	—
CD4040AF	RCA	4.14	—
CD4041AD	RCA	7.14	—
CD4041AE	RCA	1.26	—
CD4042AD	RCA	7.14	—
CD4042AE	RCA	1.26	—
CD4042AF	RCA	2.83	—
CD4043AD	RCA	7.14	—
CD4043AE	RCA	1.51	—
CD4043AF	RCA	4.83	—
CD4044AE	RCA	1.39	—
CD4045AE	RCA	2.10	—
CD4046AD	RCA	9.43	—
CD4046AE	RCA	1.99	—
CD4047AD	RCA	7.25	—
CD4047AE	RCA	1.36	—
CD4048AD	RCA	4.99	—
CD4048AE	RCA	.84	—
CD4048AF	RCA	1.56	—
CD4048AK	RCA	4.99	—
CD4049AD	RCA	5.73	—
CD4049AF	RCA	1.39	—
CD4049AK	RCA	5.73	—
CD4050AD	RCA	5.73	—
CD4050AE	RCA	.84	—
CD4050AF	RCA	1.39	—
CD4051AD	RCA	9.67	—
CD4051AF	RCA	4.54	—
CD4051BE	RCA	1.63	—

NEW TYPES STOCKED AS SOON AS RELEASED

INTEGRATED CIRCUITS

Type	Mfr	1-24	—
CD4051BF	RCA	5.22	—
CD4052AD	RCA	9.67	—
CD4052BE	RCA	1.63	—
CD4054AD	RCA	11.34	—
CD4055BE	RCA	2.79	—
CD4056BE	RCA	2.79	—
CD4057AD	RCA	37.70	—
CD4059AD	RCA	19.50	—
CD4060AD	RCA	9.93	—
CD4060AE	RCA	1.68	—
CD4060BE	RCA	2.45	—
CD4061AD	RCA	30.50	—
CD4063BE	RCA	2.12	—
CD4066AE	RCA	1.05	—
CD4066AF	RCA	2.55	—
CD4067BE	RCA	6.01	—
CD4068BE	RCA	.37	—
CD4069BE	RCA	.37	—
CD4070BE	RCA	.37	—
CD4071BE	RCA	.37	—
CD4072BE	RCA	.37	—
CD4073BE	RCA	.37	—
CD4075BE	RCA	.37	—
CD4075BF	RCA	.63	—
CD4076BE	RCA	2.29	—
CD4077BE	RCA	.37	—
CD4078BE	RCA	.37	—
CD4081BE	RCA	.37	—
CD4082BE	RCA	.37	—
CD4085BE	RCA	1.06	—
CD4086BE	RCA	1.06	—
CD4093BE	RCA	1.20	—
CD4094BE	RCA	2.77	—
CD4095BE	RCA	1.56	—
CD4096BE	RCA	1.56	—
CD4097BD	RCA	17.40	—
CD4099BE	RCA	2.71	—
CD4502BE	RCA	1.87	—
CD4510BE	RCA	2.07	—
CD4511BE	RCA	2.33	—
CD4514BE	RCA	4.67	—
CD4515BE	RCA	4.67	—
CD4516BE	RCA	2.06	—
CD4518BE	RCA	1.87	—
CD4520BE	RCA	1.87	—
CD4527BE	RCA	2.60	—
CD4532BE	RCA	2.19	—
CD4555BE	RCA	1.37	—
CD4556BE	RCA	1.37	—
LM101AL	TI	3.57	—
LM301AJG	TI	.82	—
LM301AL	TI	1.12	—
LM301AN	TI	.86	—
LM301AP	TI	.80	—
LM306L	TI	1.82	—
LM306N	TI	1.56	—
LM306P	TI	1.50	—
LM307L	TI	1.12	—
LM307N	TI	.86	—
LM307P	TI	.80	—
LM311N	TI	2.06	—
LM311P	TI	2.00	—
MC8T13L	MOT	2.70	—
MC8T13P	MOT	2.30	—
MC8T14L	MOT	2.70	—
MC8T14P	MOT	2.30	—
MC8T23L	MOT	2.95	—
MC8T23P	MOT	2.55	—
MC8T24L	MOT	2.95	—
MC8T24P	MOT	2.55	—
MC8T26L	MOT	5.95	—
MC8T26P	MOT	4.45	—
MC78L05ACP	MOT	1.05	—
MC78L05CG	MOT	1.28	—
MC78L05CP	MOT	.75	—
MC78L08ACP	MOT	1.05	—
MC78L08CG	MOT	1.28	—
MC78L08CP	MOT	.75	—
MC78L12ACP	MOT	1.05	—
MC78L12CP	MOT	.75	—
MC78L15ACG	MOT	1.58	—
MC78L15CG	MOT	1.28	—
MC78L15CP	MOT	.75	—
MC78L18ACP	MOT	1.05	—
MC78L18CG	MOT	1.28	—
MC78L18CP	MOT	.75	—
MC78L24ACP	MOT	1.05	—
MC78L24CG	MOT	1.28	—
MC78L24CP	MOT	.75	—
MC78M05CG	MOT	2.70	—
MC78M05CP	MOT	1.57	—
MC78M06CG	MOT	2.70	—
MC78M06CP	MOT	1.57	—
MC78M08CG	MOT	2.70	—
MC78M08CP	MOT	1.57	—
MC78M12CG	MOT	2.70	—
MC78M12CP	MOT	1.57	—
MC78M15CG	MOT	2.70	—
MC78M15CP	MOT	1.57	—
MC78M18CG	MOT	2.70	—
MC78M18CP	MOT	1.57	—
MC78M20CG	MOT	2.70	—
MC78M20CP	MOT	1.57	—
MC78M24CG	MOT	2.70	—
MC78M24CP	MOT	1.57	—
MC79L05ACP	MOT	1.20	—
MC79L05CG	MOT	1.50	—
MC79L05CP	MOT	.90	—
MC79L12ACP	MOT	1.20	—
MC79L12CG	MOT	1.50	—
MC79L12CP	MOT	.90	—
MC79L15ACG	MOT	1.88	—
MC79L15CG	MOT	1.50	—
MC79L15CP	MOT	.90	—
MC79L24ACP	MOT	1.20	—
MC79L24CG	MOT	1.50	—
MC79L24CP	MOT	.90	—
MC302G	MOT	16.44	—
MC312F	MOT	20.04	—
MC351G	MOT	5.46	—
MC352AG	MOT	5.46	—
MC354G	MOT	2.94	—
MC355G	MOT	3.36	—
MC356G	MOT	4.26	—
MC357G	MOT	4.26	—
MC358AG	MOT	11.40	—
MC359G	MOT	4.44	—
MC361G	MOT	4.44	—
MC362AG	MOT	6.00	—
MC363F	MOT	8.82	—
MC365G	MOT	11.04	—
MC367G	MOT	6.72	—
MC368G	MOT	6.72	—
MC400L	MOT	1.44	—
MC400P	MOT	1.27	—
MC402L	MOT	1.44	—
MC403P	MOT	1.27	—
MC406L	MOT	1.44	—
MC406P	MOT	1.27	—
MC407L	MOT	1.52	—
MC407P	MOT	1.32	—
MC408L	MOT	1.44	—
MC408P	MOT	1.27	—
MC411L	MOT	1.44	—
MC413L	MOT	1.97	—
MC414F	MOT	3.30	—
MC414P	MOT	1.75	—
MC415F	MOT	3.30	—
MC415L	MOT	1.97	—
MC416P	MOT	1.75	—
MC420P	MOT	1.27	—
MC424P	MOT	1.75	—
MC427P	MOT	1.27	—
MC660L	MOT	1.70	—
MC660P	MOT	1.25	—
MC661L	MOT	1.70	—
MC661P	MOT	1.25	—
MC662L	MOT	1.70	—
MC662P	MOT	1.25	—
MC663L	MOT	2.88	—
MC663P	MOT	2.13	—
MC664L	MOT	2.88	—
MC664P	MOT	2.13	—
MC665L	MOT	1.70	—
MC665P	MOT	1.25	—
MC666L	MOT	1.80	—
MC666P	MOT	1.35	—
MC667L	MOT	2.88	—
MC667P	MOT	2.13	—
MC668L	MOT	1.70	—
MC668P	MOT	1.25	—
MC669L	MOT	1.20	—
MC669P	MOT	1.03	—
MC670L	MOT	1.80	—
MC670P	MOT	1.35	—
MC671L	MOT	1.80	—
MC671P	MOT	1.35	—
MC672L	MOT	1.70	—
MC672P	MOT	1.25	—
MC673L	MOT	1.70	—
MC673P	MOT	1.25	—
MC674L	MOT	1.70	—
MC674P	MOT	1.25	—
MC675L	MOT	2.88	—
MC675P	MOT	2.13	—
MC676L	MOT	3.63	—
MC676P	MOT	2.75	—
MC677L	MOT	1.80	—
MC677P	MOT	1.35	—
MC678L	MOT	1.80	—
MC678P	MOT	1.35	—
MC679L	MOT	2.88	—
MC679P	MOT	2.13	—
MC680L	MOT	1.80	—
MC680P	MOT	1.35	—
MC681L	MOT	1.80	—
MC681P	MOT	1.35	—
MC682L	MOT	3.63	—
MC682P	MOT	2.75	—
MC683L	MOT	2.88	—
MC683P	MOT	2.13	—
MC684L	MOT	4.50	—
MC684P	MOT	3.38	—
MC685P	MOT	3.38	—
MC686P	MOT	3.38	—
MC688P	MOT	2.75	—
MC690P	MOT	1.35	—
MC699P	MOT	2.75	—
MC700G	MOT	1.24	—
MC702G	MOT	1.24	—
MC703G	MOT	1.24	—
MC704G	MOT	1.38	—
MC707G	MOT	1.24	—
MC708G	MOT	1.50	—
MC709G	MOT	1.24	—
MC710G	MOT	1.24	—
MC711G	MOT	1.24	—
MC712G	MOT	1.50	—
MC714G	MOT	1.24	—
MC715G	MOT	1.38	—
MC715P	MOT	1.00	—
MC717P	MOT	1.08	—
MC718G	MOT	1.38	—
MC718P	MOT	1.00	—
MC719P	MOT	1.08	—
MC722P	MOT	1.30	—
MC723G	MOT	1.89	—
MC723P	MOT	1.30	—
MC724AP	MOT	1.26	—
MC724P	MOT	1.08	—
MC725P	MOT	1.08	—
MC726G	MOT	2.21	—
MC726P	MOT	1.35	—
MC727G	MOT	1.24	—
MC728G	MOT	1.24	—
MC764P	MOT	1.70	—
MC771P	MOT	1.80	—
MC774G	MOT	2.21	—
MC775P	MOT	1.35	—
MC776P	MOT	2.00	—
MC777P	MOT	3.40	—
MC778P	MOT	1.90	—
MC779P	MOT	1.90	—
MC780P	MOT	3.40	—
MC782G	MOT	2.21	—
MC783P	MOT	1.55	—
MC784P	MOT	1.46	—
MC785AP	MOT	1.26	—
MC785P	MOT	1.09	—
MC786P	MOT	1.09	—
MC787P	MOT	1.90	—
MC788P	MOT	1.35	—
MC789AP	MOT	1.26	—
MC789P	MOT	1.08	—
MC790P	MOT	2.00	—
MC791P	MOT	2.25	—
MC792P	MOT	1.09	—
MC793P	MOT	1.09	—
MC794P	MOT	3.40	—
MC796P	MOT	3.40	—
MC797P	MOT	3.40	—
MC798P	MOT	1.21	—
MC799P	MOT	1.08	—
MC800G	MOT	1.42	—

Key	Mfr.
MOT	Motorola
RCA	Radio Corp. of America
SG	Silicon General
SPR	Sprague
TI	Texas Instruments

Type	Mfr	1-24	—
MC802G	MOT	1.42	—
MC803G	MOT	1.42	—
MC804G	MOT	1.53	—
MC806G	MOT	1.67	—
MC810G	MOT	1.42	—
MC811G	MOT	1.42	—
MC814G	MOT	1.42	—
MC815G	MOT	1.53	—
MC815P	MOT	1.08	—
MC816G	MOT	2.12	—
MC816P	MOT	1.40	—
MC817P	MOT	1.08	—
MC818P	MOT	1.00	—
MC819P	MOT	1.08	—
MC822P	MOT	1.30	—
MC824AP	MOT	1.26	—
MC824P	MOT	1.08	—
MC825P	MOT	1.08	—
MC826G	MOT	2.48	—
MC826P	MOT	1.35	—
MC827G	MOT	1.42	—
MC829G	MOT	1.42	—
MC830F	MOT	1.80	—
MC830G	MOT	3.60	—
MC830P	MOT	.98	—
MC832F	MOT	1.80	—
MC832P	MOT	.98	—
MC833F	MOT	1.80	—
MC833P	MOT	.98	—
MC834F	MOT	2.00	—
MC834L	MOT	2.00	—
MC834P	MOT	1.10	—
MC835P	MOT	1.10	—
MC836F	MOT	2.00	—
MC836L	MOT	2.00	—
MC836P	MOT	1.10	—
MC837F	MOT	2.00	—
MC837L	MOT	2.00	—
MC837P	MOT	1.10	—
MC838F	MOT	7.20	—
MC838P	MOT	3.95	—
MC839L	MOT	7.20	—
MC839P	MOT	3.95	—
MC840L	MOT	2.00	—
MC840P	MOT	1.10	—
MC841P	MOT	1.10	—
MC844L	MOT	1.80	—
MC844P	MOT	.98	—
MC845F	MOT	2.35	—
MC845P	MOT	1.25	—
MC846F	MOT	1.80	—
MC846G	MOT	3.60	—
MC846L	MOT	1.80	—
MC846P	MOT	.98	—
MC847P	MOT	.98	—
MC848G	MOT	5.25	—
MC848L	MOT	2.35	—
MC848P	MOT	1.25	—
MC849F	MOT	1.80	—
MC849G	MOT	3.60	—
MC849L	MOT	1.80	—
MC849P	MOT	.98	—
MC850F	MOT	7.05	—
MC850G	MOT	9.90	—
MC767AP	MOT	3.26	—
MC767P	MOT	3.40	—
MC770P	MOT	2.45	—

NEW TYPES STOCKED AS SOON AS RELEASED

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfr	1-24	—
MC863F	MOT	1.80	—
MC863G	MOT	3.60	—
MC863L	MOT	1.80	—
MC863P	MOT	.98	—
MC864P	MOT	1.80	—
MC867AP	MOT	3.26	—
MC867P	MOT	3.65	—
MC870P	MOT	2.45	—
MC871P	MOT	1.80	—
MC874G	MOT	2.48	—
MC876P	MOT	2.00	—
MC877P	MOT	3.40	—
MC878P	MOT	1.90	—
MC879P	MOT	1.90	—
MC880P	MOT	3.40	—
MC882G	MOT	2.48	—
MC883P	MOT	1.55	—
MC885AP	MOT	1.26	—
MC885P	MOT	1.09	—
MC886P	MOT	1.09	—
MC887P	MOT	1.90	—
MC888P	MOT	1.35	—
MC889AP	MOT	1.26	—
MC889P	MOT	1.08	—
MC890P	MOT	2.00	—
MC891P	MOT	2.25	—
MC892P	MOT	1.09	—
MC893P	MOT	1.09	—
MC894P	MOT	3.40	—
MC899G	MOT	1.73	—
MC899P	MOT	1.08	—
MC905G	MOT	2.09	—
MC909G	MOT	1.78	—
MC910G	MOT	1.78	—
MC911G	MOT	1.78	—
MC913G	MOT	2.65	—
MC914G	MOT	1.78	—
MC918G	MOT	1.91	—
MC926G	MOT	3.10	—
MC927G	MOT	1.78	—
MC930G	MOT	6.50	—
MC930L	MOT	3.10	—
MC932G	MOT	7.10	—
MC932L	MOT	3.10	—
MC933F	MOT	3.10	—
MC850P	MOT	3.85	—
MC851F	MOT	7.05	—
MC851G	MOT	11.40	—
MC851L	MOT	7.05	—
MC851P	MOT	3.85	—
MC852F	MOT	3.30	—
MC852L	MOT	3.30	—
MC852P	MOT	1.80	—
MC853F	MOT	3.30	—
MC853L	MOT	3.30	—
MC853P	MOT	1.80	—
MC855F	MOT	3.30	—
MC855L	MOT	3.30	—
MC855P	MOT	1.80	—
MC856F	MOT	3.30	—
MC856L	MOT	3.30	—
MC856P	MOT	1.80	—
MC857L	MOT	2.00	—
MC857P	MOT	1.10	—
MC858L	MOT	2.00	—
MC858P	MOT	1.10	—
MC861F	MOT	1.80	—
MC861G	MOT	3.60	—
MC861P	MOT	.98	—
MC862F	MOT	1.80	—
MC862G	MOT	3.60	—
MC862L	MOT	1.80	—
MC862P	MOT	.98	—

Type	Mfr	1-24	—
MC933G	MOT	5.45	—
MC934L	MOT	3.40	—
MC936F	MOT	3.40	—
MC936L	MOT	3.40	—
MC937L	MOT	3.40	—
MC938L	MOT	12.40	—
MC939L	MOT	12.40	—
MC940L	MOT	3.40	—
MC944L	MOT	3.10	—
MC945L	MOT	4.05	—
MC946F	MOT	3.10	—
MC946G	MOT	6.50	—
MC946L	MOT	3.10	—
MC948G	MOT	9.00	—
MC948L	MOT	4.05	—
MC949L	MOT	3.10	—
MC950L	MOT	12.10	—
MC951L	MOT	12.10	—
MC952F	MOT	5.65	—
MC952L	MOT	5.65	—
MC953L	MOT	5.65	—
MC955L	MOT	5.65	—
MC957L	MOT	3.40	—
MC958L	MOT	3.40	—
MC958P	MOT	1.50	—
MC962L	MOT	3.10	—
MC1001P	MOT	1.88	—
MC1004P	MOT	1.71	—
MC1007P	MOT	1.88	—
MC1010P	MOT	1.71	—
MC1011P	MOT	1.71	—
MC1012P	MOT	1.71	—
MC1013P	MOT	3.47	—
MC1014P	MOT	3.47	—
MC1015P	MOT	3.47	—
MC1016P	MOT	3.47	—
MC1017P	MOT	4.34	—
MC1018P	MOT	4.77	—
MC1020P	MOT	1.88	—
MC1022P	MOT	4.77	—
MC1023P	MOT	3.08	—
MC1024P	MOT	1.71	—
MC1025P	MOT	1.71	—
MC1026P	MOT	3.08	—
MC1027P	MOT	5.19	—
MC1030P	MOT	2.86	—
MC1031P	MOT	2.86	—
MC1032P	MOT	5.70	—
MC1034P	MOT	7.70	—
MC1035P	MOT	1.88	—
MC1037P	MOT	19.27	—
MC1039P	MOT	6.07	—
MC1040P	MOT	5.70	—
MC1047P	MOT	2.86	—
MC1048P	MOT	2.86	—
MC1070P	MOT	5.70	—
MC1201L	MOT	2.38	—
MC1204L	MOT	2.38	—
MC1210L	MOT	2.38	—
MC1212L	MOT	2.38	—
MC1213L	MOT	4.77	—
MC1215L	MOT	4.77	—
MC1216L	MOT	4.77	—
MC1217L	MOT	5.07	—
MC1220L	MOT	2.38	—
MC1221L	MOT	7.75	—
MC1222L	MOT	5.97	—
MC1226L	MOT	3.85	—
MC1230L	MOT	3.58	—
MC1231L	MOT	3.58	—
MC1233L	MOT	4.77	—
MC1235L	MOT	2.38	—
MC1239L	MOT	8.36	—
MC1259L	MOT	10.74	—
MC1306P	MOT	.91	—
MC1330P	MOT	1.50	—
MC1349P	MOT	1.17	—
MC1352P	MOT	1.37	—
MC1355P	MOT	1.43	—
MC1357P	MOT	1.49	—
MC1358P	MOT	1.30	—
MC1364P	MOT	1.37	—
MC1398P	MOT	2.82	—
MC1405L	MOT	8.95	—
MC1406L	MOT	5.90	—
MC1407L	MOT	5.95	—
MC1408L-6	MOT	5.95	—
MC1408L-7	MOT	7.45	—

Type	Mfr	1-24	—
MC1408L-8	MOT	8.95	—
MC1410G	MOT	2.25	—
MC1414L	MOT	1.50	—
MC1414N	TI	2.90	—
MC1414P	MOT	1.50	—
MC1420G	MOT	2.70	—
MC1430G	MOT	5.25	—
MC1430P	MOT	5.25	—
MC1431G	MOT	5.25	—
MC1431P	MOT	5.25	—
MC1433F	MOT	8.85	—
MC1433G	MOT	3.90	—
MC1433L	MOT	2.90	—
MC1433P	MOT	2.90	—
MC1435G	MOT	2.25	—
MC1435L	MOT	2.25	—
MC1436CG	MOT	3.75	—
MC1436G	MOT	6.75	—
MC1437L	MOT	2.65	—
MC1437P	MOT	2.25	—
MC1438R	MOT	9.75	—
MC1439G	MOT	2.20	—
MC1439L	MOT	2.40	—
MC1439P	MOT	2.25	—
MC1439P2	MOT	2.25	—
MC1440G	MOT	1.50	—
MC1444L	MOT	12.00	—
MC1445G	MOT	2.25	—
MC1445L	MOT	2.25	—
MC1454G	MOT	3.30	—
MC1455G	MOT	1.50	—
MC1455P1	MOT	.84	—
MC1456CG	MOT	2.85	—
MC1456G	MOT	3.37	—
MC1458CG	MOT	1.58	—
MC1458CL	MOT	1.58	—
MC1458CP1	MOT	1.35	—
MC1458CP2	MOT	1.43	—
MC1458G	MOT	1.73	—
MC1458L	MOT	1.73	—
MC1458L	TI	1.44	—
MC1458P	TI	1.12	—
MC1458P1	MOT	1.50	—
MC1458P2	MOT	1.58	—
MC1458SP1	MOT	2.40	—
MC1460G	MOT	3.75	—
MC1460R	MOT	5.25	—
MC1461G	MOT	5.25	—
MC1461R	MOT	6.75	—
MC1463G	MOT	4.15	—
MC1463R	MOT	5.25	—
MC1466L	MOT	7.50	—
MC1468G	MOT	4.20	—
MC1468L	MOT	4.35	—
MC1468R	MOT	5.62	—
MC1469G	MOT	3.00	—
MC1469R	MOT	3.75	—
MC1488L	MOT	4.45	—
MC1489AL	MOT	4.45	—
MC1489L	MOT	4.45	—
MC1494L	MOT	6.00	—
MC1495L	MOT	5.25	—
MC1496G	MOT	1.48	—
MC1496L	MOT	1.48	—
MC1496P	MOT	1.41	—
MC1508L-8	MOT	12.75	—
MC1510G	MOT	12.00	—
MC1514J	TI	7.00	—
MC1514L	MOT	4.90	—
MC1520G	MOT	6.00	—
MC1530G	MOT	12.75	—
MC1531G	MOT	12.75	—
MC1533G	MOT	5.25	—
MC1533L	MOT	5.25	—
MC1535F	MOT	15.00	—
MC1535G	MOT	12.75	—
MC1536G	MOT	18.00	—
MC1537L	MOT	3.00	—
MC1538R	MOT	21.00	—
MC1539G	MOT	3.75	—
MC1539L	MOT	3.75	—
MC1540G	MOT	5.95	—
MC1544L	MOT	13.50	—
MC1545F	MOT	9.75	—
MC1545G	MOT	8.25	—
MC1545L	MOT	8.25	—
MC1550G	MOT	1.50	—
MC1552G	MOT	9.00	—

Type	Mfr	1-24	—
MC1553G	MOT	9.00	—
MC1554G	MOT	14.25	—
MC1555G	MOT	12.00	—
MC1556G	MOT	7.50	—
MC1558G	MOT	5.25	—
MC1558L	MOT	5.25	—
MC1560G	MOT	10.50	—
MC1560R	MOT	12.75	—
MC1561G	MOT	12.75	—
MC1561R	MOT	15.00	—
MC1563G	MOT	7.90	—
MC1563R	MOT	9.75	—
MC1566L	MOT	9.75	—
MC1568G	MOT	6.37	—
MC1568L	MOT	6.00	—
MC1568R	MOT	9.00	—
MC1569G	MOT	6.75	—
MC1569R	MOT	6.40	—
MC1590G	MOT	5.60	—
MC1594L	MOT	9.00	—
MC1595L	MOT	7.50	—
MC1596G	MOT	3.97	—
MC1596L	MOT	3.97	—
MC1648L	MOT	4.70	—
MC1648P	MOT	3.75	—
MC1660L	MOT	11.25	—
MC1662L	MOT	11.25	—
MC1664L	MOT	11.25	—
MC1666L	MOT	22.35	—
MC1668L	MOT	22.35	—
MC1670L	MOT	20.35	—
MC1672L	MOT	14.10	—
MC1674L	MOT	14.10	—
MC1678L	MOT	64.80	—
MC1692L	MOT	11.25	—
MC1709CF	MOT	2.25	—
MC1709CG	MOT	.99	—
MC1709CL	MOT	.99	—
MC1709CP1	MOT	.64	—
MC1709CP2	MOT	.95	—
MC1709F	MOT	4.20	—
MC1709G	MOT	1.57	—
MC1709L	MOT	1.57	—
MC1710CF	MOT	2.63	—
MC1710CG	MOT	.90	—
MC1710CL	MOT	.85	—
MC1710CP	MOT	.75	—
MC1710F	MOT	5.63	—
MC1710G	MOT	2.65	—
MC1710L	MOT	2.93	—
MC1711CF	MOT	2.55	—
MC1711CG	MOT	1.05	—
MC1711CL	MOT	.98	—
MC1711G	MOT	2.65	—
MC1711L	MOT	2.65	—
MC1712CF	MOT	3.75	—
MC1712CG	MOT	3.00	—
MC1712CL	MOT	3.53	—
MC1712G	MOT	8.93	—
MC1712L	MOT	8.93	—
MC1723CG	MOT	1.35	—
MC1723CL	MOT	1.58	—
MC1723CP	MOT	1.05	—
MC1723G	MOT	3.15	—
MC1723L	MOT	3.15	—
MC1733CG	MOT	2.17	—
MC1733CL	MOT	2.17	—
MC1733G	MOT	7.42	—
MC1733L	MOT	7.42	—
MC1741CF	MOT	5.85	—
MC1741CG	MOT	.97	—
MC1741CL	MOT	1.17	—
MC1741CP1	MOT	.60	—
MC1741CP2	MOT	1.11	—
MC1741F	MOT	7.05	—
MC1741G	MOT	3.00	—
MC1741L	MOT	3.00	—
MC1741SCG	MOT	2.51	—
MC1741SCP1	MOT	2.10	—
MC1741SG	MOT	4.42	—
MC1747CG	MOT	3.75	—
MC1747CL	MOT	3.75	—
MC1747CP2	MOT	1.65	—
MC1747L	MOT	6.00	—
MC1748CG	MOT	1.02	—
MC1748G	MOT	2.92	—
MC1776CG	MOT	3.75	—
MC1776G	MOT	9.00	—

NEW TYPES STOCKED AS SOON AS RELEASED

INTEGRATED CIRCUITS

Type	Mfr	1-24	—
MC1800P	MOT	.98	—
MC1801P	MOT	.98	—
MC1802P	MOT	.98	—
MC1803P	MOT	.98	—
MC1804P	MOT	.98	—
MC1805P	MOT	.98	—
MC1806F	MOT	1.80	—
MC1806L	MOT	1.80	—
MC1806P	MOT	.98	—
MC1807P	MOT	.98	—
MC1808L	MOT	1.80	—
MC1808P	MOT	.98	—
MC1809P	MOT	.98	—
MC1810F	MOT	1.80	—
MC1810P	MOT	.98	—
MC1811P	MOT	.98	—
MC1812F	MOT	3.25	—
MC1812P	MOT	1.25	—
MC1813P	MOT	3.65	—
MC1814L	MOT	6.50	—
MC1814P	MOT	3.65	—
MC1818P	MOT	.98	—
MC1820P	MOT	1.75	—
MC1901L	MOT	3.10	—
MC1906L	MOT	3.10	—
MC1911L	MOT	3.10	—
MC2000P	MOT	1.28	—
MC2001P	MOT	1.28	—
MC2002P	MOT	1.28	—
MC2005P	MOT	1.28	—
MC2006P	MOT	1.28	—
MC2007P	MOT	1.28	—
MC2016P	MOT	1.37	—
MC2023L	MOT	1.97	—
MC2023P	MOT	1.76	—
MC2024P	MOT	1.76	—
MC2025F	MOT	3.30	—
MC2025L	MOT	1.97	—
MC2025P	MOT	1.76	—
MC2026F	MOT	3.30	—
MC2026P	MOT	1.76	—
MC2102L	MOT	1.62	—
MC2103L	MOT	1.62	—
MC2104F	MOT	2.88	—
MC2107L	MOT	1.62	—
MC2111L	MOT	1.62	—
MC2123L	MOT	2.19	—
MC2124L	MOT	2.19	—
MC2126F	MOT	3.63	—
MC2257L	MOT	13.50	—
MC2259L	MOT	20.20	—
MC3000F	MOT	2.03	—
MC3000L (74H00)	MOT	2.08	—
MC3001F	MOT	2.44	—
MC3001L (74H08)	MOT	2.68	—
MC3001P (74H08)	MOT	1.98	—
MC3002L	MOT	2.78	—
MC3002P	MOT	1.98	—
MC3003L	MOT	2.78	—
MC3003P	MOT	1.98	—
MC3004L (74H01)	MOT	2.08	—
MC3005L (74H10)	MOT	2.08	—
MC3007P	MOT	1.98	—
MC3008L (74H04)	MOT	2.24	—
MC3010L (74H20)	MOT	2.02	—
MC3012L (74H22)	MOT	2.02	—
MC3015L	MOT	2.60	—
MC3015P	MOT	1.90	—
MC3021P	MOT	2.38	—
MC3022L	MOT	3.22	—
MC3022P	MOT	2.38	—
MC3023L (74H51)	MOT	2.08	—
MC3025L	MOT	2.68	—
MC3025P	MOT	1.98	—
MC3026L	MOT	2.68	—
MC3026P	MOT	1.98	—
MC3028P	MOT	1.98	—
MC3029P	MOT	1.98	—
MC3051P	MOT	2.68	—

Type	Mfr	1-24	—
MC3061F	MOT	2.73	—
MC3061L	MOT	3.48	—
MC3061P	MOT	2.68	—
MC3062L	MOT	3.48	—
MC3062P	MOT	2.68	—
MC3100L	MOT	2.62	—
MC3101L	MOT	3.38	—
MC3102L	MOT	3.48	—
MC3103L	MOT	3.48	—
MC3108L	MOT	2.82	—
MC3110L	MOT	2.54	—
MC3111L	MOT	2.54	—
MC3121L	MOT	4.10	—
MC3122L	MOT	4.10	—
MC3126L	MOT	3.38	—
MC3161L	MOT	4.18	—
MC3301P	MOT	1.05	—
MC3302P	MOT	1.90	—
MC3340P	MOT	1.21	—
MC3401P	MOT	.96	—
MC3403L	MOT	4.35	—
MC3403P	MOT	3.90	—
MC3408L	MOT	4.40	—
MC3440P	MOT	3.20	—
MC3456P	MOT	1.50	—
MC3458P1	MOT	1.85	—
MC4000P	MOT	4.99	—
MC4002F	MOT	8.77	—
MC4002P	MOT	4.86	—
MC4004L	MOT	2.70	—
MC4004P	MOT	2.48	—
MC4006F	MOT	10.03	—
MC4006L	MOT	8.23	—
MC4006P	MOT	5.89	—
MC4007L	MOT	8.23	—
MC4007P	MOT	5.89	—
MC4008L	MOT	6.07	—
MC4008P	MOT	4.14	—
MC4010P	MOT	5.62	—
MC4012L	MOT	9.45	—
MC4012P	MOT	7.06	—
MC4015L	MOT	8.10	—
MC4015P	MOT	5.71	—
MC4016P	MOT	6.79	—
MC4018L	MOT	9.90	—
MC4018P	MOT	6.79	—
MC4021P	MOT	5.31	—
MC4022P	MOT	5.31	—
MC4023P	MOT	7.69	—
MC4024L	MOT	4.72	—
MC4024P	MOT	3.82	—
MC4026P	MOT	2.03	—
MC4032L	MOT	2.13	—
MC4032P	MOT	1.92	—
MC4035P	MOT	2.00	—
MC4037P	MOT	2.00	—
MC4042P	MOT	4.36	—
MC4043P	MOT	4.36	—
MC4044L	MOT	4.72	—
MC4044P	MOT	3.82	—
MC4050L	MOT	14.98	—
MC4050P	MOT	12.15	—
MC4306L	MOT	8.95	—
MC4316L	MOT	11.25	—
MC4318L	MOT	11.25	—
MC4324L	MOT	5.40	—
MC4344F	MOT	6.52	—
MC4344L	MOT	5.40	—
MC4741CL	MOT	5.40	—
MC4741CP	MOT	2.75	—
MC5400L	MOT	3.10	—
MC5402L	MOT	3.10	—
MC5404L	MOT	3.70	—
MC5405L	MOT	3.70	—
MC5410L	MOT	3.10	—
MC5420F	MOT	3.10	—
MC5420L	MOT	3.10	—
MC5430F	MOT	3.10	—
MC5430L	MOT	3.10	—
MC5440L	MOT	3.10	—
MC5450L	MOT	3.10	—
MC5454L	MOT	3.10	—
MC5460L	MOT	3.10	—
MC5472L	MOT	4.30	—
MC5490L	MOT	12.00	—
MC5492L	MOT	12.00	—
MC5493L	MOT	12.00	—
MC6800L	MOT	35.00	—

Type	Mfr	1-24	—
MC6820L	MOT	15.00	—
MC6850L	MOT	15.00	—
MC6860L	MOT	17.00	—
MC6862L	MOT	29.00	—
MC7241P	MOT	1.70	—
MC7242P	MOT	1.70	—
MC7266P	MOT	4.05	—
MC7267P	MOT	4.05	—
MC7270P	MOT	4.28	—
MC7271P	MOT	4.28	—
MC7280P	MOT	3.60	—
MC7281P	MOT	3.60	—
MC7400F	MOT	1.80	—
MC7400L	MOT	1.80	—
MC7401L	MOT	1.80	—
MC7402L	MOT	1.80	—
MC7404F	MOT	2.15	—
MC7404L	MOT	2.15	—
MC7405L	MOT	2.15	—
MC7410F	MOT	1.80	—
MC7410L	MOT	1.80	—
MC7420L	MOT	1.80	—
MC7430F	MOT	1.80	—
MC7430L	MOT	1.80	—
MC7438L	MOT	3.23	—
MC7440F	MOT	1.80	—
MC7440L	MOT	1.80	—
MC7441AL	MOT	9.90	—
MC7442L	MOT	7.75	—
MC7447L	MOT	10.60	—
MC7449F	MOT	8.65	—
MC7451F	MOT	1.80	—
MC7451L	MOT	1.80	—
MC7453F	MOT	1.80	—
MC7454F	MOT	1.80	—
MC7470L	MOT	2.70	—
MC7472F	MOT	2.55	—
MC7472L	MOT	2.55	—
MC7473L	MOT	3.60	—
MC7475L	MOT	6.30	—
MC7479L	MOT	3.60	—
MC7483L	MOT	11.35	—
MC7486F	MOT	5.28	—
MC7490F	MOT	7.00	—
MC7493L	MOT	7.00	—
MC7524L	MOT	2.70	—
MC7525L	MOT	2.15	—
MC7724CP	MOT	2.40	—
MC7805CK	MOT	3.75	—
MC7805CP	MOT	1.87	—
MC7806CK	MOT	3.75	—
MC7806CP	MOT	1.87	—
MC7808CK	MOT	3.75	—
MC7808CP	MOT	1.87	—
MC7812CK	MOT	3.75	—
MC7812CP	MOT	1.87	—
MC7815CK	MOT	3.75	—
MC7815CP	MOT	1.87	—
MC7818CK	MOT	3.75	—
MC7818CP	MOT	1.87	—
MC7824CK	MOT	3.75	—
MC7824CP	MOT	1.87	—
MC7905CK	MOT	5.93	—
MC7905CP	MOT	2.40	—
MC7906CK	MOT	5.93	—
MC7906CP	MOT	2.40	—
MC7908CK	MOT	5.93	—
MC7908CP	MOT	2.40	—
MC7912CK	MOT	5.93	—
MC7912CP	MOT	2.40	—
MC7915CK	MOT	5.93	—
MC7915CP	MOT	2.40	—
MC7918CK	MOT	5.93	—
MC7918CP	MOT	2.40	—
MC7924CK	MOT	5.93	—
MC7924CP	MOT	2.40	—
MC8266F	MOT	9.10	—
MC8281L	MOT	8.10	—
MC8300P	MOT	3.23	—
MC8301P	MOT	3.23	—
MC8304P	MOT	3.23	—
MC8306P	MOT	6.30	—
MC8307P	MOT	5.25	—
MC8308L	MOT	9.00	—
MC8308P	MOT	4.88	—
MC8309L	MOT	3.70	—
MC8309P	MOT	2.48	—
MC8310P	MOT	4.88	—

Key Mfr.

MOT	Motorola
RCA	Radio Corp. of America
SG	Silicon General
SPR	Sprague
TI	Texas Instruments

Type	Mfr	1-24	—
MC8311L	MOT	9.00	—
MC8311P	MOT	4.88	—
MC8312L	MOT	3.70	—
MC8312P	MOT	2.48	—
MC8314P	MOT	2.48	—
MC8316P	MOT	4.88	—
MC8318P	MOT	6.30	—
MC8324P	MOT	5.25	—
MC8328P	MOT	5.55	—
MC8502P	MOT	16.40	—
MC8503P	MOT	10.60	—
MC8601L	MOT	2.80	—
MC8601P	MOT	1.88	—
MC8602L	MOT	5.40	—
MC8602P	MOT	2.85	—
MC9300L	MOT	7.35	—
MC9301L	MOT	7.35	—
MC9306L	MOT	17.30	—
MC9310L	MOT	10.95	—
MC9312L	MOT	5.85	—
MC9601L	MOT	4.20	—
MC9602L	MOT	8.10	—
MC9701P	MOT	2.45	—
MC9702P	MOT	2.00	—
MC9704P	MOT	3.40	—
MC9707P	MOT	2.45	—
MC9709P	MOT	2.45	—
MC9713P	MOT	1.40	—
MC9714P	MOT	1.55	—
MC9715P	MOT	1.28	—
MC9718P	MOT	1.09	—
MC9719AP	MOT	1.26	—
MC9719P	MOT	1.09	—
MC9720P	MOT	1.09	—
MC9721P	MOT	1.09	—
MC9722P	MOT	2.25	—
MC9723P	MOT	1.40	—
MC9724P	MOT	1.55	—
MC9725P	MOT	1.28	—
MC9802P	MOT	2.15	—
MC9807P	MOT	2.45	—
MC9809P	MOT	2.45	—
MC9813P	MOT	1.40	—
MC9814P	MOT	1.55	—
MC9815P	MOT	1.28	—
MC9818P	MOT	1.09	—
MC9819AP	MOT	1.26	—
MC9819P	MOT	1.09	—
MC9820P	MOT	1.09	—
MC9822P	MOT	2.25	—
MC9823P	MOT	1.40	—
MC9824P	MOT	1.55	—
MC9825P	MOT	1.28	—
MC10101L	MOT	.83	—
MC10101P	MOT	.66	—
MC10102L	MOT	.83	—
MC10102P	MOT	.66	—
MC10104L	MOT	.83	—
MC10104P	MOT	.66	—
MC10105L	MOT	.83	—
MC10105P	MOT	.66	—
MC10106L	MOT	.83	—
MC10106P	MOT	.66	—
MC10107L	MOT	.95	—
MC10109L	MOT	.83	—
MC10109P	MOT	.66	—
MC10110L	MOT	.95	—
MC10110P	MOT	.80	—
MC10111L	MOT	.95	—
MC10114L	MOT	.95	—

NEW TYPES STOCKED AS SOON AS RELEASED

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfr	1-24	—
MC10114P	MOT	.80	—
MC10115L	MOT	.83	—
MC10115P	MOT	.66	—
MC10116L	MOT	.83	—
MC10116P	MOT	.66	—
MC10117L	MOT	.95	—
MC10117P	MOT	.80	—
MC10118L	MOT	.95	—
MC10118P	MOT	.80	—
MC10119L	MOT	.95	—
MC10119P	MOT	.80	—
MC10121L	MOT	.95	—
MC10124L	MOT	2.41	—
MC10125L	MOT	2.41	—
MC10125P	MOT	1.93	—
MC10128L	MOT	5.69	—
MC10129L	MOT	5.69	—
MC10130L	MOT	2.26	—
MC10131L	MOT	3.11	—
MC10133L	MOT	3.69	—
MC10133P	MOT	3.15	—
MC10135L	MOT	3.69	—
MC10135P	MOT	3.15	—
MC10136L	MOT	10.46	—
MC10137L	MOT	10.46	—
MC10138P	MOT	5.39	—
MC10141P	MOT	8.80	—
MC10145L	MOT	7.40	—
MC10160L	MOT	3.66	—
MC10161L	MOT	3.66	—
MC10162L	MOT	3.66	—
MC10164L	MOT	3.66	—
MC10171L	MOT	3.66	—
MC10173L	MOT	4.33	—
MC10174L	MOT	3.66	—
MC10175L	MOT	4.33	—
MC10179L	MOT	4.13	—
MC10180L	MOT	11.10	—
MC10181P	MOT	17.60	—
MC10210P	MOT	1.35	—
MC10211P	MOT	1.35	—
MC10231L	MOT	4.82	—
MC12000L	MOT	6.26	—
MC12014P	MOT	4.15	—
MC12060L	MOT	4.56	—
MC12061L	MOT	4.56	—
MC14000AL	MOT	.57	—
MC14000CL	MOT	.49	—
MC14000CP	MOT	.38	—
MC14001BAL	MOT	.57	—
MC14001BCL	MOT	.49	—
MC14001BCP	MOT	.38	—
MC14002BAL	MOT	.57	—
MC14002BCL	MOT	.49	—
MC14002BCP	MOT	.38	—
MC14006AL	MOT	4.15	—
MC14006CL	MOT	3.60	—
MC14006CP	MOT	2.77	—
MC14007AL	MOT	.57	—
MC14007CL	MOT	.49	—
MC14007CP	MOT	.38	—
MC14008BAL	MOT	3.96	—
MC14008BCL	MOT	3.43	—
MC14008BCP	MOT	2.64	—
MC14011BAL	MOT	.57	—
MC14011BCL	MOT	.49	—
MC14011BCP	MOT	.38	—
MC14012BAL	MOT	.57	—
MC14012BCL	MOT	.49	—
MC14012BCP	MOT	.38	—
MC14013BAL	MOT	1.30	—
MC14013BCL	MOT	1.13	—
MC14013BCP	MOT	.87	—
MC14014BCP	MOT	2.62	—
MC14015BAL	MOT	3.94	—
MC14015BCL	MOT	3.41	—
MC14015BCP	MOT	2.62	—
MC14016AL	MOT	1.30	—
MC14016CL	MOT	1.13	—
MC14016CP	MOT	.87	—
MC14017BCP	MOT	2.62	—
MC14020BCP	MOT	2.80	—
MC14021BAL	MOT	3.94	—
MC14021BCL	MOT	3.41	—
MC14021BCP	MOT	2.62	—
MC14022BCP	MOT	2.62	—
MC14023BAL	MOT	.57	—
MC14023BCL	MOT	.49	—
MC14023BCP	MOT	.38	—
MC14024BAL	MOT	2.70	—
MC14024BCL	MOT	2.34	—
MC14024BCP	MOT	1.80	—
MC14025BAL	MOT	.57	—
MC14025BCL	MOT	.49	—
MC14025BCP	MOT	.38	—
MC14027BAL	MOT	1.85	—
MC14027BCL	MOT	1.60	—
MC14027BCP	MOT	1.27	—
MC14028BAL	MOT	3.15	—
MC14028BCL	MOT	2.73	—
MC14032BCL	MOT	3.69	—
MC14032BCP	MOT	2.84	—
MC14034BCL	MOT	12.35	—
MC14035BCP	MOT	2.52	—
MC14038BCP	MOT	2.84	—
MC14040BAL	MOT	4.20	—
MC14040BCL	MOT	3.64	—
MC14040BCP	MOT	2.80	—
MC14042BAL	MOT	2.70	—
MC14042BCP	MOT	1.80	—
MC14049BCP	MOT	.90	—
MC14050BCL	MOT	1.17	—
MC14050BCP	MOT	.90	—
MC14071BCP	MOT	.38	—
MC14081BCP	MOT	.38	—
MC14411L	MOT	15.08	—
MC14411P	MOT	11.60	—
MC14415VP	MOT	7.61	—
MC14435FP	MOT	10.58	—
MC14435VP	MOT	7.94	—
MC14490VP	MOT	6.52	—
MC14501BCL	MOT	.49	—
MC14501BCP	MOT	.38	—
MC14502BCL	MOT	2.22	—
MC14502BCP	MOT	1.71	—
MC14506BCL	MOT	.90	—
MC14506BCP	MOT	.70	—
MC14507AL	MOT	1.48	—
MC14507CL	MOT	1.28	—
MC14507CP	MOT	.99	—
MC14508BCL	MOT	7.87	—
MC14508BCP	MOT	5.05	—
MC14510BAL	MOT	4.35	—
MC14510BCL	MOT	3.77	—
MC14510BCP	MOT	2.90	—
MC14511CL	MOT	4.34	—
MC14511CP	MOT	3.33	—
MC14512CL	MOT	3.02	—
MC14512CP	MOT	2.32	—
MC14514BAL	MOT	9.13	—
MC14514BCL	MOT	7.92	—
MC14514BCP	MOT	5.07	—
MC14515BCL	MOT	7.92	—
MC14516BCL	MOT	3.77	—
MC14516BCP	MOT	2.90	—
MC14517BCL	MOT	12.89	—
MC14517BCP	MOT	9.92	—
MC14518BAL	MOT	4.35	—
MC14518BCL	MOT	3.77	—
MC14518BCP	MOT	2.90	—
MC14519BCL	MOT	1.47	—
MC14519BCP	MOT	1.13	—
MC14520BAL	MOT	4.35	—
MC14520BCL	MOT	3.77	—
MC14520BCP	MOT	2.90	—
MC14521BCP	MOT	3.93	—
MC14522BCL	MOT	3.96	—
MC14522BCP	MOT	3.05	—
MC14526BCL	MOT	3.96	—
MC14526BCP	MOT	3.05	—
MC14527BAL	MOT	4.78	—
MC14527BCL	MOT	4.15	—
MC14527BCP	MOT	3.19	—
MC14528BAL	MOT	3.15	—
MC14528BCL	MOT	2.73	—
MC14528BCP	MOT	2.10	—
MC14529CL	MOT	3.22	—
MC14529CP	MOT	2.48	—
MC14530BCL	MOT	1.81	—
MC14530BCP	MOT	1.39	—
MC14531BCL	MOT	3.28	—
MC14531BCP	MOT	2.52	—
MC14532BCL	MOT	3.96	—
MC14532BCP	MOT	3.05	—
MC14534BCL	MOT	16.96	—
MC14536BCP	MOT	6.03	—
MC14539BAL	MOT	2.70	—
MC14539BCL	MOT	2.34	—
MC14539BCP	MOT	1.80	—
MC14541BCP	MOT	2.89	—
MC14543BCP	MOT	3.33	—
MC14549BCP	MOT	6.52	—
MC14553BCP	MOT	6.84	—
MC14554BCP	MOT	2.54	—
MC14555BCP	MOT	1.52	—
MC14556BCP	MOT	1.52	—
MC14557BCP	MOT	6.87	—
MC14558BCP	MOT	2.20	—
MC14559BCP	MOT	6.52	—
MC14560BCP	MOT	3.26	—
MC14561BCP	MOT	1.13	—
MC14562BCP	MOT	9.06	—
MC14566BCP	MOT	2.68	—
MC14572CP	MOT	.54	—
MC14580BCL	MOT	16.76	—
MC14581BAL	MOT	11.22	—
MC14581BCL	MOT	9.73	—
MC14582BCL	MOT	3.20	—
MC14582BCP	MOT	2.46	—
MC14583BCL	MOT	1.83	—
MC14583BCP	MOT	1.41	—
MC14585BCP	MOT	2.75	—
MC27482P	MOT	3.90	—
MC54121L	MOT	6.15	—
MC74121F	MOT	3.60	—
MC74121L	MOT	3.60	—
MC74150L	MOT	9.65	—
MC74151L	MOT	9.00	—
MC74180L	MOT	14.25	—
MC74454L	MOT	21.54	—
MC75107P	MOT	2.55	—
MC75108P	MOT	2.55	—
MC75109P	MOT	2.55	—
MC75110P	MOT	2.55	—
MC75113L	MOT	4.65	—
MC75325P	MOT	3.75	—
MC75450P	MOT	1.50	—
MC75451P	MOT	1.10	—
MC75452P	MOT	.84	—
MC75453P	MOT	1.10	—
MC75454P	MOT	1.10	—
MC75491P	MOT	1.30	—
MC75492P	MOT	1.35	—
MCM5003AL	MOT	32.00	—
MCM5004AL	MOT	32.00	—
MCM6604L	MOT	25.00	—
MCM6604L2	MOT	35.00	—
MCM6604L4	MOT	28.00	—
MCM6605AL1	MOT	42.00	—
MCM6605AL2	MOT	34.00	—
MCM6605L	MOT	33.90	—
MCM6810AL	MOT	7.50	—
MCM6810AL1	MOT	8.00	—
MCM6810AP	MOT	5.00	—
MCM6810AP1	MOT	5.50	—
MCM6830L7	MOT	18.15	—
MCM14505AL	MOT	12.25	—
MCM14505CP	MOT	8.16	—
MCM14537CL	MOT	24.50	—
MCM14552CL	MOT	31.06	—
MCM14552CP	MOT	19.91	—
MEC6800B	MOT	795.00	—
MEC6800C	MOT	50.00	—
MEK6800D1	MOT	149.00	—
MLM101AG	MOT	4.95	—
MLM104G	MOT	7.50	—
MLM105G	MOT	6.75	—
MLM107G	MOT	6.00	—
MLM109K	MOT	15.00	—
MLM205G	MOT	5.25	—
MLM207G	MOT	4.20	—
MLM209K	MOT	6.60	—
MLM210G	MOT	5.25	—
MLM301AG	MOT	.97	—
MLM301AP1	MOT	.60	—
MLM304G	MOT	3.75	—
MLM305G	MOT	3.00	—
MLM307G	MOT	.97	—
MLM308AG	MOT	9.00	—
MLM308AP1	MOT	7.50	—
MLM309G	MOT	3.35	—
MLM309K	MOT	3.75	—
MLM310G	MOT	2.92	—
MLM311P1	MOT	1.90	—
MLM324P	MOT	2.45	—
MLM339P	MOT	2.55	—
MLM358G	MOT	1.95	—
MLM358P1	MOT	1.70	—
MLM2901P	MOT	2.10	—
MLM2902P	MOT	1.75	—
NE555JG	TI	1.65	—
NE555L	TI	1.52	—
NE555P	TI	1.20	—
SG100T	SG	7.00	—
SG101AT	SG	5.00	—
SG102T	SG	12.00	—
SG104T	SG	12.00	—
SG105T	SG	7.00	—
SG107T	SG	6.00	—
SG108AT	SG	13.00	—
SG108T	SG	9.85	—
SG109K	SG	13.50	—
SG109T	SG	12.50	—
SG110T	SG	7.50	—
SG201AM	SG	2.25	—
SG201AT	SG	3.50	—
SG201T	SG	1.80	—
SG207T	SG	4.50	—
SG208T	SG	8.50	—
SG210T	SG	6.85	—
SG211M	SG	5.50	—
SG300N	SG	2.30	—
SG300T	SG	2.70	—
SG301AM	SG	.90	—
SG301AN	SG	.95	—
SG301AT	SG	.95	—
SG301T	SG	.86	—
SG302T	SG	4.00	—
SG304T	SG	3.25	—
SG305N	SG	1.45	—
SG305T	SG	1.45	—
SG307M	SG	.80	—
SG307N	SG	.90	—
SG307T	SG	.90	—
SG308AT	SG	6.00	—
SG308M	SG	1.50	—
SG308T	SG	1.95	—
SG309K	SG	2.25	—
SG309T	SG	1.80	—
SG310T	SG	4.00	—
SG311M	SG	2.00	—
SG311T	SG	2.50	—
SG320-05K	SG	3.00	—
SG320-05T	SG	2.50	—
SG320-12K	SG	3.00	—
SG324N	SG	2.40	—
SG339N	SG	2.25	—
SG390K	SG	3.50	—
SG555CM	SG	.70	—
SG556CN	SG	1.60	—
SG710CN	SG	1.00	—
SG710CT	SG	1.25	—
SG710T	SG	2.50	—
SG711CN	SG	1.05	—
SG711CT	SG	1.85	—
SG711T	SG	2.75	—
SG723CJ	SG	2.50	—
SG723CN	SG	1.08	—
SG723CT	SG	1.25	—
SG723D	SG	7.22	—
SG723T	SG	3.15	—
SG733CN	SG	2.20	—
SG733CT	SG	2.10	—
SG733T	SG	7.45	—

NEW TYPES STOCKED AS SOON AS RELEASED

INTEGRATED CIRCUITS

Type	Mfr	1-24	—
SG741CM	SG	.75	—
SG741CN	SG	.85	—
SG741CT	SG	.90	—
SG741T	SG	1.55	—
SG747CJ	SG	4.00	—
SG747CN	SG	2.40	—
SG747CT	SG	3.00	—
SG747J	SG	7.70	—
SG747T	SG	5.70	—
SG748CM	SG	.90	—
SG748CT	SG	.97	—
SG748T	SG	2.50	—
SG1010AT	SG	8.90	—
SG1436CT	SG	2.60	—
SG1436T	SG	4.65	—
SG1456CT	SG	2.85	—
SG1456T	SG	3.40	—
SG1458M	SG	1.72	—
SG1458T	SG	1.95	—
SG1468J	SG	3.50	—
SG1468N	SG	2.90	—
SG1468T	SG	2.90	—
SG1488J	SG	4.95	—
SG1489AJ	SG	4.05	—
SG1489J	SG	4.00	—
SG1501AJ	SG	11.65	—
SG1501AT	SG	10.15	—
SG1501T	SG	8.95	—
SG1536T	SG	27.00	—
SG1556T	SG	12.25	—
SG1596T	SG	4.05	—
SG2501AJ	SG	10.15	—
SG2501AT	SG	8.65	—
SG2501T	SG	7.45	—
SG2502J	SG	10.15	—
SG2502N	SG	8.65	—
SG3302N	SG	2.25	—
SG3501AJ	SG	7.45	—
SG3501AT	SG	5.95	—
SG3501J	SG	5.00	—
SG3501N	SG	4.09	—
SG3501T	SG	5.25	—
SG3502N	SG	5.90	—
SG3581AJ	SG	6.00	—
SG3821J	SG	2.70	—
SG3821N	SG	1.80	—
SG3822J	SG	2.70	—
SG3822N	SG	1.60	—
SG3822T	SG	1.60	—
SG3886J	SG	1.20	—
SG3886N	SG	.80	—
SG4250CM	SG	4.50	—
SG4250CT	SG	4.90	—
SG4250T	SG	13.00	—
SG4501AT	SG	2.36	—
SG4501J	SG	4.45	—
SG4501N	SG	2.95	—
SG4501T	SG	2.95	—
SG7534N	SG	2.05	—
SG7805CK	SG	2.25	—
SG7805CT	SG	1.80	—
SG7805K	SG	13.00	—
SG7805T	SG	11.50	—
SG7806CK	SG	2.25	—
SG7806CT	SG	1.80	—
SG7806K	SG	13.00	—
SG7806T	SG	11.50	—
SG7808CK	SG	2.25	—
SG7808CT	SG	1.80	—
SG7808K	SG	13.00	—
SG7808T	SG	11.50	—
SG7812CK	SG	2.25	—
SG7812CT	SG	1.80	—
SG7812K	SG	13.00	—
SG7812T	SG	11.50	—
SG7815CK	SG	2.25	—
SG7815CT	SG	1.80	—
SG7815K	SG	13.00	—
SG7815T	SG	11.50	—
SG7818CK	SG	2.25	—
SG7818CT	SG	1.80	—
SG7818K	SG	13.00	—
SG7818T	SG	11.50	—
SG7824CK	SG	2.25	—
SG7824CT	SG	1.80	—
SG7824K	SG	13.00	—
SG7824T	SG	11.50	—
SG8508J	SG	.85	—

Type	Mfr	1-24	—
SG-1001	RCA	7.15	—
SG-1002	RCA	2.92	—
SG-1003	RCA	3.95	—
SG-1004	RCA	5.25	—
SG-1006	RCA	4.30	—
SG-2001	RCA	19.00	—
SG-2002	RCA	30.00	—
SG-2003	RCA	12.00	—
SG-2004	RCA	14.00	—
SG-2005	RCA	22.00	—
SG-2006	RCA	9.00	—
SG-2007	RCA	15.00	—
SG-2009	RCA	15.00	—
SG-2010	RCA	23.00	—
SN54H05J	TI	6.97	—
SN54H11J	TI	5.96	—
SN54H21J	TI	5.96	—
SN54H30J	TI	5.96	—
SN54H51J	TI	5.96	—
SN54H52J	TI	5.96	—
SN54H54J	TI	5.96	—
SN54H55J	TI	5.96	—
SN54H72J	TI	8.83	—
SN54H76J	TI	12.71	—
SN54H102J	TI	10.23	—
SN54H103J	TI	13.24	—
SN54L00J	TI	1.88	—
SN54L02J	TI	1.88	—
SN54L04J	TI	2.07	—
SN54L10J	TI	1.88	—
SN54L10T	TI	3.88	—
SN54L20J	TI	1.88	—
SN54L30J	TI	1.88	—
SN54L42J	TI	5.65	—
SN54L51J	TI	1.88	—
SN54L71T	TI	5.43	—
SN54L73J	TI	2.82	—
SN54L74J	TI	2.82	—
SN54L78N	TI	3.62	—
SN54L121J	TI	2.82	—
SN54L153J	TI	5.65	—
SN54LS30J	TI	1.24	—
SN54LS83J	TI	3.69	—
SN54LS86J	TI	2.00	—
SN54LS109W	TI	7.30	—
SN54LS181J	TI	15.86	—
SN54LS197J	TI	4.25	—
SN54S02J	TI	7.91	—
SN54S03J	TI	7.91	—
SN54S11J	TI	7.91	—
SN54S40J	TI	7.91	—
SN54S112J	TI	15.52	—
SN72L022P	TI	1.40	—
SN72L044N	TI	2.40	—
SN74H00F	TI	1.22	—
SN74H00J	TI	1.32	—
SN74H00N	TI	.93	—
SN74H01J	TI	1.32	—
SN74H01N	TI	.93	—
SN74H01S	TI	2.49	—
SN74H04J	TI	1.54	—
SN74H04N	TI	1.06	—
SN74H05J	TI	1.54	—
SN74H05N	TI	1.06	—
SN74H10J	TI	1.32	—
SN74H10N	TI	.93	—
SN74H11J	TI	1.32	—
SN74H11N	TI	.93	—
SN74H15N	TI	.93	—
SN74H20J	TI	1.32	—
SN74H20N	TI	.93	—
SN74H21N	TI	.93	—
SN74H22N	TI	.93	—
SN74H30J	TI	1.32	—
SN74H30N	TI	.93	—
SN74H40J	TI	1.32	—
SN74H40N	TI	.93	—
SN74H50J	TI	1.32	—
SN74H50N	TI	.93	—
SN74H51N	TI	.93	—
SN74H52J	TI	1.32	—
SN74H52N	TI	.93	—
SN74H53J	TI	1.32	—
SN74H53N	TI	.93	—
SN74H54N	TI	.93	—
SN74H55J	TI	1.32	—
SN74H55N	TI	.93	—
SN74H60N	TI	.93	—

Type	Mfr	1-24	—
SN74H61N	TI	.93	—
SN74H62N	TI	.93	—
SN74H71N	TI	1.42	—
SN74H72N	TI	1.23	—
SN74H73N	TI	2.03	—
SN74H74J	TI	2.74	—
SN74H74N	TI	2.03	—
SN74H76N	TI	2.20	—
SN74H78N	TI	2.20	—
SN74H87N	TI	7.06	—
SN74H101N	TI	1.32	—
SN74H101S	TI	3.48	—
SN74H102N	TI	1.32	—
SN74H103J	TI	3.31	—
SN74H103N	TI	2.08	—
SN74H106N	TI	2.81	—
SN74H108J	TI	3.31	—
SN74H108N	TI	1.99	—
SN74H183N	TI	5.92	—
SN74L00J	TI	1.13	—
SN74L00N	TI	.64	—
SN74L02N	TI	.64	—
SN74L03J	TI	1.13	—
SN74L03N	TI	.64	—
SN74L04N	TI	.68	—
SN74L10J	TI	1.13	—
SN74L10N	TI	.64	—
SN74L20N	TI	.64	—
SN74L20T	TI	1.94	—
SN74L30N	TI	.64	—
SN74L42N	TI	2.10	—
SN74L46N	TI	3.34	—
SN74L47N	TI	2.87	—
SN74L51N	TI	.64	—
SN74L54N	TI	.64	—
SN74L55N	TI	.64	—
SN74L71N	TI	.82	—
SN74L72N	TI	.82	—
SN74L73N	TI	1.01	—
SN74L74N	TI	1.01	—
SN74L75N	TI	1.01	—
SN74L78N	TI	1.01	—
SN74L83N	TI	5.10	—
SN74L85N	TI	3.34	—
SN74L86N	TI	1.01	—
SN74L90N	TI	2.46	—
SN74L91N	TI	2.46	—
SN74L93J	TI	4.66	—
SN74L93N	TI	2.46	—
SN74L95N	TI	2.46	—
SN74L96N	TI	2.46	—
SN74L98N	TI	2.46	—
SN74L99N	TI	2.46	—
SN74L121N	TI	.95	—
SN74L122N	TI	.95	—
SN74L123N	TI	1.01	—
SN74L153N	TI	2.33	—
SN74L154N	TI	3.34	—
SN74L157N	TI	2.10	—
SN74L164N	TI	2.33	—
SN74L192N	TI	2.72	—
SN74L193N	TI	2.72	—
SN74LS00J	TI	.96	—
SN74LS00N	TI	.49	—
SN74LS01N	TI	.49	—
SN74LS02N	TI	.49	—
SN74LS03N	TI	.49	—
SN74LS04N	TI	.54	—
SN74LS05J	TI	1.06	—
SN74LS05N	TI	.54	—
SN74LS08N	TI	.49	—
SN74LS09N	TI	.49	—
SN74LS10N	TI	.49	—
SN74LS11N	TI	.49	—
SN74LS13N	TI	1.09	—
SN74LS14N	TI	2.15	—
SN74LS15N	TI	.49	—
SN74LS20N	TI	.49	—
SN74LS21N	TI	.49	—
SN74LS22N	TI	.49	—
SN74LS26N	TI	.59	—
SN74LS27J	TI	1.06	—
SN74LS27N	TI	.54	—
SN74LS28N	TI	.54	—
SN74LS30N	TI	.49	—
SN74LS32J	TI	1.06	—
SN74LS32N	TI	.59	—
SN74LS33N	TI	.59	—

Key Mfr.

MOT Motorola
RCA Radio Corp. of America
SG Silicon General
SPR Sprague
TI Texas Instruments

Type	Mfr	1-24	—
SN74LS37N	TI	.59	—
SN74LS38N	TI	.59	—
SN74LS40J	TI	1.27	—
SN74LS40N	TI	.54	—
SN74LS51N	TI	.49	—
SN74LS54N	TI	.49	—
SN74LS55N	TI	.49	—
SN74LS73N	TI	.61	—
SN74LS74N	TI	.75	—
SN74LS75N	TI	1.04	—
SN74LS76N	TI	.61	—
SN74LS78N	TI	.61	—
SN74LS83AJ	TI	3.75	—
SN74LS83AN	TI	1.83	—
SN74LS83J	TI	3.75	—
SN74LS85N	TI	1.97	—
SN74LS86J	TI	1.53	—
SN74LS86N	TI	.81	—
SN74LS95AN	TI	3.89	—
SN74LS96N	TI	2.15	—
SN74LS107J	TI	1.53	—
SN74LS107N	TI	.75	—
SN74LS109N	TI	.75	—
SN74LS112N	TI	.75	—
SN74LS113N	TI	.75	—
SN74LS114N	TI	.75	—
SN74LS123N	TI	1.38	—
SN74LS132N	TI	1.66	—
SN74LS138N	TI	1.97	—
SN74LS139N	TI	1.97	—
SN74LS151N	TI	1.76	—
SN74LS153N	TI	1.76	—
SN74LS155N	TI	1.97	—
SN74LS157N	TI	1.83	—
SN74LS158N	TI	1.66	—
SN74LS160N	TI	3.06	—
SN74LS161N	TI	3.06	—
SN74LS162N	TI	3.06	—
SN74LS163N	TI	3.06	—
SN74LS164N	TI	2.15	—
SN74LS168N	TI	3.49	—
SN74LS169N	TI	3.49	—
SN74LS174N	TI	1.97	—
SN74LS175N	TI	1.97	—
SN74LS181N	TI	4.92	—
SN74LS190N	TI	3.28	—
SN74LS191N	TI	3.28	—
SN74LS192N	TI	3.28	—
SN74LS193N	TI	3.28	—
SN74LS194AN	TI	1.97	—
SN74LS194N	TI	1.97	—
SN74LS195AN	TI	1.97	—
SN74LS196N	TI	1.97	—
SN74LS197N	TI	1.97	—
SN74LS221N	TI	1.86	—
SN74LS247N	TI	1.63	—
SN74LS248N	TI	1.63	—
SN74LS251N	TI	2.02	—
SN74LS253N	TI	2.02	—
SN74LS257N	TI	2.12	—
SN74LS258N	TI	1.91	—
SN74LS266N	TI	.81	—
SN74LS283N	TI	1.83	—
SN74LS290N	TI	1.63	—
SN74LS293N	TI	1.63	—
SN74LS295N	TI	2.30	—
SN74LS386N	TI	.81	—
SN74S00N	TI	.85	—
SN74S02N	TI	.85	—
SN74S03J	TI	1.28	—

NEW TYPES STOCKED AS SOON AS RELEASED

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfr	1-24	
SN74S03N	TI	.85	—
SN74S04N	TI	1.06	—
SN74S05N	TI	1.06	—
SN74S08N	TI	.90	—
SN74S09N	TI	.90	—
SN74S10N	TI	.85	—
SN74S11N	TI	.85	—
SN74S15N	TI	.85	—
SN74S20N	TI	.85	—
SN74S22N	TI	.85	—
SN74S30N	TI	.85	—
SN74S32N	TI	1.17	—
SN74S37N	TI	1.71	—
SN74S38N	TI	1.71	—
SN74S40J	TI	1.28	—
SN74S40N	TI	.85	—
SN74S51N	TI	.85	—
SN74S64N	TI	.85	—
SN74S65N	TI	.85	—
SN74S74J	TI	2.56	—
SN74S74N	TI	1.71	—
SN74S85N	TI	8.89	—
SN74S86N	TI	1.61	—
SN74S112N	TI	1.96	—
SN74S113N	TI	1.96	—
SN74S114J	TI	2.94	—
SN74S114N	TI	1.96	—
SN74S124N	TI	3.64	—
SN74S132N	TI	4.27	—
SN74S133J	TI	1.28	—
SN74S133N	TI	.85	—
SN74S134N	TI	1.06	—
SN74S135N	TI	2.59	—
SN74S138N	TI	5.10	—
SN74S139N	TI	5.10	—
SN74S140N	TI	1.06	—
SN74S151N	TI	5.10	—
SN74S153N	TI	5.10	—
SN74S157N	TI	4.57	—
SN74S158N	TI	4.57	—
SN74S162N	TI	6.13	—
SN74S163N	TI	6.13	—
SN74S168N	TI	8.79	—
SN74S169N	TI	8.79	—
SN74S174N	TI	7.46	—
SN74S175N	TI	6.35	—
SN74S181J	TI	46.36	—
SN74S181N	TI	16.93	—
SN74S182N	TI	4.57	—
SN74S188N	TI	3.75	—
SN74S194N	TI	5.34	—
SN74S195N	TI	5.34	—
SN74S201N	TI	10.00	—
SN74S241N	TI	5.60	—
SN74S251N	TI	5.09	—
SN74S257N	TI	4.57	—
SN74S258J	TI	9.95	—
SN74S258N	TI	4.57	—
SN74S260N	TI	.85	—
SN74S280N	TI	7.54	—
SN74S281J	TI	18.74	—
SN74S281N	TI	18.22	—
SN74S287J	TI	4.70	—
SN74S287N	TI	5.63	—
SN74S299N	TI	4.90	—
SN74S387J	TI	6.84	—
SN74S387N	TI	5.63	—
SN5400J	TI	3.17	—
SN5401W	TI	5.15	—
SN5402W	TI	5.92	—
SN5403J	TI	3.17	—
SN5404J	TI	3.92	—
SN5404W	TI	6.44	—
SN5405J	TI	3.92	—
SN5406J	TI	8.89	—
SN5407J	TI	8.89	—
SN5410J	TI	3.17	—
SN5410W	TI	5.15	—
SN5412W	TI	6.00	—
SN5416J	TI	7.24	—
SN5420J	TI	3.17	—
SN5420W	TI	4.37	—
SN5425W	TI	6.00	—
SN5428J	TI	5.21	—
SN5430W	TI	4.37	—
SN5432J	TI	4.51	—
SN5437J	TI	6.35	—
SN5437W	TI	7.20	—
SN5438J	TI	6.35	—
SN5440J	TI	3.17	—
SN5440W	TI	5.92	—
SN5442AJ	TI	8.89	—
SN5442J	TI	8.89	—
SN5442W	TI	26.24	—
SN5445W	TI	40.69	—
SN5448J	TI	19.48	—
SN5450J	TI	3.17	—
SN5450W	TI	5.15	—
SN5451J	TI	3.17	—
SN5451W	TI	5.15	—
SN5454W	TI	5.15	—
SN5472J	TI	4.17	—
SN5474W	TI	10.29	—
SN5475J	TI	8.04	—
SN5476J	TI	6.21	—
SN5476W	TI	12.48	—
SN5482J	TI	9.31	—
SN5483AJ	TI	14.56	—
SN5485J	TI	10.58	—
SN5486J	TI	4.06	—
SN5486W	TI	9.58	—
SN5490AJ	TI	8.97	—
SN5490AW	TI	21.72	—
SN5490J	TI	11.14	—
SN5491AJ	TI	12.70	—
SN5493AJ	TI	8.97	—
SN5493AW	TI	21.13	—
SN5495AJ	TI	11.85	—
SN5495W	TI	21.86	—
SN7400J	TI	.83	—
SN7400N	TI	.56	—
SN7401J	TI	.83	—
SN7401N	TI	.56	—
SN7402J	TI	.83	—
SN7402N	TI	.56	—
SN7403J	TI	.83	—
SN7403N	TI	.56	—
SN7404J	TI	1.03	—
SN7404N	TI	.70	—
SN7405J	TI	1.03	—
SN7405N	TI	.70	—
SN7406J	TI	1.97	—
SN7406N	TI	1.52	—
SN7407J	TI	1.97	—
SN7408J	TI	.89	—
SN7408N	TI	.60	—
SN7409J	TI	.89	—
SN7409N	TI	.60	—
SN7410J	TI	.83	—
SN7410N	TI	.56	—
SN7412J	TI	.83	—
SN7412N	TI	.56	—
SN7413J	TI	2.26	—
SN7413N	TI	1.30	—
SN7414J	TI	6.52	—
SN7414N	TI	3.58	—
SN7416J	TI	1.61	—
SN7416N	TI	1.24	—
SN7417J	TI	1.61	—
SN7417N	TI	1.24	—
SN7420J	TI	.83	—
SN7420N	TI	.56	—
SN7422J	TI	.83	—
SN7422N	TI	.56	—
SN7423J	TI	1.26	—
SN7423N	TI	.81	—
SN7425J	TI	1.26	—
SN7425N	TI	.81	—
SN7426J	TI	1.16	—
SN7426N	TI	.90	—
SN7427J	TI	1.26	—
SN7427N	TI	.81	—
SN7428J	TI	1.37	—
SN7428N	TI	.79	—
SN7430J	TI	.83	—
SN7430N	TI	.56	—
SN7432J	TI	1.26	—
SN7432N	TI	.79	—
SN7433J	TI	1.26	—
SN7433N	TI	.79	—
SN7437J	TI	1.41	—
SN7437N	TI	1.13	—
SN7438J	TI	1.41	—
SN7438N	TI	1.13	—
SN7440F	TI	4.06	—
SN7440J	TI	.83	—
SN7440N	TI	.56	—
SN7442AJ	TI	2.96	—
SN7442AN	TI	1.98	—
SN7443AN	TI	3.16	—
SN7443J	TI	4.60	—
SN7443N	TI	3.16	—
SN7444J	TI	4.60	—
SN7444N	TI	3.16	—
SN7445J	TI	7.05	—
SN7445N	TI	2.79	—
SN7446AJ	TI	4.94	—
SN7446AN	TI	2.45	—
SN7447AJ	TI	4.60	—
SN7447AN	TI	2.28	—
SN7448J	TI	6.49	—
SN7448N	TI	2.28	—
SN7450J	TI	.83	—
SN7450N	TI	.56	—
SN7451J	TI	.83	—
SN7451N	TI	.56	—
SN7453J	TI	.83	—
SN7453N	TI	.56	—
SN7454J	TI	.83	—
SN7454N	TI	.56	—
SN7460J	TI	.83	—
SN7460N	TI	.56	—
SN7470J	TI	1.37	—
SN7470N	TI	.93	—
SN7472J	TI	1.23	—
SN7472N	TI	.77	—
SN7473J	TI	1.66	—
SN7473N	TI	.86	—
SN7474J	TI	1.66	—
SN7474N	TI	.86	—
SN7475J	TI	2.68	—
SN7475N	TI	1.21	—
SN7476J	TI	1.83	—
SN7476N	TI	1.03	—
SN7480J	TI	2.06	—
SN7480N	TI	1.41	—
SN7481AJ	TI	7.20	—
SN7481AN	TI	2.11	—
SN7481N	TI	2.11	—
SN7482J	TI	3.10	—
SN7482N	TI	2.14	—
SN7483AJ	TI	4.85	—
SN7483AN	TI	2.68	—
SN7484AJ	TI	7.79	—
SN7484AN	TI	2.34	—
SN7485J	TI	8.47	—
SN7485N	TI	4.06	—
SN7486J	TI	1.35	—
SN7486N	TI	.84	—
SN7489J	TI	14.11	—
SN7489N	TI	11.29	—
SN7490AJ	TI	2.99	—
SN7490AN	TI	1.27	—
SN7491AJ	TI	4.23	—
SN7491AN	TI	1.97	—
SN7492AJ	TI	2.99	—
SN7492AN	TI	1.33	—
SN7493AJ	TI	2.99	—
SN7493AN	TI	1.27	—
SN7494J	TI	3.95	—
SN7494N	TI	2.06	—
SN7495AJ	TI	3.95	—
SN7495AN	TI	1.58	—
SN7496J	TI	4.94	—
SN7496N	TI	2.09	—
SN7497J	TI	10.05	—
SN7497N	TI	7.48	—
SN7520N	TI	2.00	—
SN7522N	TI	2.00	—
SN7523N	TI	1.60	—
SN7524N	TI	2.00	—
SN7525N	TI	1.60	—
SN7526N	TI	2.00	—
SN7528N	TI	2.00	—
SN29001N	TI	2.60	—
SN29007J	TI	1.11	—
SN29008N	TI	.88	—
SN29009J	TI	1.11	—
SN29301J	TI	2.96	—
SN29309J	TI	2.82	—
SN29309N	TI	2.26	—
SN29312J	TI	2.82	—
SN29601N	TI	1.77	—
SN52711L	TI	2.10	—
SN54100J	TI	24.39	—
SN54105J	TI	8.13	—
SN54107J	TI	6.09	—
SN54121J	TI	7.33	—
SN54123J	TI	14.04	—
SN54125W	TI	7.94	—
SN54126W	TI	7.94	—
SN54132J	TI	9.15	—
SN54143J	TI	25.40	—
SN54145J	TI	14.39	—
SN54153J	TI	8.57	—
SN54156J	TI	11.01	—
SN54157J	TI	8.24	—
SN54160W	TI	27.97	—
SN54161J	TI	15.07	—
SN54164J	TI	21.17	—
SN54173W	TI	22.48	—
SN54174J	TI	12.47	—
SN54175J	TI	10.58	—
SN54175W	TI	15.54	—
SN54184J	TI	9.15	—
SN54188AJ	TI	1.00	—
SN54190J	TI	29.63	—
SN54191J	TI	29.63	—
SN54193J	TI	29.63	—
SN54194J	TI	11.09	—
SN54195J	TI	9.70	—
SN55110J	TI	5.01	—
SN55452B	TI	2.88	—
SN74100J	TI	8.13	—
SN74100N	TI	4.66	—
SN74104J	TI	2.46	—
SN74104N	TI	1.70	—
SN74105J	TI	2.46	—
SN74105N	TI	1.70	—
SN74107J	TI	1.79	—
SN74107N	TI	.86	—
SN74109J	TI	1.66	—
SN74109N	TI	1.37	—
SN74110J	TI	1.37	—
SN74110N	TI	.79	—
SN74111J	TI	1.66	—
SN74111N	TI	1.04	—
SN74116J	TI	5.43	—
SN74116N	TI	3.95	—
SN74120J	TI	3.67	—
SN74120N	TI	2.45	—
SN74121J	TI	1.83	—
SN74121N	TI	1.03	—
SN74122J	TI	2.63	—
SN74122N	TI	.93	—
SN74123J	TI	4.32	—
SN74123N	TI	2.09	—
SN74125J	TI	1.75	—
SN74125N	TI	1.13	—
SN74126J	TI	1.75	—
SN74126N	TI	1.13	—
SN74128J	TI	2.10	—
SN74128N	TI	1.18	—
SN74132J	TI	4.74	—
SN74132N	TI	2.28	—
SN74136J	TI	1.35	—
SN74136N	TI	.90	—
SN74141J	TI	3.89	—
SN74141N	TI	2.06	—
SN74142J	TI	8.19	—
SN74142N	TI	5.25	—
SN74143J	TI	8.47	—
SN74143N	TI	5.65	—
SN74144J	TI	8.47	—

NEW TYPES STOCKED AS SOON AS RELEASED

INTEGRATED CIRCUITS

Type	Mfr	1-24	—
SN74144N	TI	5.65	—
SN74145J	TI	4.79	—
SN74145N	TI	2.11	—
SN74147N	TI	4.94	—
SN74148J	TI	5.50	—
SN74148N	TI	3.05	—
SN74150J	TI	6.06	—
SN74150N	TI	4.20	—
SN74151AJ	TI	3.81	—
SN74151AN	TI	2.20	—
SN74153J	TI	3.81	—
SN74153N	TI	2.20	—
SN74154J	TI	6.92	—
SN74154N	TI	4.60	—
SN74155J	TI	3.67	—
SN74155N	TI	2.20	—
SN74156J	TI	3.67	—
SN74156N	TI	2.20	—
SN74157J	TI	2.82	—
SN74157N	TI	2.09	—
SN74159N	TI	5.59	—
SN74160J	TI	5.02	—
SN74160N	TI	2.85	—
SN74161J	TI	5.02	—
SN74161N	TI	2.85	—
SN74162J	TI	5.02	—
SN74162N	TI	2.85	—
SN74163J	TI	5.02	—
SN74163N	TI	2.85	—
SN74164J	TI	7.05	—
SN74164N	TI	3.05	—
SN74165J	TI	7.05	—
SN74165N	TI	3.05	—
SN74166J	TI	10.58	—
SN74166N	TI	3.39	—
SN74167J	TI	8.47	—
SN74167N	TI	6.77	—
SN74170J	TI	11.48	—
SN74170N	TI	7.67	—
SN74172J	TI	23.77	—
SN74172N	TI	15.24	—
SN74173J	TI	7.79	—
SN74173N	TI	4.12	—
SN74174J	TI	6.24	—
SN74174N	TI	3.10	—
SN74175N	TI	2.68	—
SN74176J	TI	4.32	—
SN74176N	TI	2.48	—
SN74177J	TI	4.32	—
SN74177N	TI	2.48	—
SN74178J	TI	3.95	—
SN74178N	TI	3.19	—
SN74179J	TI	3.95	—
SN74179N	TI	3.19	—
SN74180J	TI	4.46	—
SN74180N	TI	3.50	—
SN74181J	TI	14.11	—
SN74181N	TI	7.76	—
SN74182J	TI	3.95	—
SN74182N	TI	2.17	—
SN74184J	TI	4.57	—
SN74184N	TI	3.67	—
SN74185AJ	TI	4.57	—
SN74185AN	TI	3.67	—
SN74186J	TI	24.70	—
SN74186N	TI	19.76	—
SN74187N	TI	37.51	—
SN74188AJ	TI	1.60	—
SN74188AN	TI	8.47	—
SN74190N	TI	3.75	—
SN74191J	TI	9.87	—
SN74191N	TI	3.75	—
SN74192J	TI	9.87	—
SN74192N	TI	3.24	—
SN74193J	TI	9.87	—
SN74193N	TI	3.24	—
SN74194J	TI	3.70	—
SN74194N	TI	2.54	—
SN74195J	TI	3.24	—
SN74195N	TI	1.72	—
SN74196J	TI	4.32	—
SN74196N	TI	2.34	—
SN74197J	TI	4.32	—
SN74197N	TI	2.34	—
SN74198J	TI	11.20	—
SN74198N	TI	5.81	—

Type	Mfr	1-24	—
SN74199J	TI	11.20	—
SN74199N	TI	5.81	—
SN74221J	TI	4.32	—
SN74221N	TI	2.91	—
SN74246J	TI	4.94	—
SN74246N	TI	2.45	—
SN74247J	TI	4.60	—
SN74247N	TI	2.28	—
SN74248J	TI	6.49	—
SN74248N	TI	2.28	—
SN74249J	TI	6.49	—
SN74249N	TI	2.28	—
SN74251N	TI	2.74	—
SN74265J	TI	1.44	—
SN74265N	TI	1.15	—
SN74273N	TI	1.81	—
SN74278J	TI	6.61	—
SN74278N	TI	4.23	—
SN74279J	TI	1.97	—
SN74279N	TI	1.27	—
SN74283J	TI	5.19	—
SN74283N	TI	2.68	—
SN74284J	TI	19.82	—
SN74284N	TI	12.70	—
SN74285J	TI	19.82	—
SN74285N	TI	12.70	—
SN74290N	TI	1.55	—
SN74293N	TI	1.55	—
SN74298J	TI	5.28	—
SN74298N	TI	3.39	—
SN74351N	TI	2.91	—
SN74365N	TI	1.13	—
SN74366N	TI	1.13	—
SN74367N	TI	1.13	—
SN74368N	TI	1.13	—
SN74390N	TI	2.76	—
SN74393N	TI	2.76	—
SN74490N	TI	2.76	—
SN74542B2	TI	3.49	—
SN75107AJ	TI	3.08	—
SN75107AN	TI	2.50	—
SN75108AJ	TI	3.08	—
SN75108AN	TI	2.50	—
SN75109J	TI	3.08	—
SN75109N	TI	2.50	—
SN75110AN	TI	2.50	—
SN75110J	TI	3.08	—
SN75110N	TI	2.50	—
SN75113J	TI	3.64	—
SN75113N	TI	3.00	—
SN75114J	TI	3.64	—
SN75114N	TI	3.00	—
SN75115J	TI	3.64	—
SN75115N	TI	3.00	—
SN75121N	TI	2.30	—
SN75122N	TI	2.30	—
SN75123N	TI	2.50	—
SN75124N	TI	2.50	—
SN75138N	TI	3.86	—
SN75140P	TI	2.50	—
SN75150N	TI	2.76	—
SN75150P	TI	2.70	—
SN75152N	TI	4.00	—
SN75154J	TI	4.73	—
SN75154N	TI	4.00	—
SN75183N	TI	3.00	—
SN75207N	TI	3.20	—
SN75208N	TI	3.20	—
SN75232N	TI	2.00	—
SN75234N	TI	2.00	—
SN75235N	TI	1.60	—
SN75238N	TI	5.28	—
SN75324N	TI	3.60	—
SN75325N	TI	3.60	—
SN75326N	TI	4.00	—
SN75327N	TI	4.00	—
SN75361AP	TI	2.50	—
SN75365J	TI	4.77	—
SN75365N	TI	3.71	—
SN75368N	TI	4.00	—
SN75370N	TI	6.50	—
SN75450BJ	TI	2.12	—
SN75450BN	TI	1.50	—
SN75451BJ	TI	1.70	—
SN75451BP	TI	1.08	—
SN75451JG	TI	1.23	—

Type	Mfr	1-24	—
SN75452BL	TI	1.25	—
SN75452BP	TI	1.08	—
SN75452JG	TI	1.23	—
SN75453BP	TI	1.08	—
SN75453P	TI	1.00	—
SN75454BP	TI	1.08	—
SN75460N	TI	2.00	—
SN75461P	TI	1.30	—
SN75462P	TI	1.30	—
SN75463P	TI	1.30	—
SN75464P	TI	1.30	—
SN75491AN	TI	1.16	—
SN75492N	TI	1.30	—
SN76001AN	TI	2.20	—
SN76005ND	TI	2.13	—
SN76514L	TI	2.66	—
SN76514N	TI	2.40	—
SNC54LS191J	TI	8.13	—
SNC5400J	TI	4.43	—
SNC5407J	TI	10.16	—
SNC5410J	TI	4.43	—
SNC5425J	TI	5.36	—
SNC5491AJ	TI	14.53	—
SNC5496AJ	TI	17.17	—
SNC5496J	TI	16.65	—
SNC54148J	TI	13.41	—
TL441CJ	TI	4.89	—
TL441CN	TI	4.14	—
TL510CN	TI	.96	—
TL510CP	TI	.90	—
TL560CP	TI	1.30	—
TL702CL	TI	1.54	—
TL702CN	TI	.58	—
TL710CJ	TI	1.82	—
TL710CL	TI	1.65	—
TL710CN	TI	1.30	—
TL710ML	TI	2.10	—
TL720CN	TI	1.30	—
TL810CL	TI	1.22	—
TL810CN	TI	.96	—
TL810CP	TI	.90	—
TL820CJ	TI	2.01	—
TL820CN	TI	1.50	—
TMS0117NC	TI	20.71	—
TMS1099JL	TI	99.00	—
TMS2501NC	TI	18.62	—
TMS3112NC	TI	9.66	—
TMS3113NC	TI	9.66	—
TMS3114NC	TI	9.66	—
TMS3120NC	TI	7.25	—
TMS3127NC	TI	6.64	—
TMS3128NC	TI	6.64	—
TMS3129NC	TI	6.64	—
TMS3132NC	TI	6.64	—
TMS3409JC	TI	12.08	—
TMS3409NC	TI	8.45	—
TMS3417NC	TI	8.45	—
TMS4024NC	TI	14.22	—
TMS4030JL	TI	23.57	—
TMS4030NL	TI	21.42	—
TMS4033JL	TI	8.47	—
TMS4033NL	TI	7.05	—
TMS4034JL	TI	8.08	—
TMS4034NL	TI	6.74	—
TMS4035JL	TI	7.67	—
TMS4035NL	TI	6.39	—
TMS4050-2NL	TI	21.84	—
TMS4050JL	TI	20.91	—
TMS4050NL	TI	19.01	—
TMS4051NL	TI	19.01	—
TMS4060JL	TI	23.57	—
TMS4060NL	TI	21.42	—
TMS4062NL	TI	10.98	—
TMS4063NL	TI	10.98	—
TMS4103JC	TI	27.94	—
TMS4103NC	TI	18.62	—
TMS5501JL	TI	31.82	—
TMS5501NL	TI	28.65	—
TMS6011JC	TI	15.52	—
TMS6011NC	TI	10.66	—
TMS8080JL	TI	33.22	—
TMS8080NL	TI	33.22	—
TP4001AJ	TI	1.12	—
TP4001AN	TI	.34	—
TP4002AN	TI	.34	—
TP4007AN	TI	.34	—

Key Mfr.

MOT Motorola
RCA Radio Corp. of America
SG Silicon General
SPR Sprague
TI Texas Instruments

Type	Mfr	1-24	—
TP4008AN	TI	1.52	—
TP4009AJ	TI	1.78	—
TP4010AJ	TI	1.78	—
TP4011AJ	TI	1.12	—
TP4011AN	TI	.34	—
TP4012AN	TI	.34	—
TP4013AJ	TI	1.78	—
TP4013AN	TI	.89	—
TP4014AN	TI	1.60	—
TP4015AN	TI	1.60	—
TP4016AN	TI	.89	—
TP4017AN	TI	1.60	—
TP4019AN	TI	.97	—
TP4020AN	TI	1.77	—
TP4021AN	TI	1.60	—
TP4022AN	TI	1.52	—
TP4023AN	TI	.34	—
TP4024AN	TI	1.24	—
TP4025AJ	TI	1.12	—
TP4025AN	TI	.34	—
TP4027AN	TI	.89	—
TP4028AN	TI	1.42	—
TP4029AN	TI	1.80	—
TP4040AN	TI	1.68	—
TP4042AN	TI	1.32	—
TP4044AN	TI	1.46	—
TP4049AN	TI	.89	—
TP4050AN	TI	.89	—
TP4301AN	TI	.89	—
TP4311AN	TI	.89	—
TP4360AN	TI	1.78	—
TP4361AN	TI	1.78	—
TP4362AN	TI	1.78	—
TP4363AN	TI	1.78	—
TP4507AN	TI	.96	—
TP4512AN	TI	1.42	—
UA709CL	TI	1.08	—
UA709CP	TI	.76	—
UA711CN	TI	.86	—
UA711MJ	TI	2.29	—
UA711ML	TI	2.10	—
UA723CL	TI	1.56	—
UA723CN	TI	1.30	—
UA723ML	TI	3.72	—
UA733CN	TI	1.80	—
UA741CJG	TI	.66	—
UA741CL	TI	1.08	—
UA741CN	TI	.82	—
UA741CP	TI	.76	—
UA741ML	TI	1.08	—
UA747CJ	TI	1.83	—
UA747CL	TI	1.62	—
UA747CN	TI	1.36	—
UA747MJ	TI	3.12	—
UA747ML	TI	2.86	—
UA748CL	TI	1.08	—
UA748CN	TI	.82	—
UA748CP	TI	.76	—
UA748ML	TI	2.06	—
78L05ALP	TI	.69	—
78L05LP	TI	.61	—
78L06ALP	TI	.69	—
78L06LP	TI	.61	—
78L12ALP	TI	.69	—
78L12LP	TI	.61	—
78L15ALP	TI	.69	—
78L15LP	TI	.61	—

NEW TYPES STOCKED AS SOON AS RELEASED

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfr	1-24	Page
1N34A	IR	.27	—
1N64	IR	.27	—
1N67A	IR	.27	—
1N82AG	IR	.87	—
1N87A	IR	.27	—
1N175A	IR	.48	—
1N248	IR	1.73	—
1N248A	IR	1.73	—
1N248B	IR	1.73	—
1N248B	MOT	1.70	—
1N248BR	MOT	1.70	—
1N248C	GE	2.75	—
1N248C	IR	1.73	—
1N248C	MOT	1.78	—
1N248C	RCA	1.49	—
1N248CR	MOT	1.78	—
1N249	GE	2.84	—
1N249	IR	2.13	—
1N249A	GE	2.84	—
1N249A	IR	2.13	—
1N249B	IR	2.13	—
1N249B	MOT	1.88	—
1N249BR	MOT	1.88	—
1N249C	GE	2.84	—
1N249C	IR	2.13	—
1N249C	RCA	1.60	—
1N249R	GE	2.84	—
1N249RC	RCA	1.60	—
1N250	GE	2.92	—
1N250	IR	2.60	—
1N250A	GE	2.92	—
1N250A	IR	2.60	—
1N250B	IR	2.60	—
1N250B	MOT	2.72	—
1N250BR	MOT	2.72	—
1N250C	GE	2.92	—
1N250C	IR	2.60	—
1N250C	MOT	3.06	—
1N250C	RCA	2.44	—
1N251	TI	.29	—
1N251JAN	TI	.31	—
1N253	IR	1.26	—
1N254	IR	2.26	—
1N255	IR	4.25	—
1N256	IR	6.14	—
1N256R	IR	6.14	—
1N294	IR	.30	91
1N295	IR	.30	91
1N301BJAN	MOT	4.00	—
1N320	IR	1.10	91
1N333	IR	4.25	—
1N334	IR	3.26	—
1N335	IR	3.26	—
1N336	IR	2.26	—
1N337	IR	2.26	—
1N338	IR	1.27	—
1N339	IR	1.27	—
1N340	IR	1.27	91
1N341	IR	4.25	—
1N342	IR	4.25	—
1N343	IR	3.26	—
1N344	IR	3.26	—
1N345	IR	2.26	—
1N346	IR	2.26	—
1N347	IR	1.27	—
1N348	IR	1.27	—
1N349	IR	1.27	—
1N349R	IR	1.27	—
1N429	MOT	6.04	91
1N429	TI	5.45	91
1N430	IR	18.23	—
1N440B	IR	.65	—
1N441B	RCA	.60	—
1N443B	RCA	.79	—
1N445B	RCA	1.12	—
1N456	GI	.75	—
1N456	TI	.35	—
1N456A	TI	.36	—
1N457	GI	.75	—
1N457	TI	.38	—
1N457A	TI	.39	—
1N457JAN	TI	.43	—
1N458	TI	.41	—
1N458A	TI	.42	—
1N458JAN	TI	.47	—
1N459	TI	.44	—
1N459A	GI	1.45	—
1N459A	TI	.45	—
1N459JAN	TI	.49	—
1N461	TI	.35	—
1N461A	TI	.36	—
1N462	TI	.38	—
1N462A	TI	.39	—
1N463	TI	.41	—
1N463A	TI	.42	—
1N464	TI	.44	—
1N464A	TI	.45	—
1N465A	IR	4.35	—
1N466	IR	3.36	—
1N466A	IR	4.35	—
1N467	IR	3.36	—
1N468	IR	3.36	—
1N468A	IR	4.35	—
1N469	IR	3.36	—
1N470	IR	3.36	—
1N470A	IR	4.35	—
1N482	TI	.35	—
1N482A	GI	1.35	—
1N482A	TI	.36	—
1N482B	TI	.39	—
1N483	TI	.38	—
1N483A	TI	.39	—
1N483B	GI	1.35	—
1N483B	TI	.39	—
1N484	TI	.41	—
1N484A	TI	.42	—
1N484B	TI	.42	—
1N485	TI	.44	—
1N485A	GI	1.45	—
1N485A	TI	.45	—
1N485B	TI	.46	—
1N527A	MOT	1.50	—
1N536	RCA	.36	84
1N537	RCA	.40	84
1N538	RCA	.45	84
1N539	RCA	.50	84
1N540	RCA	.56	84
1N541	IR	.30	—
1N547	RCA	.79	84
1N550	IR	1.27	—
1N551	IR	2.26	—
1N552	IR	3.26	—
1N553	IR	4.25	—
1N554	IR	5.15	—
1N555	IR	6.14	—
1N561	IR	3.71	—
1N562	IR	8.30	—
1N563	IR	11.34	—
1N604	IR	.95	—
1N607A	IR	1.27	—
1N608A	IR	1.27	—
1N609A	IR	2.26	—
1N610A	IR	2.26	—
1N611A	IR	3.26	—
1N612A	IR	4.25	—
1N613A	IR	5.15	—
1N614A	IR	6.14	—
1N625	TI	.18	—
1N626	TI	.18	—
1N627	TI	.18	—
1N628	TI	.18	—
1N629	TI	.18	—
1N643	TI	.23	—
1N643JAN	TI	.95	—
1N645	GI	1.45	—
1N645	TI	.50	—
1N645/JAN	TI	.59	—
1N645A	GE	.77	—
1N646	TI	.57	—
1N647	GI	1.50	—
1N647	TI	.64	—
1N647/JAN	TI	.77	—
1N647JAN	GI	2.20	—
1N649	GI	2.05	—
1N658	TI	.23	—
1N659	TI	.23	—
1N660	TI	.23	—
1N661	TI	.23	—
1N662	TI	.37	—
1N662JAN	GI	1.00	—
1N663	TI	.23	—
1N702	MOT	1.85	—
1N702A	IR	1.05	—
1N702A	MOT	2.60	—
1N702A-1	MOT	2.60	—
1N703	IR	.95	—
1N703	MOT	1.85	—
1N703A	IR	1.05	98
1N704	IR	.95	98
1N704A	IR	1.05	98
1N704A	MOT	2.60	98
1N704A	TI	.58	98
1N705	MOT	1.85	98
1N705A	IR	1.05	98
1N705A	MOT	2.60	98
1N705A	TI	.58	98
1N706	MOT	1.85	98
1N706	TI	.49	98
1N706A	IR	1.05	98
1N706A	MOT	2.60	98
1N707	MOT	1.85	98
1N707A	IR	1.05	98
1N707A	MOT	2.60	98
1N707A	TI	.58	98
1N707A-0	MOT	2.60	98
1N707A-6	MOT	2.60	98
1N708	MOT	1.85	98
1N708	TI	.49	98
1N708A	IR	1.05	—
1N708A	MOT	2.60	98
1N708A	TI	.58	98
1N709	MOT	1.85	98
1N709A	IR	1.05	98
1N709A	TI	.58	—
1N710	MOT	1.85	—
1N710	TI	.49	—
1N710A	IR	1.05	—
1N710A	MOT	2.60	—
1N711	MOT	1.85	—
1N711A	IR	1.05	—
1N711A	TI	.58	—
1N712	IR	.95	102
1N712	MOT	1.85	—
1N712A	IR	1.05	—
1N712A	TI	.58	—
1N713	IR	.95	—
1N713	MOT	1.85	—
1N714	MOT	1.85	—
1N714	TI	.49	—
1N714A	IR	1.05	—
1N714A	MOT	2.60	—
1N714A	TI	.58	—
1N715	MOT	1.85	—
1N715A	IR	1.05	—
1N715A	TI	.58	—
1N716	MOT	1.85	—
1N716	TI	.49	—
1N716A	IR	1.05	—
1N716A	MOT	2.60	—
1N716A	TI	.58	—
1N717	MOT	1.85	—
1N717A	IR	1.05	—
1N718	MOT	1.85	—
1N718A	IR	1.05	—
1N719	IR	.95	102
1N719	MOT	1.85	—
1N719A	MOT	2.60	—
1N720	IR	.95	102
1N720	MOT	1.85	—
1N720A	IR	1.05	—
1N721	MOT	1.85	—
1N722A	IR	1.05	—
1N722A	MOT	2.60	—
1N723	IR	.95	102
1N723A	IR	1.05	—
1N723A	MOT	2.60	—
1N724A	IR	1.05	—
1N725	MOT	1.85	—
1N725A	IR	1.05	—
1N727	MOT	1.85	—
1N728	MOT	1.85	—
1N732	MOT	3.50	—
1N735	MOT	3.50	—
1N736	MOT	3.50	—
1N738	MOT	3.50	—
1N738A	MOT	4.35	—
1N740	MOT	3.50	—
1N741A	MOT	4.35	—
1N742	MOT	3.50	—
1N743	MOT	3.50	—
1N745	MOT	3.50	—
1N745A	MOT	4.35	—
1N746	MOT	2.00	43
1N746	TI	.49	—
1N746A	IR	1.05	—
1N746A	MOT	2.75	—
1N746A	TI	.58	—
1N746A/JAN	TI	1.02	—
1N746AJAN	IR	1.10	—
1N747	MOT	2.00	43
1N747	TI	.49	—
1N747A	IR	1.05	—
1N747A	MOT	2.75	—
1N747A	TI	.58	—
1N747A/JAN	TI	1.02	—
1N747AJAN	IR	1.10	—
1N748	MOT	2.00	43
1N748	TI	.49	—
1N748A	IR	1.05	—
1N748A	MOT	2.75	—
1N748A/JAN	TI	1.02	—
1N748AJAN	IR	1.10	—
1N748AJAN	MOT	2.95	—
1N749	IR	.95	102
1N749	MOT	2.00	44
1N749	TI	.49	—
1N749A	IR	1.05	—
1N749A	MOT	2.75	—
1N749A	TI	.58	—
1N749A/JAN	TI	1.02	—
1N749AJAN	IR	1.10	—
1N749AJAN	MOT	2.95	—
1N750	IR	.95	102
1N750	MOT	2.00	44
1N750	TI	.49	—
1N750A	IR	1.05	—
1N750A	MOT	2.75	—
1N750A	TI	.58	—
1N750A/JAN	TI	1.02	—
1N751	MOT	2.00	43
1N751A	IR	1.05	—
1N751A	MOT	2.75	—
1N751A	TI	.58	—
1N751A/JAN	MOT	2.95	—
1N751A/JAN	TI	.72	—
1N752	TI	.49	—
1N752/ 4M56AZ10	MOT	2.00	—
1N752A	IR	1.05	—
1N752A	MOT	2.75	—
1N752A	TI	.58	—
1N752A/JAN	TI	.72	—
1N752AJAN	MOT	2.95	—
1N752AJTX	MOT	5.65	—
1N753	MOT	2.00	43
1N753	TI	.49	—
1N753A	IR	1.05	—
1N753A	MOT	2.75	—
1N753A	TI	.58	—
1N753A/JAN	TI	.72	—
1N753AJAN	IR	1.10	—
1N753AJAN	MOT	2.95	—
1N753JAN	IR	1.10	—
1N754	MOT	2.00	43
1N754	TI	.49	—
1N754A	IR	1.05	—
1N754A	MOT	2.75	—
1N754A	TI	.58	—

NEW TYPES STOCKED AS SOON AS RELEASED

DISCRETE DEVICES

Type	Mfr	1-24	Page
1N754AJAN	IR	1.10	—
1N755	IR	.95	102
1N755	MOT	2.00	43
1N755	TI	.49	—
1N755A	IR	1.05	—
1N755A	MOT	2.75	—
1N755A	TI	.58	—
1N755A/JAN	TI	.72	—
1N755AJAN	IR	1.10	—
1N756	IR	.95	102
1N756	MOT	2.00	43
1N756	TI	.49	—
1N756A	IR	1.05	—
1N756A	MOT	2.75	—
1N756A	TI	.58	—
1N756A/JAN	TI	.72	—
1N756AJAN	IR	1.10	—
1N756AJAN	MOT	2.95	—
1N757	IR	.95	102
1N757	TI	.49	—
1N757A	IR	1.05	—
1N757A	MOT	2.75	—
1N757A	TI	.58	—
1N757AJAN	MOT	2.95	—
1N758	TI	.49	—
1N758A	IR	1.05	—
1N758A	MOT	2.75	—
1N758A	TI	.58	—
1N758A/JAN	TI	.72	—
1N758AJAN	MOT	2.95	—
1N759	MOT	2.00	43
1N759	TI	.49	—
1N759A	IR	1.05	—
1N759A	MOT	2.75	—
1N759A	TI	.58	—
1N759A/JAN	TI	.72	—
1N759AJAN	IR	1.10	—
1N761	TI	.58	—
1N761-2	MOT	2.80	—
1N761A	IR	1.05	—
1N762	IR	.95	—
1N762	TI	.58	—
1N763	MOT	2.15	—
1N763	TI	.58	—
1N763A	MOT	2.80	—
1N764	IR	.95	—
1N764	MOT	2.15	—
1N764	TI	.58	—
1N765	MOT	2.15	—
1N765A	IR	1.05	—
1N766	IR	.95	—
1N766	MOT	2.15	—
1N766A	TI	.50	—
1N767	IR	.95	—
1N767A	IR	1.05	—
1N767A	MOT	2.80	—
1N768	MOT	2.15	—
1N768A	IR	1.05	—
1N769A	MOT	2.80	—
1N816	MOT	.33	—
1N821	IR	1.59	—
1N821	MOT	2.75	—
1N821A	IR	1.63	—
1N821A	MOT	3.05	—
1N821JAN	IR	1.67	—
1N821JAN	MOT	2.95	—
1N823	IR	1.90	—
1N823	MOT	3.90	—
1N823A	IR	1.93	—
1N823A	MOT	3.90	—
1N823JAN	IR	1.97	—
1N823JAN	MOT	4.35	—
1N825	IR	2.90	—
1N825	MOT	5.80	—
1N825A	MOT	6.50	—
1N825JAN	IR	2.97	—
1N825JAN	MOT	7.10	—
1N826	IR	3.42	—
1N827	IR	4.76	—
1N827	MOT	10.85	—
1N827A	IR	4.81	—
1N827A	MOT	13.05	—
1N827JAN	IR	4.86	—
1N827JAN	MOT	14.50	—
1N829	IR	11.46	—
1N829	MOT	16.30	—
1N829A	MOT	19.55	—

Type	Mfr	1-24	Page
1N914	GE	.33	—
1N914	TI	.16	—
1N914/JAN	TI	.23	—
1N914A	GE	.44	—
1N914A	TI	.16	—
1N914B	GE	.88	—
1N914B	TI	.16	—
1N914BR	TI	.77	—
1N915	TI	.16	—
1N916	GE	.57	—
1N916	TI	.16	—
1N916A	TI	.16	—
1N916B	GE	1.18	—
1N916B	TI	.16	—
1N935	IR	1.80	—
1N935	MOT	2.30	—
1N935A	IR	1.83	—
1N935A	MOT	2.60	—
1N935B	MOT	3.55	—
1N936	IR	2.05	—
1N936	MOT	2.75	—
1N936A	IR	2.10	—
1N936A	MOT	3.55	—
1N936B	MOT	4.20	—
1N937	IR	2.52	—
1N937	MOT	5.35	—
1N937A	MOT	6.15	—
1N937B	IR	2.63	—
1N937B	MOT	7.10	—
1N937BJAN	IR	2.70	—
1N937BJAN	MOT	9.30	—
1N938	MOT	6.95	—
1N938A	IR	4.66	—
1N938A	MOT	7.55	—
1N938B	IR	4.76	—
1N938B	MOT	10.00	—
1N939	IR	10.63	—
1N939A	MOT	25.35	—
1N939B	MOT	27.35	—
1N939BJAN	MOT	29.80	—
1N941	MOT	3.20	—
1N941A	MOT	3.40	—
1N941B	MOT	3.60	—
1N941BJAN	MOT	7.45	—
1N942	MOT	3.50	—
1N942A	MOT	4.35	—
1N942B	MOT	4.95	—
1N943	MOT	6.90	—
1N943B	MOT	7.15	—
1N944	MOT	10.15	—
1N944A	MOT	13.05	—
1N944B	MOT	17.30	—
1N957	MOT	2.15	43
1N957	TI	.53	—
1N957A	MOT	2.35	—
1N957A	TI	.58	—
1N957B	IR	1.31	—
1N957B	TI	.63	—
1N958	MOT	2.15	43
1N958	TI	.53	—
1N958B	IR	1.31	—
1N958B	MOT	2.95	—
1N959	MOT	2.15	43
1N959	TI	.53	—
1N959A	MOT	2.35	—
1N959B	IR	1.31	—
1N959B	MOT	2.95	—
1N959B	TI	.63	—
1N960	IR	1.05	102
1N960	MOT	2.15	43
1N960	TI	.53	—
1N960A	MOT	2.35	—
1N960A	TI	.58	—
1N960B	IR	1.31	—
1N960B	MOT	2.95	—
1N960B	TI	.63	—
1N961	MOT	2.15	43
1N961	TI	.53	—
1N961A	TI	.58	—
1N961B	IR	1.31	—
1N961B	MOT	2.95	—
1N961B	TI	.63	—
1N962	MOT	2.15	43
1N962A/ .4M11Z10	MOT	2.35	—
1N962B	IR	1.31	—
1N962B	MOT	2.95	—

Type	Mfr	1-24	Page
1N962B	TI	.63	—
1N963	MOT	2.15	43
1N963A	IR	1.16	—
1N963A	MOT	2.35	—
1N963B	IR	1.31	—
1N963B	MOT	2.95	—
1N963BJAN	MOT	3.50	—
1N964	MOT	2.15	43
1N964A	IR	1.16	—
1N964A	MOT	2.35	—
1N964B	IR	1.31	—
1N964B	MOT	2.95	—
1N964B	TI	.63	—
1N965	MOT	2.15	43
1N965A	IR	1.16	—
1N965A	MOT	2.35	—
1N965A	TI	.58	—
1N965B	IR	1.31	—
1N965B	MOT	2.95	—
1N966	MOT	2.15	43
1N966A	MOT	2.35	—
1N966B	IR	1.31	—
1N966B	MOT	2.95	—
1N967	IR	1.05	102
1N967	MOT	2.15	43
1N967	TI	.53	—
1N967A	IR	1.16	—
1N967A	MOT	2.35	—
1N967B	IR	1.31	—
1N967B	MOT	2.95	—
1N968	MOT	2.15	43
1N968B	IR	1.31	—
1N968B	MOT	2.95	—
1N968B	TI	.63	—
1N969	IR	1.05	102
1N969	MOT	2.15	43
1N969A	IR	1.16	—
1N969A	MOT	2.35	—
1N969B	IR	1.31	—
1N969B	MOT	2.95	—
1N970	MOT	2.15	43
1N970A	IR	1.16	—
1N970A	MOT	2.35	—
1N970B	IR	1.31	—
1N970B	MOT	2.95	—
1N970B	TI	.63	—
1N971	MOT	2.15	43
1N971A	IR	1.16	—
1N971A/ .4M27Z10	MOT	2.35	—
1N971B	IR	1.31	—
1N971B	MOT	2.95	—
1N971BJAN	MOT	3.50	—
1N972	IR	1.05	102
1N972A	IR	1.16	—
1N972A/ .4M30Z10	MOT	2.35	42
1N972B	IR	1.31	—
1N972B	MOT	2.95	—
1N973	MOT	2.15	43
1N973A	IR	1.16	—
1N973A	MOT	2.35	—
1N973B	IR	1.31	—
1N973B	MOT	2.95	—
1N974	MOT	2.15	43
1N974A	IR	1.16	—
1N974A	MOT	2.35	—
1N974B	MOT	2.95	—
1N975	MOT	2.15	43
1N975A	MOT	2.35	—
1N975B	MOT	2.95	—
1N976/-4M43Z	MOT	2.15	43
1N976/.4M43Z	MOT	2.15	43
1N976B	MOT	2.95	—
1N977	MOT	2.15	43
1N977B	MOT	2.95	—
1N978	MOT	2.15	43
1N978A	MOT	2.35	—
1N978B	IR	1.31	—
1N978B	MOT	2.95	—
1N978BJAN	MOT	4.00	—
1N978JANTX	MOT	8.45	—
1N979	MOT	2.15	43
1N979A	MOT	2.35	—
1N979B	MOT	2.95	—
1N980/.4M62Z	MOT	2.15	43
1N980B	MOT	2.95	—

Key	Mfr.
IDI	International Devices Inc.
IR	International Rectifier
GE	General Electric
GI	General Instrument
MOT	Motorola
RCA	Radio Corp. of America
SPR	Sprague
TI	Texas Instruments

Type	Mfr	1-24	Page
1N981	MOT	2.15	43
1N981A/ .4M68Z10	MOT	2.35	—
1N982	MOT	2.15	43
1N982A	MOT	2.35	—
1N982B	MOT	2.95	—
1N984A	MOT	2.35	—
1N984B/ .4M91Z5	MOT	2.95	—
1N985	MOT	2.60	43
1N985B	MOT	3.65	—
1N986B	MOT	3.65	—
1N987A	MOT	3.00	—
1N987B	MOT	3.65	—
1N988	MOT	2.60	43
1N988B/ .4130Z5	MOT	3.65	—
1N989	MOT	2.60	43
1N989A	MOT	3.00	—
1N989B	MOT	3.65	—
1N990/.4M160Z	MOT	2.60	—
1N990B	MOT	3.65	—
1N990BJAN	MOT	4.45	—
1N991B	MOT	3.65	—
1N992	MOT	2.60	43
1N992A	MOT	3.00	—
1N992BJAN	MOT	4.45	—
1N1082/5MA2	IR	.78	—
1N1084/5MA4	IR	.92	—
1N1095	RCA	.61	84
1N1115	IR	1.27	—
1N1116	IR	2.26	—
1N1117	IR	3.26	—
1N1118	IR	4.25	—
1N1119	IR	5.15	—
1N1120	IR	6.14	—
1N1124	IR	2.26	—
1N1124A	IR	2.26	—
1N1124R	IR	2.26	—
1N1124RA	IR	2.26	—
1N1125	IR	3.26	—
1N1125A	IR	3.26	—
1N1125R	IR	3.26	—
1N1125RA	IR	3.26	—
1N1126	IR	4.25	—
1N1126A	IR	4.25	—
1N1126R	IR	4.25	—
1N1126RA	IR	4.25	—
1N1127A	IR	5.15	—
1N1127R	IR	5.15	—
1N1127RA	IR	5.15	—
1N1128	IR	6.14	—
1N1128R	IR	6.14	—
1N1128RA	IR	6.14	—
1N1136	IR	4.13	—
1N1140	IR	6.53	—
1N1150A	IR	15.91	—
1N1183	GE	2.92	90
1N1183	IR	2.05	101
1N1183	MOT	2.04	—
1N1183A	IR	2.96	—
1N1183A	MOT	2.60	—
1N1183A	RCA	1.86	—
1N1183R	IR	2.05	—
1N1183R	MOT	2.04	—
1N1183RA	IR	2.96	—
1N1183RA	MOT	2.60	—

NEW TYPES STOCKED AS SOON AS RELEASED

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfr	1-24	Page
1N1183RA	RCA	1.86	—
1N1184	GE	3.00	90
1N1184	IR	2.52	101
1N1184	MOT	2.38	—
1N1184A	GE	3.17	—
1N1184A	IR	3.11	—
1N1184A	RCA	2.19	84
1N1184R	GE	3.00	—
1N1184R	IR	2.52	—
1N1184R	MOT	2.38	—
1N1184RA	IR	3.11	—
1N1184RA	RCA	2.19	—
1N1185	IR	3.05	101
1N1185	MOT	2.98	—
1N1185A	IR	3.48	—
1N1185R	IR	3.05	—
1N1185RA	IR	3.48	—
1N1186	IR	3.57	101
1N1186	MOT	3.58	—
1N1186A	GE	4.08	—
1N1186A	IR	3.68	—
1N1186A	RCA	3.17	84
1N1186JAN	GE	5.47	—
1N1186R	IR	3.57	—
1N1186R	MOT	3.58	—
1N1186RA	IR	3.68	—
1N1186RA	RCA	3.17	—
1N1187	GE	4.72	90
1N1187	IR	4.94	101
1N1187	MOT	4.40	—
1N1187A	IR	5.15	—
1N1187A	RCA	4.41	84
1N1187R	GE	4.72	—
1N1187R	IR	4.94	—
1N1187R	MOT	4.40	—
1N1187RA	IR	5.15	—
1N1187RA	RCA	4.41	—
1N1188	GE	5.85	90
1N1188	IR	6.09	101
1N1188	MOT	5.20	—
1N1188A	IR	6.46	—
1N1188A	RCA	5.58	84
1N1188R	IR	6.09	—
1N1188R	MOT	5.20	—
1N1188RA	IR	6.46	—
1N1188RA	RCA	5.58	—
1N1189	IR	6.72	101
1N1189	MOT	6.00	—
1N1189A	IR	7.77	—
1N1189A	RCA	6.55	84
1N1189R	IR	6.72	—
1N1189R	MOT	6.00	—
1N1189RA	GE	7.42	—
1N1189RA	IR	7.77	—
1N1190	GE	6.90	90
1N1190	IR	7.14	101
1N1190	MOT	6.80	—
1N1190A	IR	9.08	—
1N1190A	RCA	7.72	84
1N1190R	IR	7.14	—
1N1190R	MOT	6.80	—
1N1190RA	IR	9.08	—
1N1190RA	RCA	7.72	—
1N1191	MOT	1.78	44
1N1191R	IR	1.42	—
1N1192	IR	1.71	—
1N1192	MOT	2.38	44
1N1192R	IR	1.71	—
1N1193	IR	2.10	—
1N1193	MOT	2.78	—
1N1193R	IR	2.10	—
1N1194	GE	3.00	—
1N1194	IR	2.47	—
1N1194	MOT	2.98	44
1N1194R	IR	2.47	—
1N1195	IR	4.10	—
1N1195	MOT	3.50	—
1N1195A	MOT	4.00	—
1N1195R	IR	4.10	—
1N1196	MOT	4.50	—
1N1196A	GE	4.95	90
1N1196A	MOT	5.00	44
1N1196A	RCA	4.09	—
1N1196AR	MOT	5.00	—
1N1196AR	RCA	4.09	—
1N1196R	IR	4.94	—
1N1196R	MOT	4.50	—
1N1196RA	MOT	5.00	—
1N1197	IR	6.09	—
1N1197	MOT	5.50	—
1N1197A	MOT	6.00	—
1N1197R	IR	6.09	—
1N1197R	MOT	5.50	—
1N1198	IR	6.83	—
1N1198	MOT	6.50	—
1N1198A	MOT	7.00	—
1N1198A	RCA	5.78	—
1N1198R	IR	6.83	—
1N1199	GE	1.95	—
1N1199	IR	1.26	101
1N1199A	GE	1.95	90
1N1199A	IR	1.26	101
1N1199A	MOT	1.36	44
1N1199A	RCA	1.09	84
1N1199AR	MOT	1.36	—
1N1199B	IR	2.10	—
1N1199R	IR	1.26	—
1N1199R	MOT	1.36	—
1N1199RA	GE	1.95	—
1N1199RA	IR	1.26	—
1N1199RA	RCA	1.09	—
1N1199RB	IR	2.10	—
1N1200	GE	2.03	—
1N1200	MOT	1.64	—
1N1200A	GE	2.03	90
1N1200A	IR	1.55	101
1N1200A	MOT	1.64	44
1N1200A	RCA	1.25	84
1N1200AR	MOT	1.64	—
1N1200B	IR	2.35	—
1N1200R	IR	1.55	—
1N1200RA	IR	1.55	—
1N1200RA	RCA	1.25	—
1N1200RB	IR	2.35	—
1N1201	GE	2.08	—
1N1201	IR	1.84	101
1N1201A	IR	1.84	101
1N1201A	MOT	2.04	—
1N1201B	IR	3.31	—
1N1201RA	IR	1.84	—
1N1201RB	IR	3.31	—
1N1202	GE	2.62	—
1N1202	IR	2.57	101
1N1202	MOT	2.90	—
1N1202A	GE	2.62	90
1N1202A	IR	2.57	101, 102
1N1202A	MOT	2.90	44
1N1202A	RCA	2.28	84
1N1202AJANTX	GE	5.61	—
1N1202AR	IR	2.57	—
1N1202B	IR	3.94	—
1N1202R	IR	2.57	—
1N1202RA	GE	2.62	—
1N1202RB	IR	3.94	—
1N1203	GE	3.60	—
1N1203A	GE	3.60	90
1N1203A	IR	3.62	101
1N1203A	RCA	3.17	84
1N1203AR	IR	3.62	—
1N1203B	IR	4.73	—
1N1203R	IR	3.62	—
1N1203RB	IR	4.73	—
1N1204	GE	4.57	—
1N1204	IR	4.62	101
1N1204	MOT	5.10	—
1N1204A	IR	4.62	101
1N1204A	MOT	5.10	44
1N1204A	RCA	4.04	84
1N1204B	IR	5.62	—
1N1204R	IR	4.62	—
1N1204RA	GE	4.57	—
1N1204RA	IR	4.62	—
1N1204RB	IR	5.62	—
1N1205	IR	5.51	101
1N1205A	IR	5.51	101
1N1205A	RCA	4.82	84
1N1205B	IR	6.67	—
1N1205R	IR	5.51	—
1N1205RA	IR	5.51	—
1N1205RB	IR	6.67	—
1N1206	IR	6.41	101
1N1206	MOT	7.12	—
1N1206A	GE	6.37	90
1N1206A	IR	6.41	101
1N1206A	MOT	7.12	44
1N1206A	RCA	5.66	84
1N1206AR	MOT	7.12	—
1N1206B	IR	7.98	—
1N1206R	IR	6.41	—
1N1206R	MOT	7.12	—
1N1206RA	IR	6.41	—
1N1206RB	IR	7.98	—
1N1220	IR	.77	—
1N1225	IR	1.66	—
1N1238	IR	15.91	—
1N1306A	IR	8.31	—
1N1313	MOT	3.10	—
1N1313A	MOT	5.45	—
1N1314	MOT	3.10	—
1N1314A	IR	5.75	—
1N1315	IR	3.30	—
1N1315A	IR	5.75	—
1N1316	IR	3.30	—
1N1316	MOT	3.10	—
1N1317	MOT	3.10	—
1N1318A	IR	5.75	—
1N1318A	MOT	5.45	—
1N1320A	IR	5.75	—
1N1321	MOT	3.10	—
1N1321A	MOT	5.45	—
1N1323	MOT	3.10	—
1N1341	GE	1.95	—
1N1341	IR	1.18	101
1N1341	MOT	1.28	—
1N1341A	GE	1.95	90
1N1341A	IR	1.18	—
1N1341B	IR	1.18	—
1N1341R	IR	1.18	—
1N1341RA	IR	1.18	—
1N1342	GE	2.03	—
1N1342	IR	1.27	101
1N1342A	GE	2.03	90
1N1342A	IR	1.27	—
1N1342A	MOT	1.44	—
1N1342AR	IR	1.27	—
1N1342B	IR	1.42	—
1N1342B	RCA	1.22	—
1N1342R	IR	1.27	—
1N1342RB	RCA	1.22	—
1N1343	GE	2.08	—
1N1343A	GE	2.08	—
1N1343A	IR	1.65	—
1N1343B	IR	2.10	—
1N1343R	IR	1.65	—
1N1343RA	IR	1.65	—
1N1344	GE	2.22	—
1N1344	IR	2.27	101
1N1344	MOT	2.46	—
1N1344A	GE	2.22	90
1N1344A	IR	2.27	—
1N1344A	MOT	2.46	—
1N1344B	IR	2.36	—
1N1344B	MOT	2.56	—
1N1344R	IR	2.27	—
1N1344RA	IR	2.27	—
1N1345	GE	3.16	—
1N1345	IR	3.26	101
1N1345A	GE	3.16	90
1N1345A	IR	3.26	—
1N1345A	MOT	3.58	—
1N1345B	IR	3.36	—
1N1345R	IR	3.26	—
1N1345RA	GE	3.16	—
1N1346	GE	3.96	—
1N1346	MOT	4.64	—
1N1346A	GE	3.96	90
1N1346A	IR	4.25	—
1N1346B	IR	4.36	—
1N1346R	IR	4.25	—
1N1346RA	IR	4.25	—
1N1347	IR	5.15	101
1N1347	MOT	5.60	—
1N1347A	IR	5.15	—
1N1347B	IR	5.25	—
1N1347R	IR	5.15	—
1N1347RA	IR	5.15	—
1N1348	GE	5.48	—
1N1348	IR	6.14	101
1N1348	MOT	6.72	—
1N1348A	GE	5.48	90
1N1348A	IR	6.14	—
1N1348A	MOT	6.72	—
1N1348B	IR	6.30	—
1N1348R	IR	6.14	—
1N1348RA	IR	6.14	—
1N1351	IR	6.24	103
1N1351	MOT	6.20	—
1N1351A	MOT	7.85	—
1N1351AR	MOT	7.85	—
1N1351R	MOT	6.20	—
1N1352	MOT	6.20	—
1N1352A	IR	8.31	—
1N1353	MOT	6.20	—
1N1353A	IR	8.31	—
1N1353A	MOT	7.85	—
1N1354	MOT	6.20	—
1N1354A	MOT	7.85	—
1N1355	IR	6.24	103
1N1355	MOT	6.20	—
1N1355A	MOT	7.85	—
1N1356	IR	6.24	103
1N1356A	IR	8.31	—
1N1357	MOT	6.20	—
1N1357R	IR	6.24	—
1N1358	MOT	6.20	—
1N1358A	IR	8.31	—
1N1358A	MOT	7.85	—
1N1358AR	MOT	7.85	—
1N1359	MOT	6.20	—
1N1359A	IR	8.31	—
1N1360	IR	6.24	103
1N1360	MOT	6.20	—
1N1360A	IR	8.31	—
1N1360A	MOT	7.85	—
1N1361	IR	6.24	103
1N1361A	IR	8.31	—
1N1361A	MOT	7.85	—
1N1362	MOT	6.20	—
1N1362A	IR	8.31	—
1N1362A	MOT	7.85	—
1N1363	MOT	6.20	—
1N1364	MOT	6.20	—
1N1364A	IR	8.31	—
1N1365	MOT	6.20	—
1N1366	IR	6.24	103
1N1366	MOT	6.20	—
1N1366A	IR	8.31	—
1N1366A	MOT	7.85	—
1N1368	IR	6.24	103
1N1369	IR	6.24	103
1N1369	MOT	6.20	—
1N1369A	MOT	7.85	—
1N1372	MOT	6.20	—
1N1372A	MOT	7.85	—
1N1373A	MOT	7.85	—
1N1374	IR	6.24	103
1N1374	MOT	6.20	—
1N1374A	MOT	7.85	—
1N1375	MOT	6.20	—
1N1375A	IR	8.31	—
1N1507	MOT	2.95	—
1N1507A	MOT	3.65	—
1N1508	IR	3.50	—
1N1508	MOT	2.95	—
1N1509	MOT	2.95	—
1N1510A	MOT	3.65	—
1N1511	MOT	2.95	—

NEW TYPES STOCKED AS SOON AS RELEASED

DISCRETE DEVICES

Type	Mfr	1-24	Page
1N1511A	MOT	3.65	—
1N1512	MOT	2.95	—
1N1512A	MOT	3.65	—
1N1513	MOT	2.95	—
1N1513A	MOT	3.65	—
1N1514	MOT	2.95	—
1N1514A	MOT	3.65	—
1N1515	MOT	2.95	—
1N1515A	MOT	3.65	—
1N1516	MOT	2.95	—
1N1518	MOT	2.95	—
1N1518A	IR	4.04	—
1N1518A	MOT	3.65	—
1N1519	MOT	2.95	—
1N1519A	MOT	3.65	—
1N1520	MOT	2.95	—
1N1520/ 1Z5.6T101	IR	3.24	—
1N1520A	MOT	3.65	—
1N1520A/ 1Z5.6T51	IR	4.04	—
1N1521	MOT	2.95	—
1N1521/ 1Z6.8T101	IR	3.24	—
1N1522	IR	3.24	—
1N1522	MOT	2.95	—
1N1522A	IR	4.04	—
1N1523	MOT	2.95	—
1N1523A	MOT	3.65	—
1N1523A/ 1Z10T5	IR	4.04	—
1N1524	MOT	2.95	—
1N1524/ 1Z12T10	IR	3.24	—
1N1524A	MOT	3.65	—
1N1525/ 1Z15T10	IR	3.24	—
1N1525A	IR	4.04	—
1N1525A	MOT	3.65	—
1N1526	MOT	2.95	—
1N1526A	MOT	3.65	—
1N1527	MOT	2.95	—
1N1528	MOT	2.95	—
1N1528A	MOT	3.65	—
1N1530	IR	16.38	—
1N1537	IR	1.27	—
1N1538	IR	1.27	—
1N1539	IR	2.27	—
1N1540	IR	2.27	—
1N1542	IR	4.25	—
1N1543	IR	5.15	—
1N1544	IR	6.14	—
1N1546	IR	2.27	—
1N1581	GE	1.95	—
1N1581	IR	1.27	—
1N1582	IR	1.27	—
1N1584	IR	3.26	—
1N1585	IR	4.25	—
1N1586	IR	5.15	—
1N1587	IR	6.14	—
1N1588	IR	5.52	—
1N1588	MOT	4.10	—
1N1588A/ 3Z3.9T51	IR	6.58	—
1N1589	IR	5.52	—
1N1589	MOT	4.10	—
1N1589A	IR	6.58	—
1N1589A	MOT	4.90	—
1N1590	MOT	4.10	—
1N1590A	IR	6.58	—
1N1590A	MOT	4.90	—
1N1591	IR	5.52	—
1N1591	MOT	4.10	—
1N1591A/ 3Z6.8T51	IR	6.58	—
1N1592	IR	5.52	—
1N1592	MOT	4.10	—
1N1592A	IR	6.58	—
1N1593	MOT	4.10	—
1N1593A	MOT	4.90	—
1N1594	IR	5.52	—
1N1594	MOT	4.10	—
1N1594A	MOT	4.90	—
1N1594A/ 3Z12T5	IR	6.58	—
1N1595	MOT	4.10	—
1N1595/ 3Z15T10	IR	5.52	—
1N1595A	MOT	4.90	—
1N1596	MOT	4.10	—
1N1596/ 3Z18T10	IR	5.52	—
1N1596A	MOT	4.90	—
1N1597	MOT	4.10	—
1N1597/ 3Z22T10	IR	5.52	—
1N1597A	IR	6.58	—
1N1597A	MOT	4.90	—
1N1598	IR	5.52	—
1N1598	MOT	4.10	—
1N1598A	MOT	4.90	—
1N1600	IR	8.58	—
1N1600	MOT	6.50	—
1N1600A/ 10Z4.7T5	IR	11.44	—
1N1601	MOT	6.50	—
1N1601A	MOT	8.50	—
1N1602	IR	8.58	—
1N1602	MOT	6.50	—
1N1602A/ 10Z6.8T5	IR	11.44	—
1N1603	IR	8.58	—
1N1603A	IR	11.44	—
1N1604	IR	8.58	—
1N1604	MOT	6.50	—
1N1605A	MOT	8.50	—
1N1605A/ 10Z12T5I	IR	11.44	—
1N1606	MOT	6.50	—
1N1609/ 10Z27T10I	IR	8.58	—
1N1612	GE	1.95	90
1N1613	GE	2.03	90
1N1613	IR	1.27	—
1N1613	MOT	1.78	—
1N1613R	IR	1.27	—
1N1614	GE	2.22	90
1N1614JAN	GE	3.03	—
1N1614R	IR	2.27	—
1N1615	GE	3.75	90
1N1615	IR	4.25	—
1N1615R	IR	4.25	—
1N1616	GE	5.55	90
1N1616R	GE	5.55	—
1N1616R	IR	6.14	—
1N1629	IR	1.20	—
1N1635	IR	1.14	—
1N1731AJAN	GI	6.35	—
1N1732A	GI	7.05	—
1N1735	MOT	5.40	—
1N1736	IR	7.58	—
1N1736	MOT	8.75	—
1N1736A	IR	11.83	—
1N1742A	MOT	32.20	—
1N1748	IR	4.33	—
1N1749	IR	4.50	—
1N1752	IR	6.53	—
1N1764A	RCA	.52	—
1N1765	IR	3.92	—
1N1765	MOT	2.80	—
1N1766	IR	3.92	—
1N1766	MOT	2.80	—
1N1766A	MOT	3.20	—
1N1767	MOT	2.80	—
1N1767A	IR	4.25	—
1N1768	MOT	2.80	—
1N1768A	MOT	3.20	—
1N1769	MOT	2.80	—
1N1770	MOT	2.80	—
1N1771	IR	3.92	—
1N1771	MOT	2.80	—
1N1771A	MOT	3.20	—
1N1772	IR	3.92	—
1N1772	MOT	2.80	—
1N1773	IR	3.92	—
1N1773	MOT	2.80	—
1N1773A	IR	4.25	—
1N1773A	MOT	3.20	—
1N1774	IR	3.92	—
1N1774	MOT	2.80	—
1N1774A	IR	4.25	—
1N1775	IR	3.92	—
1N1775	MOT	2.80	—
1N1775A	IR	4.25	—
1N1775A	MOT	3.20	—
1N1776	MOT	2.80	—
1N1776A	IR	4.25	—
1N1776A	MOT	3.20	—
1N1777	IR	3.92	—
1N1777	MOT	2.80	—
1N1777A	IR	4.25	—
1N1778	MOT	2.80	—
1N1778A	MOT	3.20	—
1N1779	IR	3.92	—
1N1779	MOT	2.80	—
1N1780	IR	3.92	—
1N1780	MOT	2.80	—
1N1780A	IR	4.25	—
1N1780A	MOT	3.20	—
1N1781	IR	3.92	—
1N1781	MOT	2.80	—
1N1781A	IR	4.25	—
1N1782	MOT	3.05	—
1N1782A	IR	4.25	—
1N1782A	MOT	4.00	—
1N1784A	IR	4.25	—
1N1785A	IR	4.25	—
1N1785A	MOT	4.00	—
1N1787	MOT	3.05	—
1N1788	MOT	3.05	—
1N1788A	MOT	4.00	—
1N1789A	IR	4.25	—
1N1792	IR	3.92	—
1N1792A	IR	4.25	—
1N1793	MOT	3.05	—
1N1794	MOT	3.05	—
1N1795	IR	3.92	—
1N1796A	MOT	7.80	—
1N1797	MOT	5.10	—
1N1798	MOT	5.10	—
1N1799	MOT	5.10	—
1N1801	MOT	5.10	—
1N1805	IR	7.85	103
1N1807	IR	7.85	103
1N1807	MOT	6.20	—
1N1808	MOT	6.20	—
1N1808A	IR	9.43	—
1N1810	MOT	6.20	—
1N1810A	MOT	7.85	—
1N1813	MOT	9.10	—
1N1813RA	IR	18.04	—
1N1815	MOT	9.10	—
1N1815AR	MOT	14.10	—
1N1817R	MOT	6.20	—
1N1818	IR	8.16	103
1N1818	MOT	6.20	—
1N1820	MOT	6.20	—
1N1821	MOT	6.20	—
1N1821A	MOT	7.85	—
1N1822	MOT	6.20	—
1N1822A	MOT	7.85	—
1N1823	MOT	6.20	—
1N1823A	MOT	7.85	—
1N1823C	MOT	7.50	—
1N1824	MOT	6.20	—
1N1825	MOT	6.20	—
1N1826	MOT	6.20	—
1N1826A	MOT	7.85	—
1N1826RA	IR	10.50	—
1N1827	MOT	6.20	—
1N1828	MOT	6.20	—
1N1828A	MOT	7.85	—
1N1828C	MOT	7.50	—
1N1829	MOT	6.20	—
1N1829A	MOT	7.85	—
1N1830	IR	8.16	103
1N1830	MOT	6.20	—
1N1830C	MOT	7.50	—
1N1832	MOT	6.20	—
1N1833CA	MOT	9.15	—
1N1836	MOT	6.20	—
1N1911	IR	6.00	—
1N1956	IR	2.96	—
1N1957	IR	2.96	—
1N1960	IR	2.96	—
1N1962	IR	2.96	—
1N2011A	IR	9.85	—
1N2011A	MOT	7.50	—
1N2032-2	MOT	4.00	—
1N2034-1	MOT	4.00	—
1N2037A	MOT	4.00	—
1N2041A	IR	9.93	—

Key	Mfr.
IDI	International Devices Inc.
IR	International Rectifier
GE	General Electric
GI	General Instrument
MOT	Motorola
RCA	Radio Corp. of America
SPR	Sprague
TI	Texas Instruments

Type	Mfr	1-24	Page
1N2042	MOT	6.00	—
1N2043	MOT	6.00	—
1N2046	MOT	6.00	—
1N2046-3	MOT	7.60	—
1N2049	IR	7.66	—
1N2049-3	MOT	7.60	—
1N2054	IR	20.48	101
1N2054R	IR	20.48	—
1N2055/70U10	IR	22.05	101
1N2055R	IR	22.05	—
1N2056	IR	24.15	—
1N2056R	IR	24.15	—
1N2057	IR	25.73	101
1N2057R	IR	25.73	—
1N2058	IR	27.30	101
1N2058R	IR	27.30	—
1N2059	IR	28.88	101
1N2059R	IR	28.88	101
1N2060	IR	30.45	—
1N2060R	IR	30.45	—
1N2061	IR	32.03	101
1N2061R	IR	32.03	—
1N2062R	IR	33.60	—
1N2063	IR	35.70	101
1N2063R	IR	35.70	—
1N2064	IR	39.90	101
1N2064R	IR	39.90	—
1N2065	IR	43.31	101
1N2065R	IR	43.31	—
1N2066	IR	46.73	101
1N2066R	IR	46.73	—
1N2067	IR	45.68	101
1N2067R	IR	45.68	—
1N2068	IR	55.13	101
1N2068R	IR	55.13	—
1N2069	GI	.42	—
1N2069/10D2	IR	.34	—
1N2069A	IR	.34	—
1N2069A	TI	.39	—
1N2069AG	TI	.49	—
1N2069G	TI	.50	—
1N2070/10D4	IR	.39	—
1N2070A	IR	.39	—
1N2070AG	TI	1.05	—
1N2070G	TI	1.05	—
1N2071	IR	.47	—
1N2071A	IR	.47	—
1N2071AG	TI	.70	—
1N2071G	TI	.62	—
1N2103	IR	.67	—
1N2104	IR	.71	—
1N2105	IR	.79	—
1N2106	IR	.90	—
1N2107	IR	.99	—
1N2108	IR	1.11	—
1N2128	IR	1.79	101
1N2128A	IR	3.83	—
1N2128R	IR	1.79	—
1N2128RA	IR	3.83	—
1N2129	IR	2.26	—
1N2129A	IR	3.99	—
1N2129R	IR	2.26	—
1N2129RA	IR	3.99	—
1N2130	IR	2.72	101
1N2130A	IR	4.73	—
1N2130AR	IR	4.73	—
1N2130R	IR	2.72	—

NEW TYPES STOCKED AS SOON AS RELEASED

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfr	1-24	Page
1N2131/25HB20	IR	3.30	101
1N2131A	IR	5.30	—
1N2131AR	IR	5.30	—
1N2131R	IR	3.30	—
1N2132	IR	3.75	101
1N2132A	IR	5.88	—
1N2132AR	IR	5.88	—
1N2132R	IR	3.75	—
1N2133	IR	4.20	101
1N2133A	IR	6.46	—
1N2133AR	IR	6.46	—
1N2133R	IR	4.20	—
1N2134	IR	4.67	—
1N2134A	IR	7.04	—
1N2134AR	IR	7.04	—
1N2134R	IR	4.67	—
1N2135	IR	5.15	101
1N2135A	IR	7.61	—
1N2135AR	IR	7.61	—
1N2135R	IR	5.15	—
1N2136	IR	5.62	—
1N2136A	IR	8.24	—
1N2136AR	IR	8.24	—
1N2136R	IR	5.62	—
1N2137	IR	6.09	101
1N2137A	IR	8.82	—
1N2137AR	IR	8.82	—
1N2137R	IR	6.09	—
1N2138	IR	6.93	101
1N2138A	IR	9.98	—
1N2138AR	IR	9.98	—
1N2138R	IR	6.93	—
1N2138RA	IR	9.98	—
1N2139	IR	14.65	—
1N2154	GE	2.74	90
1N2154	IR	2.50	—
1N2154R	IR	2.50	—
1N2155	GE	3.45	90
1N2155	IR	3.15	—
1N2155R	GE	3.45	—
1N2156	GE	4.38	90
1N2156	IR	4.62	—
1N2156R	GE	4.38	—
1N2156R	IR	4.62	—
1N2157	GE	5.25	90
1N2157	IR	5.51	—
1N2157R	IR	5.51	—
1N2158	GE	5.92	90
1N2158	IR	6.20	—
1N2158R	GE	5.92	—
1N2158R	IR	6.20	—
1N2159	GE	6.15	90
1N2159	IR	6.46	—
1N2159R	IR	6.46	—
1N2160	GE	6.30	90
1N2160	IR	6.62	—
1N2160R	GE	6.30	—
1N2160R	IR	6.62	—
1N2163	MOT	3.30	—
1N2163A	MOT	3.45	—
1N2164	MOT	4.50	—
1N2164A	MOT	5.50	—
1N2166A	MOT	8.10	—
1N2167	MOT	8.65	—
1N2167A	MOT	11.05	—
1N2349	IR	2.27	—
1N2350	IR	3.26	—
1N2378	IR	3.09	—
1N2498	MOT	6.00	—
1N2500	MOT	6.00	—
1N2500A	MOT	7.60	—
1N2620	MOT	4.10	—
1N2620A	MOT	4.35	—
1N2620B	MOT	4.90	—
1N2621	MOT	4.60	—
1N2621A	MOT	5.55	—
1N2622A	MOT	8.15	—
1N2622B	MOT	9.35	—
1N2623	MOT	8.80	—
1N2623A	MOT	10.05	—
1N2630	IR	12.32	—
1N2631/ST-2	IR	6.56	—
1N2632	IR	15.91	—
1N2634	IR	7.80	—
1N2637	IR	11.68	—
1N2804	MOT	5.65	44
1N2804A	MOT	7.65	—
1N2804B	MOT	10.65	—
1N2804RB	MOT	10.65	—
1N2805A	MOT	7.65	—
1N2805B	MOT	10.65	—
1N2807B	MOT	10.65	—
1N2808	MOT	5.65	44
1N2808A	MOT	7.65	—
1N2808B	MOT	10.65	—
1N2809A	MOT	7.65	—
1N2809B	MOT	10.65	—
1N2809RB	MOT	10.65	—
1N2810/50M12Z	MOT	5.65	44
1N2810A	MOT	7.65	—
1N2810AR	MOT	7.65	—
1N2810B	MOT	10.65	—
1N2810BR	MOT	10.65	—
1N2811A	MOT	7.65	—
1N2811B	MOT	10.65	—
1N2812	MOT	5.65	—
1N2812B	MOT	10.65	—
1N2813	MOT	5.65	44
1N2813A/ 50M15Z10	MOT	7.65	—
1N2813AR	MOT	7.65	—
1N2813B	MOT	10.65	—
1N2813BR	MOT	10.65	—
1N2814	MOT	5.65	44
1N2814B	MOT	10.65	—
1N2815	MOT	5.65	—
1N2816	MOT	5.65	44
1N2816A	MOT	7.65	—
1N2817	MOT	5.65	—
1N2818	MOT	5.65	44
1N2818A	MOT	7.65	—
1N2818B	MOT	10.65	—
1N2818R	MOT	5.65	44
1N2819	MOT	5.65	44
1N2819B	MOT	10.65	—
1N2819RB	MOT	10.65	—
1N2820	MOT	5.65	44
1N2820B	MOT	10.65	—
1N2820R	MOT	5.65	44
1N2821	MOT	5.65	—
1N2821A	MOT	7.65	—
1N2821B	MOT	10.65	—
1N2822	MOT	5.65	44
1N2822A	MOT	7.65	—
1N2822B	MOT	10.65	—
1N2823	MOT	5.65	44
1N2823B	MOT	10.65	—
1N2824	MOT	5.65	44
1N2824A	MOT	7.65	—
1N2824B	MOT	10.65	—
1N2824BR	MOT	10.65	—
1N2825	MOT	5.65	44
1N2825B	MOT	10.65	—
1N2826	MOT	5.65	44
1N2826A	MOT	7.65	—
1N2826B	MOT	10.65	—
1N2827	MOT	5.65	44
1N2827B	MOT	10.65	—
1N2828B	MOT	10.65	—
1N2829	MOT	5.65	44
1N2829A	MOT	7.65	—
1N2830	MOT	5.60	—
1N2830A	MOT	7.65	—
1N2830B	MOT	10.65	—
1N2832	MOT	5.65	44
1N2832B	MOT	10.65	—
1N2832BJAN	MOT	14.65	—
1N2833	MOT	5.65	44
1N2833B	MOT	10.65	—
1N2834	MOT	5.65	44
1N2834A/ 50M68Z10	MOT	7.65	—
1N2835/50M75Z	MOT	5.65	—
1N2835A	MOT	7.65	—
1N2835BR	MOT	10.65	—
1N2837	MOT	5.65	44
1N2838	MOT	5.65	44
1N2838B	MOT	10.65	—
1N2839B	MOT	17.95	—
1N2840BR	MOT	17.95	—
1N2842B	MOT	17.95	—
1N2843A	MOT	11.30	—
1N2843B	MOT	17.95	—
1N2844A	MOT	11.30	—
1N2844B/ 50M160Z5	MOT	17.95	—
1N2845	MOT	6.80	44
1N2846	MOT	6.80	44
1N2846A/ 50M200Z10	MOT	11.30	—
1N2859A	RCA	.37	84
1N2860A	RCA	.40	84
1N2861A	RCA	.42	84
1N2862A	RCA	.48	84
1N2863A	RCA	.58	84
1N2864A	RCA	.70	84
1N2970	IR	3.64	103
1N2970	MOT	5.45	44
1N2970A	IR	3.76	—
1N2970A	MOT	5.85	—
1N2970B	IR	4.46	—
1N2970B	MOT	7.30	—
1N2970BR	MOT	7.30	—
1N2971	IR	3.64	103
1N2971A	IR	3.76	—
1N2971B	IR	4.46	—
1N2971B	MOT	7.30	—
1N2971BJAN	IR	4.04	—
1N2971R	IR	3.64	—
1N2971RB	IR	4.46	—
1N2972	IR	3.64	103
1N2972	MOT	5.45	—
1N2972A	IR	3.76	—
1N2972A	MOT	5.85	—
1N2972B	IR	4.46	—
1N2972B	MOT	7.30	—
1N2972BJAN	IR	4.04	—
1N2973	IR	3.64	103
1N2973	MOT	5.45	44
1N2973A	IR	3.76	—
1N2973A	MOT	5.85	—
1N2973B	MOT	7.30	—
1N2974	IR	3.64	103
1N2974	MOT	5.45	44
1N2974A	IR	3.76	—
1N2974A	MOT	5.85	—
1N2974AR	MOT	5.85	—
1N2974B/ 10M10Z5	MOT	7.30	—
1N2975	MOT	5.45	44
1N2975A	IR	3.76	—
1N2975A	MOT	5.85	—
1N2975B	IR	4.46	—
1N2975BJAN	IR	4.04	—
1N2976	IR	3.64	103
1N2976	MOT	5.45	44
1N2976A	IR	3.76	—
1N2976A	MOT	5.85	—
1N2976B	IR	4.46	—
1N2976B	MOT	7.30	—
1N2976BR	MOT	7.30	—
1N2976RB	IR	4.46	—
1N2977	IR	3.64	103
1N2977	MOT	5.45	44
1N2977A	IR	3.76	—
1N2977A	MOT	5.85	—
1N2977B	IR	4.46	—
1N2977B	MOT	7.30	—
1N2977B/JAN	IR	4.04	—
1N2978	MOT	5.45	—
1N2978A	IR	3.76	—
1N2979	MOT	5.45	44
1N2979A	IR	3.76	—
1N2979A/ 10M15Z10	MOT	5.85	—
1N2979AR	MOT	5.85	—
1N2979B	IR	4.46	—
1N2979B	MOT	7.30	—
1N2979BR	MOT	7.30	—
1N2979RB	IR	4.46	—
1N2979RB	MOT	7.30	—
1N2980	MOT	5.45	44
1N2980A	IR	3.76	—
1N2980A	MOT	5.85	—
1N2980B	IR	4.46	—
1N2980B	MOT	7.30	—
1N2980BJAN	MOT	7.80	—
1N2980BR	MOT	7.30	—
1N2980RA	IR	3.76	—
1N2981B	IR	4.46	—
1N2981RB	IR	4.46	—
1N2982	MOT	5.45	44
1N2982A	IR	3.76	—
1N2982A	MOT	5.85	—
1N2982B	IR	4.46	—
1N2982B	MOT	7.30	—
1N2982BJAN	IR	4.04	—
1N2983A	IR	3.76	—
1N2983B	MOT	7.30	—
1N2984	MOT	5.45	44
1N2984A	MOT	5.85	—
1N2984AR	MOT	5.85	—
1N2984B	IR	4.46	—
1N2984B	MOT	7.30	—
1N2984BJAN	IR	4.04	—
1N2984BR	IR	4.46	—
1N2984RA	MOT	5.85	—
1N2985	IR	3.64	103
1N2985	MOT	5.45	44
1N2985A	IR	3.76	—
1N2985A	MOT	5.85	—
1N2985AR	MOT	5.85	—
1N2985B	IR	4.46	—
1N2985B	MOT	7.30	—
1N2985BJAN	MOT	7.80	—
1N2986	IR	3.64	103
1N2986	MOT	5.45	44
1N2986A	IR	3.76	—
1N2986A	MOT	5.85	—
1N2986AR	MOT	5.85	—
1N2986B	IR	4.46	—
1N2986B	MOT	7.30	—
1N2986RA	IR	3.76	—
1N2986RA	MOT	5.85	—
1N2986RB	IR	4.46	—
1N2987A	MOT	5.85	—
1N2987B	IR	4.46	—
1N2987B	MOT	7.30	—
1N2987RB	IR	4.46	—
1N2988	IR	3.64	103
1N2988	MOT	5.45	44
1N2988A	IR	3.76	—
1N2988A	MOT	5.85	—
1N2988B	IR	4.46	—
1N2988B	MOT	7.30	—
1N2989	MOT	5.45	44
1N2989A	IR	3.76	—
1N2989A	MOT	5.85	—
1N2989AR	MOT	5.85	—
1N2989B	IR	4.46	—
1N2989B	MOT	7.30	—
1N2989R	MOT	5.45	44
1N2989RA	IR	3.76	—
1N2990	MOT	5.45	44
1N2990B	MOT	7.30	—
1N2990BR	MOT	7.30	—
1N2991	IR	3.64	103
1N2991	MOT	5.45	44
1N2991A	IR	3.76	—
1N2991A	MOT	5.85	—
1N2991B	IR	4.46	—
1N2991B	MOT	7.30	—
1N2991BJAN	MOT	7.80	—
1N2991R	MOT	5.45	44
1N2992	IR	3.64	103
1N2992	MOT	5.45	44
1N2992A	IR	3.76	—
1N2992A	MOT	5.85	—

NEW TYPES STOCKED AS SOON AS RELEASED

DISCRETE DEVICES

Type	Mfr	1-24	Page
1N2992B	MOT	4.46	—
1N2992BJAN	MOT	7.80	—
1N2993	MOT	5.45	44
1N2993A	MOT	5.85	—
1N2993B	IR	4.46	—
1N2993B	MOT	7.30	—
1N2994	IR	3.64	103
1N2994	MOT	5.45	—
1N2994A	MOT	5.85	—
1N2994B	IR	4.46	—
1N2995/10M47Z	MOT	5.45	—
1N2995A	MOT	5.85	—
1N2995B	IR	4.46	—
1N2995B	MOT	7.30	—
1N2995BJAN	IR	4.04	—
1N2995BJAN	MOT	7.80	—
1N2995R	MOT	5.45	—
1N2996	MOT	5.45	44
1N2996A	MOT	5.85	—
1N2996B	IR	4.46	—
1N2996B	MOT	7.30	—
1N2997	MOT	5.45	44
1N2997A	MOT	5.85	—
1N2997AR	MOT	5.85	—
1N2997B	MOT	7.30	—
1N2998B	IR	4.46	—
1N2998B	MOT	7.30	—
1N2999	IR	3.64	103
1N2999A	MOT	5.85	—
1N2999B	MOT	7.30	—
1N3000	MOT	5.45	44
1N3000B	IR	4.46	—
1N3000B	MOT	7.30	—
1N3000BR	MOT	7.30	—
1N3001	IR	3.64	103
1N3001	MOT	5.45	44
1N3001A	IR	3.76	—
1N3001A	MOT	5.85	—
1N3001B	MOT	7.30	—
1N3001BJAN	IR	4.04	—
1N3001R	MOT	5.45	44
1N3002	IR	3.64	103
1N3002	MOT	5.45	44
1N3002B	MOT	7.30	—
1N3002BJAN	IR	4.04	—
1N3003	MOT	5.45	44
1N3003A	IR	3.76	—
1N3003A	MOT	5.85	—
1N3003B	MOT	7.30	—
1N3004	IR	3.64	103
1N3004	MOT	5.45	44
1N3004A	IR	3.76	—
1N3004A	MOT	5.85	—
1N3004B	MOT	7.30	—
1N3004BJAN	MOT	7.80	—
1N3004BR	MOT	7.30	—
1N3004R	MOT	5.45	44
1N3004RA	MOT	5.85	—
1N3005	MOT	5.45	44
1N3005A	MOT	5.85	—
1N3005AR	MOT	5.85	—
1N3005B	IR	4.46	—
1N3005B	MOT	7.30	—
1N3005BR	MOT	7.30	—
1N3005RA	IR	3.76	—
1N3006B	IR	4.46	—
1N3006B	MOT	7.30	—
1N3007	MOT	5.45	44
1N3007B	MOT	7.30	—
1N3007RB	IR	4.46	—
1N3008	IR	3.64	103
1N3008	MOT	5.45	44
1N3008A	IR	3.76	—
1N3008B	IR	4.46	—
1N3008B	MOT	7.30	—
1N3009	IR	3.64	103
1N3009	MOT	5.45	44
1N3009A	IR	3.76	—
1N3009A	MOT	5.85	—
1N3009AR	MOT	5.85	—
1N3009B	MOT	7.30	—
1N3009BR	MOT	7.30	—
1N3009RA	MOT	5.85	—
1N3010A	IR	3.76	—
1N3010B	IR	4.46	—
1N3010BR	IR	4.46	—
1N3010BR	MOT	7.30	—
1N3011	IR	3.64	103
1N3011	MOT	5.45	44
1N3011A	MOT	5.85	—
1N3011B	IR	4.46	—
1N3011B	MOT	7.30	—
1N3011BJAN	MOT	9.95	—
1N3011R	MOT	5.45	44
1N3011RB	IR	4.46	—
1N3012	IR	4.64	103
1N3012	MOT	5.45	44
1N3012B	MOT	7.30	—
1N3013	MOT	6.00	—
1N3013A	MOT	9.00	—
1N3013B	IR	4.64	—
1N3014	MOT	6.00	44
1N3014B	MOT	13.75	—
1N3015	MOT	6.00	44
1N3015A	MOT	9.00	—
1N3015B	MOT	13.75	—
1N3016	IR	2.68	103
1N3016	MOT	2.85	44
1N3016A	IR	3.00	—
1N3016B	IR	3.47	—
1N3016B	MOT	3.70	—
1N3016BJANTX	MOT	7.90	—
1N3017	IR	2.68	103
1N3017	MOT	2.85	44
1N3017A	MOT	3.20	—
1N3017B	MOT	3.70	—
1N3017BJAN	IR	3.73	—
1N3017BJAN	MOT	4.00	—
1N3018	MOT	2.85	44
1N3018A	MOT	3.20	—
1N3018B	IR	3.47	—
1N3018B	MOT	3.70	—
1N3018BJAN	MOT	4.00	—
1N3019	IR	2.68	103
1N3019	MOT	2.85	44
1N3019A	IR	3.00	—
1N3019A	MOT	3.20	—
1N3019B	IR	3.47	—
1N3019B	MOT	3.70	—
1N3020	IR	2.68	103
1N3020	MOT	2.85	44
1N3020A	IR	3.00	—
1N3020A	MOT	3.20	—
1N3020B	IR	3.47	—
1N3020B	MOT	3.70	—
1N3021	MOT	2.85	44
1N3021A	MOT	3.20	—
1N3021B	IR	3.47	—
1N3021B	MOT	3.70	—
1N3022	IR	2.68	103
1N3022	MOT	2.85	44
1N3022A	IR	3.00	—
1N3022A	MOT	3.20	—
1N3022B	IR	3.47	—
1N3022B	MOT	3.70	—
1N3023	MOT	2.85	44
1N3023A	IR	3.00	—
1N3023A	MOT	3.20	—
1N3023B	MOT	3.70	—
1N3023BJAN	IR	3.73	—
1N3024	IR	2.68	103
1N3024	MOT	2.85	44
1N3024A	IR	3.00	—
1N3024A	MOT	3.20	—
1N3024B	IR	3.47	—
1N3024B	MOT	3.70	—
1N3024BJAN	MOT	4.00	—
1N3025	IR	2.68	103
1N3025	MOT	2.85	44
1N3025A	IR	3.00	—
1N3025A/ 1M16Z10	MOT	3.20	—
1N3025B	IR	3.47	—
1N3025B	MOT	3.70	—
1N3026	IR	2.68	103
1N3026	MOT	2.85	44
1N3026A	IR	3.00	—
1N3026A/ 1M1.Z10	MOT	3.20	—
1N3026B	IR	3.47	—
1N3026B	MOT	3.70	—
1N3027	MOT	2.85	44
1N3027A	IR	3.00	—
1N3027A	MOT	3.20	—
1N3027B	IR	3.47	—
1N3027B	MOT	3.70	—
1N3027BJAN	IR	3.73	—
1N3027BJAN	MOT	4.00	—
1N3028	IR	2.68	103
1N3028	MOT	2.85	44
1N3028A	IR	3.00	—
1N3028A/ 1M22Z10	MOT	3.20	—
1N3028B	IR	3.47	—
1N3028B	MOT	3.70	—
1N3028BJAN	IR	3.73	—
1N3029	IR	2.68	103
1N3029/1M24Z	MOT	2.85	44
1N3029A	IR	3.00	—
1N3029A	MOT	3.20	—
1N3029B	IR	3.47	—
1N3029B	MOT	3.70	—
1N3029BJAN	IR	3.73	—
1N3030	IR	2.68	103
1N3030	MOT	2.85	44
1N3030A	IR	3.00	—
1N3030B	IR	3.47	—
1N3030B	MOT	3.70	—
1N3031	IR	2.68	103
1N3031	MOT	2.85	44
1N3031A	MOT	3.20	—
1N3031B	IR	3.47	—
1N3031B	MOT	3.70	—
1N3031BJAN	IR	3.73	—
1N3032	IR	2.68	103
1N3032	MOT	2.85	44
1N3032A	IR	3.00	—
1N3032A	MOT	3.20	—
1N3032B	IR	3.47	—
1N3032B	MOT	3.70	—
1N3033	MOT	2.85	44
1N3033A	MOT	3.20	—
1N3033B	IR	3.47	—
1N3033B	MOT	3.70	—
1N3033BJANTX	MOT	9.25	—
1N3034	IR	2.68	103
1N3034	MOT	2.85	44
1N3034A	IR	3.00	—
1N3034A	MOT	3.20	—
1N3034B	IR	3.47	—
1N3034B	MOT	3.70	—
1N3035	MOT	2.85	44
1N3035A	IR	3.00	—
1N3035B	IR	3.47	—
1N3035B	MOT	3.70	—
1N3036	MOT	2.85	44
1N3036A	IR	3.00	—
1N3036B	MOT	3.70	—
1N3037	MOT	2.85	44
1N3037A	IR	3.00	—
1N3037A	MOT	3.20	—
1N3037B	IR	3.47	—
1N3037B	MOT	3.70	—
1N3038	MOT	2.85	44
1N3038A	IR	3.00	—
1N3038A	MOT	3.20	—
1N3038B	MOT	3.70	—
1N3039	MOT	2.85	44
1N3039B	IR	3.47	—
1N3039B	MOT	3.70	—
1N3040	IR	2.68	103
1N3040	MOT	2.85	44
1N3040A	IR	3.00	—
1N3040A/ 1M68Z10	MOT	3.20	—
1N3040B	IR	3.47	—
1N3040B	MOT	3.70	—
1N3040BJAN	IR	3.73	—
1N3041/1M75Z	MOT	2.85	44
1N3041A	MOT	3.20	—
1N3041B	MOT	3.70	—
1N3042	IR	2.68	103
1N3042	MOT	2.85	44
1N3042A	IR	3.00	—
1N3042A	MOT	3.20	—
1N3042B	IR	3.47	—
1N3042B	MOT	3.70	—
1N3043	IR	2.68	103
1N3043	MOT	2.85	44
1N3043A	IR	3.00	—
1N3043A	MOT	3.20	—

Key	Mfr.
IDI	International Devices Inc.
IR	International Rectifier
GE	General Electric
GI	General Instrument
MOT	Motorola
RCA	Radio Corp. of America
SPR	Sprague
TI	Texas Instruments

Type	Mfr	1-24	Page
1N3043B	IR	3.47	—
1N3043B	MOT	3.70	—
1N3044	IR	2.68	103
1N3044	MOT	2.85	44
1N3044A	MOT	3.20	—
1N3044B	IR	3.47	—
1N3044B	MOT	3.70	—
1N3045/1M110Z	MOT	2.95	44
1N3045A	IR	3.00	—
1N3045A	MOT	3.25	—
1N3045B	IR	3.47	—
1N3045B	MOT	4.65	—
1N3046	MOT	2.95	44
1N3046A	IR	3.00	—
1N3046A	MOT	3.25	—
1N3046B	IR	3.47	—
1N3046B	MOT	4.65	—
1N3047	MOT	2.95	44
1N3047A	MOT	3.25	—
1N3047B	MOT	4.65	—
1N3048	MOT	2.95	44
1N3048A	IR	3.00	—
1N3048A	MOT	3.25	—
1N3048B	IR	3.47	—
1N3048B	MOT	4.65	—
1N3049	MOT	2.95	44
1N3049A	IR	3.00	—
1N3049B/ 1M160Z5	MOT	4.65	—
1N3050	IR	2.68	103
1N3050	MOT	2.95	44
1N3050A/ 1M180Z10	MOT	3.25	—
1N3050B	IR	3.47	—
1N3050B/ 1M180Z5	MOT	4.65	—
1N3051	MOT	2.95	44
1N3051A	IR	3.00	—
1N3051A	MOT	3.25	—
1N3051B	IR	3.47	—
1N3051B	MOT	4.65	—
1N3051BJAN	MOT	6.90	—
1N3064	TI	.20	—
1N3070	IR	.82	—
1N3070	TI	.25	—
1N3070JAN	TI	.31	—
1N3085	IR	15.23	101
1N3085R	IR	15.23	—
1N3086	IR	16.80	101
1N3086R	IR	16.80	—
1N3087	IR	17.85	101
1N3087R	IR	17.85	—
1N3088	IR	19.11	101
1N3088R	IR	19.11	—
1N3089	IR	20.37	101
1N3089R	IR	20.37	—
1N3090	IR	22.58	101
1N3090R	IR	22.58	—
1N3091	IR	26.25	101
1N3091R	IR	26.25	—
1N3092	IR	33.08	101
1N3092R	IR	33.08	—
1N3111	IR	8.48	101
1N3154	MOT	2.60	—
1N3154JAN	MOT	3.50	—
1N3155	MOT	3.55	—
1N3155A	IR	5.20	—

NEW TYPES STOCKED AS SOON AS RELEASED

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfr	1-24	Page
1N3155JAN	MOT	4.95	—
1N3156	MOT	6.15	—
1N3157A	MOT	11.10	—
1N3162	IR	22.05	—
1N3163	IR	24.15	—
1N3164	IR	25.73	—
1N3165	IR	27.30	—
1N3166	IR	28.88	—
1N3167	IR	30.45	—
1N3168	IR	32.03	—
1N3169	IR	35.70	—
1N3170	IR	39.90	—
1N3171A	IR	42.53	—
1N3172A	IR	46.73	—
1N3173A	IR	50.93	—
1N3174A	IR	55.13	—
1N3182	MOT	.60	—
1N3193	IR	.79	—
1N3193	RCA	.35	84
1N3194	RCA	.38	84
1N3195	RCA	.53	84
1N3196	RCA	.74	84
1N3208	GE	2.31	90
1N3208	IR	1.26	—
1N3208	MOT	1.90	44
1N3208R	IR	1.26	—
1N3208R	MOT	1.90	—
1N3209	GE	2.48	90
1N3209	IR	1.42	—
1N3209	MOT	2.00	44
1N3209R	IR	1.42	—
1N3209R	MOT	2.00	—
1N3210	GE	2.64	90
1N3210	IR	1.89	—
1N3210	MOT	2.20	44
1N3210R	IR	1.89	—
1N3210R	MOT	2.20	—
1N3211	GE	2.90	90
1N3211	IR	2.28	—
1N3211	MOT	2.70	—
1N3211R	IR	2.28	—
1N3211R	MOT	2.70	—
1N3212	GE	3.47	90
1N3212	IR	2.61	—
1N3212	MOT	3.00	44
1N3212R	GE	3.47	—
1N3212R	IR	2.61	—
1N3212R	MOT	3.00	—
1N3213	IR	3.57	—
1N3213	MOT	4.00	—
1N3213R	IR	3.57	—
1N3214	GE	4.95	90
1N3214	IR	4.10	—
1N3214	MOT	4.60	44
1N3214R	GE	4.95	—
1N3214R	IR	4.10	—
1N3214R	MOT	4.60	—
1N3253	RCA	.38	84
1N3253A	IR	.50	—
1N3254	RCA	.42	84
1N3255	RCA	.56	84
1N3256	RCA	.78	84
1N3288A	IR	13.65	—
1N3288R	IR	13.65	—
1N3289	GE	15.75	90
1N3289	IR	16.23	101
1N3289A	IR	15.23	—
1N3289AR	IR	15.23	—
1N3289R	IR	15.23	—
1N3289RA	IR	15.23	—
1N3290	IR	16.28	101
1N3290A	IR	16.28	—
1N3290R	IR	16.28	—
1N3290RA	IR	16.28	—
1N3291	GE	17.75	90
1N3291A	IR	17.33	—
1N3291R	GE	17.75	—
1N3291R	IR	17.33	—
1N3291RA	IR	17.33	—
1N3292	GE	19.00	90
1N3292A	IR	18.38	—
1N3292R	GE	19.00	—
1N3292R	IR	18.38	—
1N3292RA	IR	18.38	—
1N3293	GE	20.00	90
1N3293	IR	20.48	101
1N3293A	IR	20.48	—
1N3293R	GE	20.00	—
1N3293R	IR	20.48	—
1N3293RA	IR	20.48	—
1N3294	GE	23.00	90
1N3294A	IR	25.20	—
1N3294R	GE	23.00	—
1N3294R	IR	25.20	—
1N3294RA	IR	25.20	—
1N3295	GE	25.00	90
1N3295A	IR	29.93	—
1N3295R	IR	29.93	—
1N3295RA	IR	29.93	—
1N3296	GE	27.00	90
1N3296A	IR	34.13	—
1N3296R	IR	34.13	—
1N3296RA	IR	34.13	—
1N3297	IR	28.00	—
1N3297R	IR	28.00	—
1N3305	MOT	5.65	44
1N3305A	IR	10.17	—
1N3305B	MOT	10.65	—
1N3306/ 50M7.5SZ	MOT	5.65	44
1N3306B	MOT	10.65	—
1N3307	IR	7.50	—
1N3307	MOT	5.65	44
1N3307B/ 50M8.2SZ5	MOT	10.65	—
1N3307RB	IR	14.25	—
1N3308/ 50M9.1SZ	MOT	5.65	44
1N3308A/ 50M9.1SZ1	MOT	7.65	—
1N3308B	MOT	10.65	—
1N3309	IR	7.50	—
1N3309/ 50M10SZ	MOT	5.65	44
1N3309B	MOT	10.65	—
1N3310	MOT	5.65	44
1N3310A	IR	10.17	—
1N3310A	MOT	7.65	—
1N3310B/ 50M11SZ5	MOT	10.65	—
1N3311	IR	7.50	—
1N3311	MOT	5.65	44
1N3311A	MOT	7.65	—
1N3311AR	MOT	7.65	—
1N3311B	IR	14.25	—
1N3311B	MOT	10.65	—
1N3311BR	MOT	10.65	—
1N3312	MOT	5.65	44
1N3312A	MOT	7.65	—
1N3312B	IR	14.25	—
1N3312B	MOT	10.65	—
1N3313	IR	7.50	—
1N3313	MOT	5.65	—
1N3313A	MOT	7.65	—
1N3313AR	MOT	7.65	—
1N3313B	IR	14.25	—
1N3313B	MOT	10.65	—
1N3314	IR	7.50	—
1N3314	MOT	5.65	44
1N3314A	IR	10.17	—
1N3314A	MOT	7.65	—
1N3314B	IR	14.25	—
1N3314B	MOT	10.65	—
1N3315	IR	7.50	—
1N3315	MOT	5.65	44
1N3315A	MOT	7.65	—
1N3315B	IR	14.25	—
1N3316	MOT	5.65	—
1N3317	MOT	5.65	44
1N3317A	MOT	7.65	—
1N3317B	IR	14.25	—
1N3317B	MOT	10.65	—
1N3318A	IR	7.50	—
1N3318A/ 50M19ZS10	MOT	7.65	—
1N3318B/ 50M19SZ5	MOT	10.65	—
1N3319	IR	7.50	—
1N3319	MOT	5.65	44
1N3319A	MOT	7.65	—
1N3319AR	MOT	7.65	—
1N3319B	MOT	10.65	—
1N3319R	IR	7.50	—
1N3319R	MOT	5.65	44
1N3319RB	IR	14.25	—
1N3320	IR	7.50	—
1N3320	MOT	5.65	44
1N3320A	IR	10.17	—
1N3320B	IR	14.25	—
1N3320B	MOT	10.65	—
1N3321	IR	7.50	—
1N3321	MOT	5.65	44
1N3321A	MOT	7.65	—
1N3321B	MOT	10.65	—
1N3321BR	MOT	10.65	—
1N3322	MOT	5.65	44
1N3322A	IR	10.17	—
1N3322B	MOT	10.65	—
1N3323	IR	7.50	—
1N3323	MOT	5.65	—
1N3323A	IR	10.17	—
1N3323A	MOT	7.65	—
1N3323B	IR	14.25	—
1N3323B	MOT	10.65	—
1N3323R	MOT	5.65	—
1N3324	IR	7.50	—
1N3324	MOT	5.65	44
1N3324A	MOT	7.65	—
1N3324B	IR	14.25	—
1N3324B	MOT	10.65	—
1N3324R	MOT	5.65	44
1N3324RB	IR	14.25	—
1N3325	IR	7.50	—
1N3325	MOT	5.65	—
1N3325B	IR	14.25	—
1N3325B/ 50M33SZ5	MOT	10.65	—
1N3326/ 50M36SZ	MOT	5.65	44
1N3326A	MOT	7.65	—
1N3326B	IR	14.25	—
1N3326B	MOT	10.65	—
1N3327	MOT	5.65	44
1N3327A	IR	10.17	—
1N3328	MOT	5.65	44
1N3328B	MOT	10.65	—
1N3329	MOT	5.65	—
1N3330	MOT	5.65	44
1N3330B	MOT	10.65	—
1N3330RA	MOT	7.65	—
1N3331A/ 50M50SZ10	MOT	7.65	—
1N3331B	MOT	10.65	—
1N3331R	MOT	5.65	—
1N3332	MOT	5.65	44
1N3332B	IR	14.25	—
1N3332B	MOT	10.65	—
1N3334	MOT	5.65	44
1N3334A	IR	10.17	—
1N3334B	MOT	10.65	—
1N3335	IR	7.50	—
1N3335	MOT	5.65	44
1N3335A	MOT	7.65	—
1N3335B	IR	14.25	—
1N3336B	MOT	10.65	—
1N3337A	IR	10.17	—
1N3337A	MOT	7.65	—
1N3337B	MOT	10.65	—
1N3337R	MOT	5.65	44
1N3338	MOT	5.65	44
1N3338A	MOT	7.65	—
1N3338B	MOT	10.65	—
1N3338RB	MOT	10.65	—
1N3339	MOT	5.65	44
1N3339A	MOT	7.65	—
1N3339B	MOT	10.65	—
1N3340	IR	7.50	—
1N3340	MOT	5.65	44
1N3340A	MOT	7.65	—
1N3340B	IR	14.25	—
1N3340B	MOT	10.65	—
1N3340BR	MOT	10.65	—
1N3340RA	IR	10.17	—
1N3340RA	MOT	7.65	—
1N3342	MOT	6.80	44
1N3342B	MOT	17.95	—
1N3343	MOT	6.80	44
1N3343A	MOT	11.30	—
1N3343B	MOT	17.95	—
1N3344	MOT	6.80	—
1N3344A	MOT	11.30	—
1N3344AR	MOT	11.30	—
1N3344B	MOT	17.95	—
1N3345	MOT	6.80	—
1N3346	MOT	6.80	44
1N3346B	MOT	17.95	—
1N3346RB	MOT	17.95	—
1N3347	MOT	6.80	44
1N3347B	MOT	17.95	—
1N3347RB	MOT	17.95	—
1N3349	MOT	6.80	44
1N3349A	MOT	11.30	—
1N3350	MOT	6.80	44
1N3350A	MOT	11.30	—
1N3350B	MOT	17.95	—
1N3350R	MOT	6.80	44
1N3424A	MOT	.10	—
1N3491	MOT	.90	44
1N3491R	MOT	.90	—
1N3492	IR	1.52	—
1N3492	MOT	1.10	44
1N3492R	MOT	1.10	—
1N3493	IR	1.70	—
1N3493	MOT	1.30	44
1N3493R	IR	1.70	—
1N3493R	MOT	1.30	—
1N3494	IR	1.86	—
1N3494	MOT	1.50	—
1N3494R	MOT	1.50	—
1N3495	MOT	1.68	44
1N3495R	MOT	1.68	—
1N3497	IR	7.50	—
1N3498	IR	11.71	—
1N3499	IR	25.89	—
1N3509	TI	.58	—
1N3510	TI	.58	—
1N3512	TI	.58	—
1N3513	TI	.58	—
1N3515	IR	1.54	—
1N3515	TI	.58	—
1N3516	TI	.58	—
1N3518	IR	1.54	—
1N3519	TI	.58	—
1N3520	IR	1.54	—
1N3525	IR	1.54	—
1N3525	TI	.58	—
1N3528	TI	.58	—
1N3530	IR	1.54	—
1N3563	RCA	.94	84
1N3569	MOT	1.44	—
1N3569R	MOT	1.44	—
1N3570	MOT	1.78	—
1N3570R	MOT	1.78	—
1N3571	IR	3.26	—
1N3571	MOT	2.38	—
1N3571R	MOT	2.38	—
1N3572	MOT	2.88	—
1N3572R	MOT	2.88	—
1N3573	IR	5.15	—
1N3573	MOT	4.32	—
1N3573R	MOT	4.32	—
1N3574	IR	6.14	—
1N3574R	MOT	6.20	—
1N3580	MOT	4.90	—
1N3580A	MOT	5.20	—
1N3581A	MOT	6.45	—
1N3582A	MOT	9.80	—
1N3615	IR	1.42	—

NEW TYPES STOCKED AS SOON AS RELEASED

DISCRETE DEVICES

Type	Mfr	1-24	Page
1N3615R	IR	1.42	—
1N3616	IR	1.58	—
1N3616R	IR	1.58	—
1N3617	IR	2.05	—
1N3617R	IR	2.05	—
1N3618/16F20	IR	3.15	—
1N3618R	IR	3.15	—
1N3619	IR	4.10	—
1N3619R	IR	4.10	—
1N3620/16F40	IR	4.99	—
1N3620R	IR	4.99	—
1N3621	IR	5.78	—
1N3621R	IR	5.78	—
1N3621R	MOT	7.08	—
1N3622	IR	7.04	—
1N3623	IR	9.45	—
1N3623R	IR	9.45	—
1N3624	IR	11.24	—
1N3624R	IR	11.24	—
1N3649	IR	11.66	—
1N3649R	IR	11.66	—
1N3650	IR	14.44	—
1N3650R	IR	14.44	—
1N3659	MOT	1.18	44
1N3659R	MOT	1.18	—
1N3660	MOT	1.34	44
1N3660R	MOT	1.34	—
1N3661	MOT	1.42	44
1N3661R	MOT	1.42	—
1N3662	MOT	1.58	—
1N3662R	MOT	1.58	—
1N3663	MOT	1.82	44
1N3663R	MOT	1.82	—
1N3670	IR	8.19	101
1N3670A/ 12F70A	IR	8.19	101
1N3670R	IR	8.19	—
1N3670RA	IR	8.19	—
1N3671A	IR	9.14	101
1N3671A	MOT	10.70	—
1N3671R	IR	9.14	—
1N3671RA	IR	9.14	—
1N3672A	GE	9.45	90
1N3672A	IR	9.87	101
1N3672R	IR	9.87	—
1N3672RA	IR	9.87	—
1N3673	GE	9.90	—
1N3673A	GE	9.90	90
1N3673A	MOT	13.20	—
1N3673A/ 12F100AI	IR	10.29	101
1N3673R	IR	10.29	—
1N3673RA	IR	10.29	—
1N3675B/ MZ623-1B	MOT	4.90	—
1N3680	MOT	3.45	—
1N3681A	MOT	4.10	—
1N3682B	MOT	4.90	—
1N3683	MOT	3.45	—
1N3683A	MOT	4.10	—
1N3683B	MOT	4.90	—
1N3684/ 7Z623-11	MOT	3.45	—
1N3684B	MOT	4.90	—
1N3685	MOT	3.45	—
1N3685B	MOT	4.90	—
1N3686B	MOT	4.90	—
1N3688/ Z623-17	MOT	3.45	—
1N3688B/ MF623-17B	MOT	4.90	—
1N3689B/ MZ623-19B	MOT	4.90	—
1N3690	MOT	3.45	—
1N3690B	MOT	4.90	—
1N3692	MOT	3.45	—
1N3695	MOT	3.45	—
1N3696	MOT	3.45	—
1N3696B/ Z623-27B	MOT	4.90	—
1N3712	GE	6.74	—
1N3713	GE	10.11	—
1N3713/JAN	GE	11.62	—
1N3714	GE	5.90	—
1N3716	GE	4.19	—
1N3717	GE	7.91	—
1N3717JAN	GE	8.66	—
1N3718	GE	5.10	—
1N3719	GE	7.91	—
1N3719/JAN	GE	8.28	—
1N3720	GE	6.46	—
1N3721	GE	7.58	—
1N3735	IR	22.05	—
1N3735R	IR	22.05	—
1N3736	IR	25.73	—
1N3736R	IR	25.73	—
1N3737	IR	28.88	—
1N3737R	IR	28.88	—
1N3738	GE	28.75	91
1N3738	IR	32.03	—
1N3738R	IR	32.03	—
1N3739	IR	35.70	—
1N3739R	IR	35.70	—
1N3740	GE	33.50	91
1N3740	IR	39.90	—
1N3740R	IR	39.90	—
1N3741	GE	38.50	91
1N3741	IR	46.73	—
1N3741R	IR	46.73	—
1N3742	IR	55.13	—
1N3742A	IR	55.13	—
1N3743	IR	64.05	—
1N3743R	IR	64.05	—
1N3744	IR	78.75	—
1N3744R	IR	78.75	—
1N3765	IR	9.45	101
1N3765R	IR	9.45	—
1N3766	GE	9.75	—
1N3766R	IR	10.24	—
1N3767	IR	11.29	101
1N3767R	IR	11.29	—
1N3768	GE	11.62	90
1N3768R	IR	12.18	—
1N3785	MOT	3.75	—
1N3785B	MOT	6.95	—
1N3786	MOT	3.75	—
1N3786A	MOT	5.30	—
1N3786B	MOT	6.95	—
1N3787	MOT	3.75	—
1N3788	MOT	3.75	—
1N3789	MOT	3.75	—
1N3789A	MOT	5.30	—
1N3789B	MOT	6.95	—
1N3790B	MOT	6.95	—
1N3791	MOT	3.75	—
1N3791A	MOT	5.30	—
1N3791B	MOT	6.95	—
1N3792	MOT	3.75	—
1N3792B	MOT	6.95	—
1N3793	MOT	3.75	—
1N3793B	MOT	6.95	—
1N3794/ 1.5M16Z	MOT	3.75	—
1N3794A	MOT	5.30	—
1N3794B	MOT	6.95	—
1N3795	MOT	3.75	—
1N3795A	MOT	5.30	—
1N3795B	MOT	6.95	—
1N3796/ 1.5M20Z	MOT	3.75	—
1N3796A	MOT	5.30	—
1N3796B	MOT	6.95	—
1N3797	MOT	3.75	—
1N3797A/ 1.5M22Z10	MOT	5.30	—
1N3797B	MOT	6.95	—
1N3798	MOT	3.75	—
1N3798A/ 1.5M24Z10	MOT	5.30	—
1N3798B	MOT	6.95	—
1N3799	MOT	3.75	—
1N3799A	MOT	5.30	—
1N3800	MOT	3.75	—
1N3800A	MOT	5.30	—
1N3800B	MOT	6.95	—
1N3801	MOT	3.75	—
1N3802B	MOT	6.95	—
1N3803	MOT	3.75	—
1N3803A	MOT	5.30	—
1N3803B	MOT	6.95	—
1N3805/ 1.5M47Z	MOT	3.75	—
1N3805A/ 1.5M47Z10	MOT	5.30	—
1N3806	MOT	3.75	—
1N3807	MOT	3.75	—
1N3808A	MOT	5.30	—
1N3808B	MOT	6.95	—
1N3809/ 1.5M68Z	MOT	3.75	—
1N3809B	MOT	6.95	—
1N3810A	MOT	5.30	—
1N3811A	MOT	5.30	—
1N3812B	MOT	6.95	—
1N3813	MOT	3.75	—
1N3813A	MOT	5.30	—
1N3813B	MOT	6.95	—
1N3815	MOT	4.75	—
1N3815B	MOT	8.35	—
1N3816	MOT	4.75	—
1N3816A	MOT	6.45	—
1N3816B/ 1.5M130Z5	MOT	8.35	—
1N3817	MOT	4.75	—
1N3818B/ 1.5M160Z5	MOT	8.80	—
1N3820	MOT	4.75	—
1N3820B	MOT	8.80	—
1N3821	IR	2.88	—
1N3821	MOT	2.10	44
1N3821A	IR	3.62	—
1N3821A	MOT	2.65	—
1N3821AJAN	MOT	5.05	—
1N3822	IR	2.88	—
1N3822	MOT	2.10	44
1N3822A	MOT	2.65	—
1N3823	MOT	2.10	44
1N3823A	MOT	2.65	—
1N3823AJAN	MOT	5.05	—
1N3824	IR	2.88	—
1N3824	MOT	2.10	—
1N3824A	MOT	2.65	—
1N3825	IR	2.88	—
1N3825	MOT	2.10	44
1N3825A	IR	3.62	—
1N3825A	MOT	2.65	—
1N3825AJAN	MOT	5.05	—
1N3826	IR	2.88	—
1N3826	MOT	2.10	44
1N3826A	IR	3.62	—
1N3826A	MOT	2.65	—
1N3827	IR	2.88	—
1N3827	MOT	2.10	44
1N3827A	IR	3.62	—
1N3827A	MOT	2.65	—
1N3828	IR	2.88	—
1N3828	MOT	2.10	44
1N3828A	IR	3.62	—
1N3828A	MOT	2.65	—
1N3828AJAN	MOT	5.05	—
1N3829	MOT	2.10	44
1N3829A	MOT	2.65	—
1N3830	MOT	2.10	44
1N3830A/ 1M7.5AZ	MOT	2.65	—
1N3879	MOT	2.56	—
1N3879	RCA	2.20	46
1N3879R	MOT	2.56	—
1N3880	IR	2.65	—
1N3880	MOT	3.06	46
1N3880R	MOT	3.06	—
1N3881	MOT	3.66	46
1N3883	MOT	5.10	46
1N3889	GE	3.00	90
1N3889	MOT	3.40	46
1N3890	IR	3.50	—
1N3890	MOT	4.08	46
1N3890R	GE	3.60	—
1N3890R	IR	3.5J	—
1N3891	MOT	4.92	46
1N3892	GE	5.25	90
1N3892	MOT	5.95	—
1N3892R	GE	5.25	—
1N3892R	MOT	5.95	—
1N3893	GE	6.30	90
1N3893	MOT	7.10	46
1N3899	GE	4.20	—
1N3899	MOT	4.95	46
1N3900	MOT	5.70	46
1N3901	GE	6.00	90
1N3901	MOT	6.80	46

Key	Mfr.
IDI	International Devices Inc.
IR	International Rectifier
GE	General Electric
GI	General Instrument
MOT	Motorola
RCA	Radio Corp. of America
SPR	Sprague
TI	Texas Instruments

Type	Mfr	1-24	Page
1N3901R	MOT	6.80	—
1N3902R	MOT	8.15	—
1N3903	GE	8.63	90
1N3903	MOT	9.80	46
1N3909	MOT	5.50	46
1N3910	MOT	6.60	46
1N3910 (ZJ274A)	GE	5.85	90
1N3910R	MOT	6.60	—
1N3911	MOT	7.90	46
1N3911 (ZJ274B)	GE	6.98	90
1N3913	MOT	11.50	46
1N3913 (ZJ274D)	GE	10.13	90
1N3987	IR	7.61	—
1N3988	MOT	10.45	44
1N3989	MOT	12.80	—
1N3990	GE	10.80	90
1N3990	IR	9.98	—
1N3993	IR	7.28	103
1N3993	MOT	5.65	44
1N3993A	IR	10.17	—
1N3993A	MOT	7.70	—
1N3994	MOT	5.65	44
1N3994A	MOT	7.70	—
1N3995	MOT	5.65	44
1N3995A	IR	10.17	—
1N3995A	MOT	7.70	—
1N3995RA	MOT	7.70	—
1N3996	IR	7.28	103
1N3996	MOT	5.65	44
1N3996A	IR	10.17	—
1N3996A	MOT	7.70	—
1N3996AJAN	MOT	11.95	—
1N3996AR	MOT	7.70	—
1N3997	IR	7.28	103
1N3997	MOT	5.65	44
1N3997A	MOT	7.70	—
1N3997R	MOT	5.65	44
1N3998	IR	7.28	103
1N3998	MOT	5.65	44
1N3998A	IR	10.17	—
1N3998A	MOT	7.70	—
1N3998AJAN	IR	16.33	—
1N3998R	MOT	7.70	44
1N3999	MOT	5.65	44
1N3999A	MOT	7.70	—
1N3999AR	MOT	7.70	—
1N4000	MOT	5.65	44
1N4000A	MOT	7.70	—
1N4001	IR	.26	101
1N4001	MOT	.24	44
1N4001G	TI	.39	—
1N4002	IR	.30	101
1N4002	MOT	.26	44
1N4002G	TI	.44	—
1N4003	IR	.34	101
1N4003	MOT	.28	44
1N4003G	TI	.50	—
1N4004	IR	.39	101
1N4004	MOT	.30	44
1N4004G	TI	.50	—
1N4005	IR	.47	101
1N4005	MOT	.34	44
1N4006	IR	.51	101

NEW TYPES STOCKED AS SOON AS RELEASED

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfr	1-24	Page
1N4006	MOT	.44	44
1N4006G	TI	.99	—
1N4007	IR	.63	101
1N4007	MOT	.56	44
1N4044	IR	16.80	101
1N4044R	IR	16.80	—
1N4045	IR	18.90	101
1N4045R	IR	18.90	—
1N4046	IR	19.95	101
1N4046R	IR	19.95	—
1N4047	IR	22.05	101
1N4047R	IR	22.05	—
1N4048	IR	23.63	101
1N4048R	IR	23.63	—
1N4049	IR	25.20	101
1N4049R	IR	25.20	—
1N4050	GE	30.50	91
1N4050	IR	31.50	101
1N4050R	IR	31.50	—
1N4051	IR	35.18	101
1N4051R	IR	35.18	—
1N4052	GE	35.00	91
1N4052	IR	38.85	101
1N4052R	IR	38.85	—
1N4053	IR	42.00	101
1N4053R	IR	42.00	—
1N4054	GE	40.50	91
1N4054	IR	46.20	101
1N4054R	GE	40.50	—
1N4054R	IR	46.20	—
1N4055	IR	50.40	101
1N4055R	IR	50.40	—
1N4056R	GE	46.00	—
1N4056R	IR	54.60	—
1N4057	MOT	5.90	—
1N4058	MOT	6.40	—
1N4059	MOT	7.20	—
1N4060	MOT	7.70	—
1N4061	MOT	8.95	—
1N4061A	MOT	10.75	—
1N4062A	MOT	11.70	—
1N4064A	MOT	14.45	—
1N4070	MOT	19.70	—
1N4077	MOT	33.25	—
1N4090	GE	3.35	—
1N4099	MOT	3.85	43
1N4100	MOT	3.85	43
1N4101	MOT	3.85	43
1N4102	MOT	3.85	—
1N4103	MOT	3.85	43
1N4104	MOT	3.85	43
1N4105	MOT	3.85	43
1N4106	MOT	3.85	43
1N4107	MOT	3.85	43
1N4107JAN	MOT	4.05	—
1N4109	MOT	3.85	43
1N4110	MOT	3.85	43
1N4112	MOT	3.85	43
1N4114	MOT	3.85	43
1N4115	MOT	3.85	43
1N4116	MOT	3.85	43
1N4118	MOT	3.85	43
1N4123	MOT	3.85	43
1N4125	MOT	3.85	43
1N4126	MOT	3.85	—
1N4135	MOT	3.85	43
1N4136	IR	5.30	—

Type	Mfr	1-24	Page
1N4148	TI	.16	—
1N4148)1N914)	GE	.33	—
1N4148JAN	GE	.42	—
1N4148JAN	TI	.18	—
1N4148JANTX	TI	1.28	—
1N4149	TI	.16	—
1N4149(1N916)	GE	.57	—
1N4150	IR	.26	—
1N4150	TI	.14	—
1N4150 (1N3600)	GE	2.10	—
1N4150JAN	GE	2.10	—
1N4151	TI	.20	—
1N4151 (1N3604)	GE	.82	—
1N4152	TI	.21	—
1N4152 (1N3605)	GE	.66	—
1N4153 (1N3606)	GE	.82	—
1N4153	TI	.21	—
1N4153JAN	GE	.82	—
1N4153JAN	TI	.27	—
1N4154	TI	.19	—
1N4154 (1N4009)	GE	.36	—
1N4156	GE	.75	—
1N4157	GE	1.04	—
1N4245	GE	.38	—
1N4245JAN	GI	.72	—
1N4246	GE	.45	90
1N4247	GE	.59	90
1N4248	GE	1.05	90
1N4249	GE	1.19	90
1N4249JAN	GI	2.25	—
1N4305	TI	.56	—
1N4305 (1N3063)	GE	.66	—
1N4370	IR	.95	102
1N4370	MOT	2.00	43
1N4370A	IR	1.05	—
1N4370A	MOT	2.75	—
1N4370AJAN	MOT	2.95	—
1N4371	IR	.95	102
1N4371	MOT	2.00	43
1N4371A	IR	1.05	—
1N4371A	MOT	2.75	—
1N4372	IR	.95	102
1N4372	MOT	2.00	43
1N4372A	IR	1.05	—
1N4372A	MOT	2.75	—
1N4444	GE	1.66	—
1N4444	TI	.19	—
1N4446	TI	.19	—
1N4446/1N914A	GE	.39	—
1N4448	TI	.18	—
1N4448 (1N914B)	GE	.82	—
1N4449	GE	1.18	—
1N4449	TI	1.18	—
1N4451	GE	1.41	—
1N4453	GE	.59	—
1N4454	TI	.20	—
1N4454 (1N3064)	GE	.26	—
1N4510(A27P)	GE	11.80	—
1N4529/A38P	GE	13.50	—
1N4530(A38PB)	GE	17.25	—
1N4531	GE	.50	—
1N4531	TI	.24	—
1N4532	GE	.72	—
1N4532	TI	.24	—
1N4533	TI	.25	—
1N4534	TI	.27	—
1N4536	GE	.46	—
1N4536	TI	.24	—
1N4549	MOT	6.05	44
1N4549A	MOT	8.00	—
1N4549B	MOT	11.50	—
1N4549BR	MOT	11.50	—
1N4550A	MOT	8.00	—
1N4551	MOT	6.05	44
1N4551A	MOT	8.00	—
1N4552	MOT	6.05	44
1N4552A	MOT	8.00	—
1N4552B	MOT	11.50	—
1N4552BR	MOT	11.50	—

Type	Mfr	1-24	Page
1N4553	MOT	6.05	44
1N4553A	MOT	8.00	—
1N4553B	MOT	11.50	—
1N4554	MOT	6.05	44
1N4554B	MOT	11.50	—
1N4554BR	MOT	11.50	—
1N4555A	MOT	8.00	—
1N4555B	MOT	11.50	—
1N4556B	MOT	11.50	—
1N4557A	MOT	8.00	—
1N4557B	MOT	11.50	—
1N4559B	MOT	11.50	—
1N4560	MOT	6.05	44
1N4560A	MOT	8.00	—
1N4560B	MOT	11.50	—
1N4561	MOT	6.05	44
1N4562	MOT	6.05	44
1N4562A	MOT	8.00	—
1N4565	MOT	8.65	—
1N4565A	MOT	9.70	—
1N4570	MOT	5.85	—
1N4570A	MOT	6.50	—
1N4571	MOT	7.30	—
1N4575	MOT	3.00	—
1N4575A	MOT	3.30	—
1N4576A	MOT	4.05	—
1N4577	MOT	6.60	—
1N4577A	MOT	7.30	—
1N4578A	MOT	13.50	—
1N4580	MOT	3.00	—
1N4580A	MOT	3.30	—
1N4581	MOT	3.65	—
1N4582	MOT	6.60	—
1N4583	MOT	12.15	—
1N4583A	MOT	13.50	—
1N4587	IR	15.23	—
1N4588	IR	16.80	—
1N4589	IR	17.85	—
1N4591	IR	20.37	—
1N4593	IR	26.25	—
1N4594	IR	33.08	—
1N4595	IR	37.80	—
1N4596	IR	42.00	—
1N4606	GE	1.32	—
1N4607	GE	1.43	—
1N4607	TI	.25	—
1N4608	GE	1.58	—
1N4608	TI	.25	—
1N4719	MOT	1.10	44
1N4719R	MOT	1.10	—
1N4720	MOT	1.20	44
1N4720R	MOT	1.20	—
1N4721	MOT	1.30	44
1N4721R/ MR1032AR	MOT	1.30	—
1N4722	MOT	1.50	44
1N4722R/ MR1034AR	MOT	1.50	—
1N4723	MOT	1.70	—
1N4723R/ MR1036AR	MOT	1.70	—
1N4724	MOT	2.50	44
1N4724R/ MR1038AR	MOT	2.50	—
1N4725	MOT	3.80	44
1N4725R/ MR1040AR	MOT	3.80	—
1N4727	GE	.44	—
1N4727	TI	.23	—
1N4728	MOT	1.26	—
1N4728	TI	.81	44
1N4728A	IR	1.45	—
1N4728A	MOT	1.93	—
1N4728A	TI	.89	—
1N4729	MOT	1.26	44
1N4729	TI	.81	—
1N4729/ G3.3T10	IR	1.31	103
1N4729A	IR	1.45	—
1N4729A	MOT	1.93	—
1N4729A	TI	.89	—
1N4730	MOT	1.26	44
1N4730	TI	.81	—
1N4730A	IR	1.45	—
1N4730A	MOT	1.93	—
1N4730A	TI	.89	—
1N4731	MOT	1.26	44

Type	Mfr	1-24	Page
1N4731	TI	.81	—
1N4731/ G3.9T10	IR	1.31	103
1N4731A	IR	1.45	—
1N4731A	MOT	1.93	—
1N4731A	TI	.89	—
1N4732	MOT	1.26	44
1N4732	TI	.81	—
1N4732/ G4.3T10	IR	1.31	103
1N4732A	MOT	1.93	—
1N4732A	TI	.89	—
1N4732A/ G4.3T5	IR	1.45	—
1N4733	MOT	1.26	44
1N4733	TI	.81	—
1N4733/ G4.7T10	IR	1.31	103
1N4733A	MOT	1.93	—
1N4733A	TI	.89	—
1N4733A/ G4.7T5	IR	1.45	—
1N4734	MOT	1.26	44
1N4734	TI	.81	—
1N4734/ G5.1T10	IR	1.31	103
1N4734A	MOT	1.93	—
1N4734A	TI	.89	—
1N4734A/ G5.1T5	IR	1.45	—
1N4735	MOT	1.26	44
1N4735	TI	.81	—
1N4735A	MOT	1.93	—
1N4735A	TI	.89	—
1N4735A/ G5.6T5	IR	1.45	—
1N4736	MOT	1.26	44
1N4736	TI	.81	—
1N4736/ G6.2T10	IR	1.31	103
1N4736A	MOT	1.93	—
1N4736A	TI	.89	—
1N4736A-REEL	IR	1.45	—
1N4736A/ G6.2T5	IR	1.45	—
1N4737	MOT	1.26	44
1N4737	TI	.81	—
1N4737A	MOT	1.93	—
1N4737A	TI	.89	—
1N4737A/ G6.8T5	IR	1.45	—
1N4738	MOT	1.26	44
1N4738	TI	.81	—
1N4738A	MOT	1.93	—
1N4738A	TI	.89	—
1N4738A/ G7.5T5	IR	1.45	—
1N4739	MOT	1.26	44
1N4739	TI	.81	—
1N4739/ G8.2T10	IR	1.31	103
1N4739A	MOT	1.93	—
1N4739A	TI	.89	—
1N4739A/ G8.2T5	IR	1.45	—
1N4740	MOT	1.26	44
1N4740	TI	.81	—
1N4740/ G9.1T10	IR	1.31	103
1N4740A	IR	1.45	—
1N4740A	MOT	1.93	—
1N4740A	TI	.89	—
1N4741	MOT	1.26	44
1N4741	TI	.81	—
1N4741A	MOT	1.93	—
1N4741A	TI	.89	—
1N4741A/G10T5	IR	1.45	—
1N4742	MOT	1.26	44
1N4742	TI	.81	—
1N4742/G11T10	IR	1.31	103
1N4742A	MOT	1.93	—
1N4742A	TI	.89	—
1N4742A/G11T5	IR	1.45	—
1N4743	MOT	1.26	44
1N4743	TI	.81	—
1N4743A	IR	1.45	—
1N4743A	MOT	1.93	—

NEW TYPES STOCKED AS SOON AS RELEASED

DISCRETE DEVICES

Type	Mfr	1-24	Page
1N4743A	TI	.89	—
1N4744	MOT	1.26	44
1N4744	TI	.81	—
1N4744A	MOT	1.93	—
1N4744A	TI	.89	—
1N4744A/G13T5	IR	1.45	—
1N4745	IR	1.31	103
1N4745	MOT	1.26	44
1N4745	TI	.81	—
1N4745A	IR	1.45	—
1N4745A	MOT	1.93	—
1N4745A	TI	.89	—
1N4746	MOT	1.26	44
1N4746	TI	.81	—
1N4746A/G16T5	IR	1.45	—
1N4746A	MOT	1.93	—
1N4746A	TI	.89	—
1N4747	MOT	1.26	44
1N4747	TI	.81	—
1N4747/G18T10	IR	1.31	103
1N4747A	MOT	1.93	—
1N4747A	TI	.89	—
1N4747A/G18T5	IR	1.45	—
1N4748	MOT	1.26	44
1N4748	TI	.81	—
1N4748/G20T10	IR	1.31	103
1N4748A	MOT	1.93	—
1N4748A	TI	.89	—
1N4749	MOT	1.26	44
1N4749	TI	.81	—
1N4749A	MOT	1.93	—
1N4749A	TI	.89	—
1N4749A/G22T5	IR	1.45	—
1N4750	MOT	1.26	44
1N4750	TI	.81	—
1N4750A	IR	1.45	—
1N4750A	MOT	1.93	—
1N4750A	TI	.89	—
1N4751	MOT	1.26	44
1N4751	TI	.81	—
1N4751A	IR	1.45	—
1N4751A	MOT	1.93	—
1N4751A	TI	.89	—
1N4752	IR	1.31	103
1N4752	MOT	1.26	44
1N4752	TI	.81	—
1N4752A	MOT	1.93	—
1N4752A	TI	.89	—
1N4753	MOT	1.26	44
1N4753A	IR	1.45	—
1N4753A	MOT	1.93	—
1N4754	MOT	1.26	44
1N4754A	IR	1.45	—
1N4754A	MOT	1.93	—
1N4755	MOT	1.26	44
1N4755A	IR	1.45	—
1N4755A	MOT	1.93	—
1N4756	MOT	1.26	44
1N4756A	IR	1.45	—
1N4756A	MOT	1.93	—
1N4757	MOT	1.26	44
1N4757A	IR	1.45	—
1N4757A	MOT	1.93	—
1N4758	MOT	1.26	44
1N4758A	MOT	1.93	—
1N4759	MOT	1.26	44
1N4759A	IR	1.45	—
1N4759A	MOT	1.93	—
1N4760	IR	1.31	103
1N4760	MOT	1.26	44
1N4760A	MOT	1.93	—
1N4761	IR	1.31	103
1N4761	MOT	1.26	44
1N4761A	IR	1.45	—
1N4761A	MOT	1.93	—
1N4762	IR	1.31	103
1N4762	MOT	1.26	44
1N4762A	IR	1.45	—
1N4762A	MOT	1.93	—
1N4763	IR	1.31	103
1N4763	MOT	1.26	44
1N4763A	IR	1.45	—
1N4763A	MOT	1.93	—
1N4764	MOT	1.26	44
1N4764A	IR	1.45	—
1N4764A	MOT	1.93	—
1N4765A	MOT	9.70	—

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1N4766	MOT	11.70	—
1N4768A	MOT	45.75	—
1N4769	MOT	89.50	—
1N4769A	MOT	99.50	—
1N4770	MOT	5.85	—
1N4770A	MOT	6.50	—
1N4772	MOT	13.25	—
1N4772A	MOT	14.75	—
1N4773	MOT	24.25	—
1N4773A	MOT	27.00	—
1N4774	MOT	56.50	—
1N4781A	MOT	8.10	—
1N4783	MOT	24.25	—
1N4784A	MOT	63.15	—
1N4816	IR	.32	101
1N4817	IR	.38	101
1N4818	IR	.44	101
1N4819	IR	.52	101
1N4820	IR	.56	101
1N4821	IR	.61	101
1N4822	IR	.77	101
1N4829	GE	.76	—
1N4830	GE	1.02	—
1N4864	GE	1.54	—
1N4871	IR	27.88	—
1N4904	MOT	5.40	—
1N4905	MOT	6.60	—
1N4906	MOT	11.85	—
1N4909	MOT	6.60	—
1N4915A	MOT	29.40	—
1N4920	MOT	17.55	—
1N4926	MOT	8.75	—
1N4933	MOT	.48	46
1N4934	MOT	.56	46
1N4935	MOT	.68	46
1N4936	MOT	.90	46
1N4937	MOT	1.10	46
1N4938	TI	.25	—
1N4938JAN	TI	.31	—
1N4997	MOT	1.10	44
1N4997R	MOT	1.10	—
1N4998	MOT	1.20	44
1N4998R	MOT	1.20	—
1N4999	MOT	1.30	44
1N4999R	MOT	1.30	—
1N5000	MOT	1.50	44
1N5000R	MOT	1.50	—
1N5001	MOT	1.70	44
1N5002	MOT	2.50	44
1N5002R	MOT	2.50	—
1N5003	MOT	3.80	44
1N5003R/ MR1040BR	MOT	3.80	—
1N5052	IR	.79	101
1N5053	IR	.84	101
1N5054	GE	40.50	91
1N5054	IR	.95	101
1N5059	GE	.36	90
1N5060	GE	.47	90
1N5061	GE	.63	90
1N5062	GE	.95	90
1N5139	MOT	4.65	—
1N5139A	MOT	6.45	—
1N5140	MOT	4.65	—
1N5140A	MOT	6.45	—
1N5142A	MOT	6.45	—
1N5143	MOT	4.65	—
1N5144	MOT	4.65	—
1N5145	MOT	4.65	—
1N5147A	MOT	6.45	—
1N5148A	MOT	6.45	—
1N5158	MOT	5.46	—
1N5159	MOT	5.12	63
1N5160	MOT	4.25	63
1N5211	RCA	.38	84
1N5212	RCA	.42	84
1N5213	RCA	.56	84
1N5214	RCA	.81	84
1N5215	RCA	.42	84
1N5216	RCA	.45	84
1N5217	RCA	.60	84
1N5218	RCA	.85	84
1N5221	MOT	.67	43
1N5221A/ .5M2.4ZS1	MOT	.90	—
1N5221B	MOT	1.05	—
1N5222	MOT	.67	—

Type	Mfr	1-24	Page
1N5222A	MOT	.90	—
1N5222B	MOT	1.05	—
1N5223	MOT	.67	43
1N5223A/ .5M2.7ZS5	MOT	.90	—
1N5223B/ .5M.2.7ZS	MOT	1.05	—
1N5224	MOT	.67	—
1N5224A	MOT	.90	—
1N5224B	MOT	1.05	—
1N5225	MOT	.67	43
1N5225A/ .5M3.0ZS1	MOT	.90	—
1N5225B	IR	.95	—
1N5225B	MOT	1.05	—
1N5226	IR	.84	102
1N5226	MOT	.67	43
1N5226A	MOT	.90	—
1N5226B	IR	.95	—
1N5226B	MOT	1.05	—
1N5227	MOT	.67	43
1N5227A	MOT	.90	—
1N5227B	IR	.95	—
1N5227B	MOT	1.05	—
1N5228	MOT	.67	43
1N5228A/ .5M3.9ZS1	MOT	.90	—
1N5228B	MOT	1.05	—
1N5229	MOT	.67	43
1N5229A	MOT	.90	—
1N5229B	IR	.95	—
1N5229B	MOT	1.05	—
1N5230	IR	.84	102
1N5230	MOT	.67	43
1N5230A	IR	.89	—
1N5230A	MOT	.90	—
1N5230B	MOT	1.05	—
1N5231	MOT	.67	43
1N5231A	MOT	.90	—
1N5231B	IR	.95	—
1N5231B	MOT	1.05	—
1N5232	MOT	.67	43
1N5232A	IR	.89	—
1N5232A	MOT	.90	—
1N5232B	IR	.95	—
1N5232B	MOT	1.05	—
1N5233	MOT	.67	—
1N5233A	MOT	.90	—
1N5233B/ .5M6.0ZS5	MOT	1.05	—
1N5234	MOT	.67	43
1N5234A	MOT	.90	—
1N5234B	MOT	1.05	—
1N5235	MOT	.67	—
1N5235A	IR	.89	—
1N5235A	MOT	.90	—
1N5235B	IR	.95	—
1N5235B	MOT	1.05	—
1N5236	MOT	.67	43
1N5236A	MOT	.90	—
1N5236B	MOT	1.05	—
1N5237	MOT	.67	43
1N5237A	MOT	.90	—
1N5237B	MOT	1.05	—
1N5238	MOT	.67	—
1N5238A	MOT	.90	—
1N5238B	MOT	1.05	—
1N5239	MOT	.67	43
1N5239A	IR	.89	—
1N5239A	MOT	.90	—
1N5239B	MOT	1.05	—
1N5240	MOT	.67	43
1N5240A	IR	.89	—
1N5240A	MOT	.90	—
1N5240B	MOT	1.05	—
1N5241	MOT	.67	43
1N5241A	MOT	.90	—
1N5241B	MOT	1.05	—
1N5242	MOT	.67	43
1N5242A	MOT	.90	—
1N5242B	IR	.95	—
1N5242B	MOT	1.05	—
1N5243	MOT	.67	43
1N5243A	IR	.89	—
1N5243A	MOT	.90	—
1N5243B	IR	.95	—
1N5243B	MOT	1.05	—

Key	Mfr.
IDI	International Devices Inc.
IR	International Rectifier
GE	General Electric
GI	General Instrument
MOT	Motorola
RCA	Radio Corp. of America
SPR	Sprague
TI	Texas Instruments

Type	Mfr	1-24	Page
1N5244	MOT	.67	—
1N5244A	IR	.89	—
1N5244A	MOT	.90	—
1N5244B	MOT	1.05	—
1N5245	MOT	.67	43
1N5245A	MOT	.90	—
1N5245B	MOT	1.05	—
1N5246	MOT	.67	43
1N5246B	IR	.95	—
1N5246B	MOT	1.05	—
1N5247	IR	.84	102
1N5247	MOT	.67	—
1N5247	IR	.84	102
1N5247B	IR	.95	—
1N5247B	MOT	1.05	—
1N5248	MOT	.67	43
1N5248A	IR	.89	—
1N5248A/ .5M18ZS10	MOT	.90	—
1N5248B	IR	.95	—
1N5248B/ .5M18ZS5	MOT	1.05	—
1N5249	MOT	.67	—
1N5249A	IR	.89	—
1N5249A	MOT	.90	—
1N5249B/ .5M19ZS5	MOT	1.05	—
1N5250	MOT	.67	43
1N5250A	MOT	.90	—
1N5250B	IR	.95	—
1N5250B	MOT	1.05	—
1N5251	IR	.84	102
1N5251	MOT	.67	43
1N5251A	MOT	.90	—
1N5251B	MOT	1.05	—
1N5252	MOT	.67	43
1N5252A	MOT	.90	—
1N5252B	IR	.95	—
1N5252B	MOT	1.05	—
1N5253	MOT	.67	—
1N5253A	MOT	.90	—
1N5253B	MOT	1.05	—
1N5254	IR	.84	102
1N5254	MOT	.67	43
1N5254A	MOT	.90	—
1N5254B	IR	.95	—
1N5254B	MOT	1.05	—
1N5255	MOT	.67	—
1N5255B	MOT	1.05	—
1N5256	MOT	.67	43
1N5256B	MOT	1.05	—
1N5257	MOT	.67	43
1N5257B	MOT	1.05	—
1N5258	MOT	.90	43
1N5258A	MOT	1.12	—
1N5258B	IR	.95	—
1N5258B	MOT	1.27	—
1N5259	MOT	.90	—
1N5259B	IR	.95	—
1N5259B	MOT	1.27	—
1N5260	MOT	.90	43
1N5260B	MOT	1.27	—
1N5261	MOT	.90	43
1N5261A	MOT	1.12	—
1N5261B	MOT	1.27	—
1N5262	MOT	.90	43
1N5262A	MOT	1.12	—

NEW TYPES STOCKED AS SOON AS RELEASED

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfr	1-24	Page
1N5262B	MOT	1.27	—
1N5263	MOT	.90	43
1N5265	MOT	.90	43
1N5266	IR	.84	102
1N5267A	MOT	1.12	—
1N5267B	MOT	1.27	—
1N5268	MOT	.90	43
1N5268B	MOT	1.27	—
1N5270	MOT	.90	43
1N5270B	MOT	1.27	—
1N5271	MOT	1.27	43
1N5271A	MOT	1.50	—
1N5271B	MOT	1.65	—
1N5272	MOT	1.27	43
1N5272A	MOT	1.50	—
1N5273	MOT	1.27	43
1N5273B/ .5M120ZS5	MOT	1.65	—
1N5274	MOT	1.27	43
1N5275A	MOT	1.50	—
1N5275B	MOT	1.65	—
1N5276	MOT	1.27	43
1N5276A	MOT	1.50	—
1N5276B	MOT	1.65	—
1N5277B	MOT	1.65	—
1N5278A	MOT	1.50	—
1N5279	MOT	1.27	43
1N5279A	MOT	1.50	—
1N5279B	MOT	1.65	—
1N5281	MOT	1.27	43
1N5281A	MOT	1.50	—
1N5281B	MOT	1.65	—
1N5292	MOT	2.30	—
1N5332	GE	12.60	90
1N5332R	GE	12.60	—
1N5333	IR	2.21	103
1N5333	MOT	2.20	44
1N5333A	MOT	2.20	—
1N5333B	MOT	2.45	—
1N5334	MOT	2.20	44
1N5334A	MOT	2.20	—
1N5334B	MOT	2.45	—
1N5335	MOT	2.20	44
1N5335A	IR	2.31	—
1N5335A	MOT	2.20	—
1N5335B	IR	2.52	—
1N5335B	MOT	2.45	—
1N5336	IR	2.21	103
1N5336A	IR	2.31	—
1N5336A	MOT	2.20	—
1N5336B	MOT	2.45	—
1N5337	MOT	2.20	44
1N5337A	MOT	2.20	—
1N5337B	MOT	2.45	—
1N5338	MOT	2.20	44
1N5338A	MOT	2.20	—
1N5338B	IR	2.52	—
1N5338B	MOT	2.45	—
1N5339	IR	2.21	103
1N5339	MOT	2.20	44
1N5339A	MOT	2.20	—
1N5339B	IR	2.52	—
1N5339B	MOT	2.45	—
1N5340	MOT	2.20	—
1N5340A	MOT	2.20	—
1N5340B	IR	2.52	—
1N5340B	MOT	2.45	—
1N5341	MOT	2.20	44
1N5341A	MOT	2.20	—
1N5341B	IR	2.52	—
1N5341B	MOT	2.45	—
1N5342	MOT	2.20	44
1N5342A	MOT	2.20	—
1N5342B	IR	2.52	—
1N5342B	MOT	2.45	—
1N5343	MOT	2.20	44
1N5343A	MOT	2.20	—
1N5343B	IR	2.52	—
1N5343B	MOT	2.45	—
1N5344	MOT	2.20	44
1N5344A	MOT	2.20	—
1N5344B	MOT	2.45	—
1N5345	MOT	2.20	—
1N5345A/ 5M8.7ZS10	MOT	2.20	—
1N5345B/ 5M8.7ZS5	MOT	2.45	—
1N5346	MOT	2.20	44
1N5346A	MOT	2.20	—
1N5346B	MOT	2.45	—
1N5347	IR	2.27	103
1N5347	MOT	2.20	44
1N5347A	IR	2.31	—
1N5347A	MOT	2.20	—
1N5347B	IR	2.52	—
1N5347B	MOT	2.45	—
1N5348	MOT	2.20	44
1N5348A	MOT	2.20	—
1N5348B	MOT	2.45	—
1N5349	IR	2.21	103
1N5349	MOT	2.20	44
1N5349A	MOT	2.20	—
1N5349B	IR	2.52	—
1N5349B	MOT	2.45	—
1N5350	MOT	2.20	44
1N5350A	MOT	2.20	—
1N5350B	MOT	2.45	—
1N5351	MOT	2.20	—
1N5351A	MOT	2.20	—
1N5351B	IR	2.52	—
1N5351B	MOT	2.45	—
1N5352	IR	2.21	103
1N5352	MOT	2.20	44
1N5352A	IR	2.31	—
1N5352A	MOT	2.20	—
1N5352B	IR	2.52	—
1N5352B	MOT	2.45	—
1N5353	MOT	2.20	44
1N5353A	MOT	2.20	—
1N5353B	IR	2.52	—
1N5353B	MOT	2.45	—
1N5354	MOT	2.20	—
1N5354B	MOT	2.45	—
1N5355	MOT	2.20	44
1N5355A	IR	2.31	—
1N5355A	MOT	2.20	—
1N5355B	MOT	2.45	—
1N5356A/ 5M19ZS10	MOT	2.20	—
1N5356B	MOT	2.45	—
1N5357	IR	2.21	103
1N5357	MOT	2.20	44
1N5357A	IR	2.31	—
1N5357A	MOT	2.20	—
1N5357B	MOT	2.45	—
1N5358	IR	2.21	103
1N5358	MOT	2.20	44
1N5358A	MOT	2.20	—
1N5358B	MOT	2.45	—
1N5359	MOT	2.20	44
1N5359A	MOT	2.20	—
1N5359B	IR	2.52	—
1N5359B	MOT	2.45	—
1N5360	MOT	2.20	—
1N5360A	IR	2.31	—
1N5360A	MOT	2.20	—
1N5360B	MOT	2.45	—
1N5361	MOT	2.20	44
1N5361A	MOT	2.20	—
1N5361B	MOT	2.45	—
1N5362	MOT	2.20	—
1N5362A	IR	2.31	—
1N5362A	MOT	2.20	—
1N5362B	MOT	2.45	—
1N5363	MOT	2.20	44
1N5363A	MOT	2.20	—
1N5363B	IR	2.52	—
1N5363B	MOT	2.45	—
1N5364	MOT	2.20	44
1N5364B	MOT	2.45	—
1N5365	MOT	2.20	44
1N5365A	MOT	2.20	—
1N5365B	IR	2.52	—
1N5365B	MOT	2.45	—
1N5366	MOT	2.20	44
1N5366A	MOT	2.20	—
1N5366B	IR	2.52	—
1N5366B	MOT	2.45	—
1N5367	MOT	2.20	44
1N5367A	MOT	2.20	—
1N5367B	MOT	2.45	—
1N5368	MOT	2.20	44
1N5368A	MOT	2.20	—
1N5368B	MOT	2.45	—
1N5369	IR	2.21	103
1N5369	MOT	2.20	44
1N5369A	IR	2.31	—
1N5369A	MOT	2.20	—
1N5369B	MOT	2.45	—
1N5370	MOT	2.20	44
1N5370A/ 5M56ZS10	MOT	2.20	—
1N5370B	MOT	2.45	—
1N5371	MOT	2.20	—
1N5371A	MOT	2.20	—
1N5371B	MOT	2.45	—
1N5372A	MOT	2.20	—
1N5372B	MOT	2.45	—
1N5373	MOT	2.20	44
1N5373A	MOT	2.20	—
1N5373B	MOT	2.45	—
1N5374	MOT	2.20	44
1N5374A	MOT	2.20	—
1N5374B	IR	2.52	—
1N5374B	MOT	2.45	—
1N5375	MOT	2.20	44
1N5375A	MOT	2.20	—
1N5375B	MOT	2.45	—
1N5376	MOT	2.20	—
1N5376B	MOT	2.45	—
1N5377	IR	2.21	103
1N5377	MOT	2.20	44
1N5377A	IR	2.31	—
1N5377A	MOT	2.20	—
1N5377B	MOT	2.45	—
1N5378	MOT	2.20	44
1N5378A	IR	2.31	—
1N5378A	MOT	2.20	—
1N5378B	IR	2.52	—
1N5378B	MOT	2.45	—
1N5379	MOT	2.60	44
1N5379A	MOT	2.60	—
1N5379B	MOT	2.85	—
1N5380	MOT	2.60	44
1N5380B	MOT	2.60	—
1N5381	MOT	2.60	44
1N5381A	MOT	2.60	—
1N5381B	MOT	2.85	—
1N5382	MOT	2.60	—
1N5382A	MOT	2.60	—
1N5382B	MOT	2.85	—
1N5383	MOT	2.60	44
1N5383A	MOT	2.60	—
1N5383B	MOT	2.85	—
1N5384	MOT	2.60	44
1N5384B	MOT	2.85	—
1N5385	MOT	2.60	—
1N5385A/ 5M170ZS10	MOT	2.60	—
1N5386	MOT	2.60	44
1N5386A	MOT	2.60	—
1N5386B	MOT	2.85	—
1N5387A	MOT	2.60	—
1N5387B	MOT	2.85	—
1N5388	MOT	2.60	44
1N5388A	MOT	2.60	—
1N5388B	MOT	2.85	—
1N5441B	MOT	4.50	—
1N5443A	MOT	3.75	—
1N5445B	MOT	4.50	—
1N5447A	MOT	3.75	—
1N5450A	MOT	3.75	—
1N5461A	MOT	6.75	—
1N5461B	MOT	8.70	—
1N5462A	MOT	6.75	—
1N5465A	MOT	6.75	—
1N5469A	MOT	6.75	—
1N5470A	MOT	6.75	—
1N5471A	MOT	6.75	—
1N5471B	MOT	8.70	—
1N5476A	MOT	6.75	—
1N5518B	MOT	4.20	—
1N5521	MOT	2.95	43
1N5521B	MOT	4.20	—
1N5523	MOT	2.95	43
1N5524	MOT	2.95	43
1N5525	MOT	2.95	43
1N5525A	MOT	2.95	—
1N5525B	MOT	4.20	—
1N5526	MOT	2.95	43
1N5526B	MOT	4.20	—
1N5528	MOT	2.95	43
1N5528A	MOT	2.95	—
1N5529B	MOT	4.20	—
1N5530A	MOT	2.95	—
1N5530B	MOT	4.20	—
1N5532A	MOT	2.95	—
1N5545	MOT	2.95	43
1N5545B	MOT	4.20	—
1N5623	GE	.60	—
1N5624	GE	.75	90
1N5625	GE	1.00	90
1N5626	GE	1.53	90
1N5627	GE	3.75	90
1N5725	TI	3.98	—
1N5758/MPT20	MOT	.53	63
1N5758A	MOT	.58	63
1N5760/MPT28	MOT	.53	63
1N5761/MPT32	MOT	.53	63
1N5762/MPT36	MOT	.53	63
1N5823	MOT	4.50	—
1N5829	MOT	6.80	—
1N5830	MOT	7.90	—
1N5832	MOT	9.50	—
1N5862B	MOT	.84	—
1N9378	MOT	7.10	—
2N18.7	IR	46.50	—
2N43A	IDI	2.35	—
2N107	GE	1.10	—
2N117	TI	7.91	—
2N117USN	TI	8.45	—
2N118	TI	7.91	—
2N128	SPR	6.90	—
2N128/JAN	SPR	7.35	—
2N176	IDI	1.42	—
2N178	IDI	1.42	—
2N231	SPR	4.50	—
2N239	IR	.32	—
2N243	TI	10.67	—
2N244	TI	15.87	—
2N250A	IDI	1.42	—
2N263	TI	17.31	—
2N301	IDI	1.42	—
2N301A	IDI	1.55	—
2N319	GE	1.83	—
2N320	GE	1.70	—
2N321	GE	1.75	—
2N322	GE	1.75	—
2N323	GE	1.70	—
2N324	GE	1.73	—
2N332	TI	4.51	—
2N333	TI	35.21	—
2N334	TI	35.21	—
2N334USN	TI	.90	—
2N335	TI	5.82	—
2N335JAN	TI	11.79	—
2N336	TI	5.04	—
2N336JAN	TI	17.61	—
2N337	TI	12.56	—
2N338	TI	4.41	—
2N338JAN	TI	8.83	—
2N338USN	TI	1.25	—
2N339	TI	7.88	—
2N340	TI	8.38	—
2N341	TI	10.18	—
2N342	TI	9.20	—
2N343	TI	14.28	—
2N345	SPR	4.73	—

NEW TYPES STOCKED AS SOON AS RELEASED

DISCRETE DEVICES

Type	Mfr	1-24	Page
2N346	SPR	6.38	—
2N350A	IDI	1.45	—
2N351	IDI	1.45	—
2N351A	IDI	1.75	—
2N358A	TI	2.67	—
2N358AJAN	TI	3.80	—
2N375	IDI	1.95	—
2N376A	IDI	1.75	—
2N388	TI	3.90	—
2N388A	TI	4.98	—
2N389	TI	20.37	72
2N389A	TI	20.37	72
2N393	SPR	4.43	—
2N396	TI	3.12	—
2N397	TI	4.98	—
2N398B	IDI	1.90	—
2N404	TI	2.64	—
2N404A	TI	3.90	—
2N404AJAN	TI	4.52	—
2N417	TI	3.56	—
2N424	TI	16.01	72
2N426	TI	8.36	—
2N427	TI	8.36	—
2N428	TI	8.36	—
2N438	TI	2.72	—
2N438A	TI	2.72	—
2N439	TI	2.96	—
2N440	TI	3.12	—
2N456A	IDI	1.95	—
2N457A	IDI	1.95	—
2N458A	IDI	2.10	—
2N466	IDI	1.25	—
2N467	IDI	1.50	—
2N478	TI	3.49	—
2N489	GE	7.74	95
2N489	TI	17.65	71
2N489A	GE	8.28	95
2N489A	TI	19.01	71
2N489AJAN	GE	8.46	—
2N489B	GE	9.90	95
2N489B	TI	22.70	71
2N490	GE	8.46	95
2N490	TI	19.40	71
2N490A	GE	9.00	95
2N490A	TI	20.76	71
2N491	GE	9.09	95
2N491	TI	20.86	71
2N491A	GE	9.63	95
2N491A	TI	22.12	71
2N491A/JAN	GE	9.81	—
2N491AJAN	TI	23.77	—
2N491AJANTX	TI	35.02	—
2N491B	GE	11.25	95
2N491B	TI	25.80	71
2N492	GE	10.71	95
2N492	TI	24.35	71
2N493	TI	17.92	71
2N493A	GE	12.15	95
2N493AJAN	GE	12.33	—
2N494	GE	11.79	95
2N494	TI	10.90	—
2N494A	GE	12.33	95
2N494A	TI	11.40	—
2N494AJAN	GE	12.51	—
2N494C	GE	16.11	95
2N497	TI	1.83	72
2N497JAN	TI	1.90	—
2N498	TI	2.06	72
2N499	SPR	4.58	—
2N504	SPR	3.68	—
2N508	GE	1.75	—
2N508A	GE	1.83	—
2N520	TI	6.10	—
2N524	GE	1.80	—
2N524	IDI	.60	—
2N525	GE	1.95	—
2N526	GE	2.11	—
2N526	IDI	.70	—
2N526JAN	GE	2.50	—
2N527	GE	2.35	—
2N527	IDI	.75	—
2N542	TI	6.01	—
2N553	IDI	2.75	—
2N554	IDI	1.42	—
2N555	IDI	1.42	—
2N581	TI	2.58	—
2N587	TI	3.56	—
2N588	SPR	3.95	—
2N588A	SPR	3.95	—
2N594	TI	2.67	—
2N595	TI	4.12	—
2N596	TI	5.48	—
2N597	IDI	1.50	—
2N618	IDI	2.15	—
2N636A	TI	1.94	—
2N656	TI	1.97	72
2N656A	TI	2.33	72
2N656S	MOT	1.50	52
2N657	TI	2.13	72
2N657A	TI	8.73	72
2N657JAN	TI	8.39	—
2N657S	MOT	1.60	51
2N661	TI	1.66	—
2N663	IDI	1.44	—
2N669	IDI	1.62	—
2N681	GE	2.92	86
2N681	IR	2.65	98
2N681	MOT	2.34	60
2N682	GE	3.44	86
2N682	IR	3.40	—
2N682	MOT	2.82	60
2N682/JAN	GE	4.44	—
2N683	GE	4.35	86
2N683	IR	4.10	98
2N683	MOT	3.57	60
2N683	RCA	4.08	83
2N683JAN	GE	5.35	—
2N684	GE	5.14	86
2N684	IR	4.90	—
2N684	MOT	4.19	60
2N685	GE	5.85	86
2N685	IR	5.45	98
2N685	MOT	4.81	60
2N685	RCA	5.50	83
2N685JAN	GE	6.85	—
2N686	GE	6.51	86
2N686	IR	6.20	98
2N686	MOT	5.36	60
2N687	GE	7.01	86
2N687	IR	6.50	98
2N687	MOT	5.77	60
2N687	RCA	6.60	83
2N688	GE	8.18	86
2N688	IR	7.45	98
2N688	MOT	6.74	60
2N688	RCA	7.70	83
2N689	GE	9.80	86
2N689	IR	8.35	98
2N689	MOT	8.05	60
2N689	RCA	9.19	83
2N689JAN	GE	10.80	—
2N689JAN	IR	10.75	—
2N690	GE	10.52	87
2N690	IR	25.99	98
2N690	MOT	8.67	60
2N690	RCA	9.90	83
2N691	IR	34.70	98
2N692	IR	43.24	98
2N696	TI	.50	66
2N697	MOT	.52	—
2N697	TI	.50	66
2N698	TI	1.52	66
2N699	MOT	1.32	52
2N699	TI	1.28	67
2N703	MOT	3.00	—
2N706	MOT	.69	—
2N706A	MOT	1.18	—
2N706B	MOT	1.48	—
2N706JAN	MOT	.96	—
2N708	MOT	.45	—
2N718	MOT	.46	52
2N718	TI	.81	66
2N718A	MOT	.79	—
2N718A	RCA	1.10	—
2N718A	TI	.73	66
2N718AJAN	TI	.87	—
2N718JANTX	TI	1.83	—
2N719	TI	1.12	67
2N719A	TI	1.41	67
2N720	TI	1.07	67
2N720A	MOT	1.32	—
2N720A	RCA	1.32	—
2N720A	TI	1.36	67
2N721	TI	1.42	67, 68
2N722	TI	1.42	67, 68
2N731	TI	1.07	66
2N736	MOT	1.50	—
2N740	MOT	1.55	—
2N744	MOT	.65	—
2N753	MOT	.65	—
2N834	MOT	2.00	—
2N864	SPR	5.70	—
2N871	TI	1.55	67
2N878	GE	3.30	86
2N879	GE	5.40	86
2N879	TI	1.72	—
2N887	GE	13.12	—
2N888	IR	1.42	—
2N910	MOT	1.55	—
2N910	TI	1.70	66
2N912	TI	2.13	66
2N914	MOT	.95	—
2N915	MOT	1.05	52
2N916	MOT	.85	52
2N917	TI	1.31	66
2N918	MOT	.73	51
2N918	TI	2.81	66
2N918JAN	MOT	3.35	—
2N929	MOT	2.25	51
2N929	TI	2.18	65
2N929JAN	MOT	1.55	—
2N930	MOT	.45	51
2N930	TI	1.46	65
2N930A	MOT	1.80	51
2N930JAN	TI	1.79	—
2N930JANTX	TI	3.01	—
2N956	MOT	.85	52
2N956	TI	.82	66
2N964	IDI	1.45	—
2N967	IDI	1.16	—
2N998	MOT	3.00	59
2N1008	IDI	.75	—
2N1008A	IDI	.80	—
2N1022	IDI	3.25	—
2N1042	IDI	2.50	—
2N1043	IDI	3.65	—
2N1044	IDI	4.15	—
2N1047	TI	13.87	72
2N1048	TI	17.56	72
2N1049	TI	16.25	72
2N1049AJAN	TI	16.98	—
2N1050	TI	21.44	72
2N1050A	TI	21.44	—
2N1121	GE	1.18	—
2N1122A	SPR	7.73	—
2N1131	MOT	1.30	—
2N1131	TI	1.20	67
2N1131A	MOT	1.43	—
2N1131JAN	TI	2.38	—
2N1132	MOT	.71	—
2N1132	TI	1.41	67
2N1132A	MOT	1.75	—
2N1132JAN	MOT	2.30	—
2N1132JAN	TI	2.23	—
2N1149	TI	8.39	—
2N1151	TI	8.39	—
2N1152	TI	11.01	—
2N1154	TI	9.82	—
2N1155	TI	10.20	—
2N1156	TI	13.70	—
2N1192	IDI	.66	—
2N1193	IDI	.97	—
2N1194	IDI	1.45	—
2N1273	TI	3.30	—
2N1274	TI	3.56	—
2N1278	TI	4.61	—
2N1301	SPR	5.03	—
2N1302	TI	2.58	—
2N1302JAN	TI	2.78	—
2N1303	TI	2.72	—
2N1304	TI	2.72	—
2N1305	TI	2.96	—
2N1306	TI	3.56	—
2N1307	TI	3.00	—
2N1307A	TI	1.83	—
2N1308	TI	4.98	—
2N1309	TI	4.98	—
2N1309JAN	TI	6.30	—
2N1370	TI	3.90	—
2N1372	TI	4.32	—
2N1373	TI	1.16	—

Key Mfr.

IDI	International Devices Inc.
IR	International Rectifier
GE	General Electric
GI	General Instrument
MOT	Motorola
RCA	Radio Corp. of America
SPR	Sprague
TI	Texas Instruments

Type	Mfr	1-24	Page
2N1374	TI	4.32	—
2N1375	IDI	1.20	—
2N1376	TI	4.32	—
2N1377	IDI	1.20	—
2N1377	TI	1.46	—
2N1378	TI	4.98	—
2N1379	GE	2.54	—
2N1379	IDI	1.35	—
2N1379	TI	4.98	—
2N1380	TI	3.30	—
2N1382	TI	3.90	—
2N1382-5	TI	.96	—
2N1383	TI	3.90	—
2N1404	TI	2.96	—
2N1413	GE	2.32	—
2N1413	IDI	.50	—
2N1414	GE	1.73	—
2N1415	GE	2.03	—
2N1415	IDI	.75	—
2N1420	TI	.63	66
2N1427	GE	.90	—
2N1479	RCA	1.12	77
2N1480	RCA	1.30	77
2N1480JAN	RCA	1.49	—
2N1481	RCA	1.30	77
2N1481JAN	RCA	1.56	—
2N1482	RCA	1.47	77
2N1482JAN	RCA	1.73	—
2N1483	RCA	1.73	77
2N1483JAN	RCA	2.08	—
2N1484	RCA	1.91	77
2N1484JAN	RCA	2.26	—
2N1485	RCA	1.91	77
2N1485JAN	RCA	2.15	—
2N1486	RCA	2.08	77
2N1486JAN	RCA	2.43	—
2N1487	RCA	2.16	78
2N1487JAN	RCA	2.51	—
2N1488	RCA	2.26	78
2N1489	RCA	2.26	78
2N1490	RCA	2.51	78
2N1490-JAN	RCA	2.86	—
2N1491	RCA	1.82	—
2N1492	RCA	2.50	—
2N1493	RCA	3.30	—
2N1499B	SPR	3.75	—
2N1507	TI	.63	66
2N1529	IDI	1.95	—
2N1530	IDI	1.95	—
2N1532	IDI	2.95	—
2N1535	IDI	1.65	—
2N1537	IDI	3.85	—
2N1539	IDI	1.95	—
2N1540	IDI	1.95	—
2N1542	IDI	2.30	—
2N1545	IDI	1.75	—
2N1546	IDI	2.25	—
2N1547	IDI	2.70	—
2N1595	GE	1.65	86
2N1595	IR	1.60	—
2N1595	TI	1.46	75
2N1596	GE	2.40	86
2N1596	IR	2.00	—
2N1596	TI	1.82	75
2N1596A	IR	2.30	—
2N1596S	MOT	1.88	—
2N1597	GE	4.80	86

NEW TYPES STOCKED AS SOON AS RELEASED

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfr	1-24	Page
2N1597	IR	2.40	—
2N1597	TI	2.18	75
2N1597A	IR	2.75	—
2N1598	IR	2.80	—
2N1598A	IR	3.20	—
2N1599	GE	9.90	86
2N1599	IR	3.15	—
2N1599A	IR	3.65	—
2N1600	IR	2.10	—
2N1601	IR	2.85	—
2N1602	IR	5.05	—
2N1605	TI	2.96	—
2N1613	TI	.77	66
2N1613JAN	TI	1.16	—
2N1671	GE	3.24	95
2N1671	TI	8.39	71
2N1671A	GE	3.51	95
2N1671A	TI	9.36	71
2N1671B	GE	3.87	95
2N1671B	TI	10.19	71
2N1671C	GE	8.91	95
2N1700	RCA	1.90	—
2N1701	RCA	2.31	—
2N1702	RCA	4.54	—
2N1711	TI	.82	66
2N1711S	MOT	.71	52
2N1714	TI	5.82	72
2N1715	TI	8.00	72
2N1716	TI	7.28	72
2N1719	TI	8.73	—
2N1720	TI	8.00	—
2N1721	TI	11.64	—
2N1722	TI	42.20	73
2N1722JAN	TI	55.29	—
2N1724	TI	26.77	73
2N1724JAN	TI	31.28	—
2N1727	SPR	3.75	—
2N1728	SPR	3.75	—
2N1744	SPR	3.75	—
2N1745	SPR	3.75	—
2N1747	SPR	3.75	—
2N1748	SPR	3.75	—
2N1748A	SPR	3.75	—
2N1770	GE	1.99	—
2N1770A	GE	2.52	—
2N1771	GE	2.22	86
2N1771A	GE	2.76	86
2N1772	GE	3.07	86
2N1772	IR	3.05	—
2N1772A	GE	3.67	86
2N1772A	IR	3.65	98
2N1773	GE	4.44	86
2N1773/5RC15A	IR	4.40	—
2N1773A	GE	5.36	86
2N1773A	IR	5.30	98
2N1774	GE	5.51	86
2N1774	IR	5.40	—
2N1774A	GE	6.60	86
2N1774A/ 5RC20B	IR	6.55	98
2N1775	IR	6.10	—
2N1775A	GE	7.73	86
2N1775A/ 5RC25B	IR	7.65	98
2N1776	IR	7.15	—
2N1776A	GE	8.65	86
2N1777	GE	8.03	86
2N1777A)C100)	GE	9.65	86
2N1778	IR	9.75	—
2N1792	IR	17.65	—
2N1793	IR	19.40	—
2N1794	IR	21.10	—
2N1795	IR	23.05	—
2N1796	IR	25.80	—
2N1797	IR	27.00	—
2N1798	IR	31.40	—
2N1799	IR	35.50	—
2N1800	IR	39.35	—
2N1801	IR	46.50	—
2N1802	IR	53.15	—
2N1803	IR	59.25	—
2N1804	IR	65.35	—
2N1805	IR	35.50	—
2N1806	IR	39.35	—
2N1807	IR	46.50	—
2N1808	TI	3.90	—
2N1842	IR	2.75	—
2N1842	MOT	2.90	60
2N1842A	IR	2.90	—
2N1842A	MOT	2.95	60
2N1843	GE	3.06	86
2N1843	IR	3.05	—
2N1843	MOT	3.00	60
2N1843A	IR	3.25	—
2N1844	GE	3.84	86
2N1844	IR	3.85	—
2N1844A	IR	4.15	—
2N1844A	MOT	3.30	60
2N1845	IR	4.50	—
2N1845	MOT	3.79	60
2N1845A	IR	4.80	—
2N1846	GE	5.28	86
2N1846	IR	5.25	—
2N1846	MOT	4.41	60
2N1846A	IR	5.50	—
2N1846A	MOT	4.46	60
2N1847	GE	5.85	86
2N1847	IR	5.80	—
2N1847	MOT	5.05	60
2N1847A	GE	6.16	—
2N1847A	IR	6.10	—
2N1847A	MOT	5.10	60
2N1848	GE	6.41	86
2N1848	IR	6.35	—
2N1848	MOT	5.46	60
2N1848A	IR	6.65	—
2N1848A	MOT	5.51	60
2N1849	IR	7.20	—
2N1849	MOT	6.49	60
2N1849A	IR	7.70	—
2N1849A	RCA	7.45	—
2N1850	IR	8.20	—
2N1850	MOT	7.51	60
2N1850A	GE	8.68	—
2N1850A	IR	8.60	—
2N1850A	MOT	7.56	60
2N1889	TI	2.20	67
2N1890	TI	12.20	67
2N1893	TI	1.31	67
2N1909	GE	16.20	86
2N1909	IR	17.65	—
2N1910	IR	19.40	—
2N1911	GE	19.80	86
2N1911	IR	20.80	—
2N1912	GE	22.00	86
2N1912	IR	22.55	—
2N1913	GE	24.00	86
2N1913	IR	24.50	—
2N1914	IR	27.45	—
2N1915	GE	28.50	86
2N1915	IR	28.90	—
2N1916	GE	33.00	86
2N1916	IR	33.80	—
2N1924	GE	2.30	—
2N1925	GE	2.59	—
2N1926	GE	3.08	—
2N1973	TI	1.70	66
2N1974	TI	1.94	66
2N1994	TI	2.26	—
2N1995	TI	3.64	—
2N1996	TI	4.99	—
2N1997	TI	1.72	—
2N1999	TI	2.01	—
2N2015	RCA	9.08	—
2N2016	RCA	9.90	—
2N2023	GE	24.00	86
2N2023	IR	23.50	—
2N2024	GE	31.00	86
2N2024	IR	29.45	—
2N2026	IR	36.10	—
2N2029	IR	40.85	—
2N2048	SPR	4.00	—
2N2060	MOT	4.10	—
2N2060	TI	6.55	69
2N2060A	MOT	5.45	—
2N2060JAN	TI	8.73	—
2N2102	TI	.96	67
2N2102A	TI	1.02	67
2N2137	IDI	2.00	—
2N2151	TI	20.37	72
2N2157	GE	3.41	—
2N2160	GE	1.49	95
2N2160	TI	5.34	71
2N2163	SPR	7.80	—
2N2192	TI	1.80	66
2N2192A	TI	1.90	66
2N2193	TI	1.70	66
2N2193A	MOT	3.15	—
2N2193A	TI	1.75	66
2N2194	TI	2.13	66
2N2194A	TI	2.18	66
2N2206	MOT	1.88	50
2N2218	SPR	.80	—
2N2218	TI	1.16	66,67
2N2218A	SPR	.92	—
2N2218A	TI	1.70	66,67
2N2218S	MOT	.65	52
2N2219	SPR	.80	—
2N2219	TI	.97	66,67
2N2219A	SPR	.92	—
2N2219A	TI	1.46	66,67
2N2219AS	MOT	.73	52
2N2219JAN	MOT	1.60	—
2N2219JAN	TI	1.16	—
2N2219S	MOT	.70	52
2N2220	TI	1.11	66,67
2N2221	MOT	.50	52
2N2221	TI	1.12	66,67
2N2221A	MOT	.55	52
2N2221A	TI	1.65	66,67
2N2221AJAN	MOT	1.95	—
2N2221JAN	TI	1.31	—
2N2222	MOT	.48	52
2N2222	SPR	.60	—
2N2222	TI	.92	66,68
2N2222A	MOT	.52	52
2N2222A	SPR	.66	—
2N2222A	TI	1.41	66,67
2N2222AJAN	MOT	1.65	—
2N2222AJAN	TI	1.60	—
2N2222AJANTX	MOT	3.80	—
2N2222AJANTX	TI	4.56	—
2N2222JAN	MOT	1.35	—
2N2222JANTX	TI	4.32	—
2N2223	MOT	4.95	—
2N2223	TI	4.80	69
2N2223A	MOT	5.85	—
2N2223A	TI	5.67	69
2N2243	TI	1.79	67
2N2243A	TI	1.89	67
2N2257	MOT	1.27	—
2N2270	TI	.82	66
2N2270S	MOT	.78	52
2N2274	SPR	8.20	—
2N2280	SPR	4.20	—
2N2303	TI	8.00	67
2N2305	RCA	6.44	—
2N2322	GE	1.95	86
2N2322A	GE	3.63	—
2N2323	GE	2.15	86
2N2323	IR	1.75	98
2N2323A	GE	2.81	—
2N2323JAN	GE	3.63	—
2N2324	GE	3.38	86
2N2324	IR	2.20	98
2N2324A	GE	4.62	—
2N2324JAN	GE	4.79	—
2N2325	GE	4.98	86
2N2325A	GE	6.60	—
2N2326	GE	6.41	86
2N2326A	GE	8.58	—
2N2328)C5C)	GE	9.24	86
2N2329	GE	12.21	86
2N2329	IR	3.50	98
2N2330	MOT	3.35	—
2N2331	MOT	3.35	—
2N2338	RCA	6.60	—
2N2344	GE	3.80	86
2N2345(C7F)	GE	4.29	86
2N2347(C7G)	GE	10.07	86
2N2348	GE	13.20	86
2N2360	SPR	3.95	—
2N2361	SPR	4.13	—
2N2362	SPR	4.13	—
2N2368	MOT	1.07	50
2N2369	MOT	.43	50
2N2369A	MOT	.45	50
2N2369A-JAN	IR	1.34	—
2N2369AJAN	MOT	1.95	—
2N2386	TI	2.62	—
2N2398	SPR	4.13	—
2N2399	SPR	4.13	—
2N2400	SPR	4.13	—
2N2401	SPR	4.13	—
2N2402	SPR	4.13	—
2N2405	RCA	1.70	—
2N2432	TI	3.88	65,68
2N2432A	TI	4.17	65,68
2N2432JAN	TI	4.46	—
2N2453	MOT	4.55	—
2N2453	TI	9.07	69
2N2480	MOT	4.85	—
2N2480A	MOT	5.70	—
2N2481	MOT	2.63	—
2N2481JAN	MOT	3.35	—
2N2483	TI	.82	65
2N2484	MOT	.49	51
2N2484	TI	.78	65
2N2497	TI	2.04	72
2N2498	TI	1.89	72
2N2499	TI	1.84	72
2N2500	TI	1.89	72
2N2501	MOT	4.70	—
2N2508	IR	68.40	—
2N2537	TI	1.60	67
2N2538	TI	1.60	67
2N2540	TI	1.50	67
2N2573	MOT	3.42	60
2N2574	MOT	4.06	60
2N2575	MOT	4.95	60
2N2576	MOT	5.25	60
2N2577	MOT	6.25	60
2N2578	MOT	7.27	60
2N2579	MOT	8.50	60
2N2586	TI	1.79	65
2N2604	TI	2.52	65
2N2605	TI	2.28	65
2N2608	TI	1.94	72
2N2631	RCA	4.20	—
2N2639	MOT	2.60	—
2N2639	TI	8.73	69
2N2640	MOT	2.47	—
2N2641	MOT	1.43	—
2N2641	TI	5.82	69
2N2642	MOT	3.55	—
2N2642	TI	8.49	69
2N2643	MOT	5.10	—
2N2643	TI	6.98	69
2N2646	GE	1.00	95
2N2646	MOT	1.00	62
2N2646	TI	.97	71
2N2647	GE	1.89	95
2N2647	MOT	1.90	62
2N2652A	MOT	7.15	—
2N2687	MOT	1.88	—
2N2688	MOT	2.12	—
2N2689	MOT	3.20	—
2N2690	MOT	5.80	—
2N2711	SPR	.40	—
2N2711(16A1)	GE	.33	—
2N2712	SPR	.40	—
2N2712(16A2)	GE	.33	—
2N2713	SPR	.42	—
2N2713(16B1)	GE	.45	—
2N2714(15B2)	GE	.39	—
2N2720	MOT	5.25	—
2N2722	MOT	7.40	—
2N2803	TI	10.91	—

NEW TYPES STOCKED AS SOON AS RELEASED

Type	Mfr	1-24	Page
2N2805	TI	13.82	69
2N2807/T1624	TI	8.73	69
2N2840	GE	6.35	—
2N2845	MOT	4.95	50
2N2857	MOT	1.80	—
2N2857	RCA	1.90	—
2N2876	RCA	12.35	—
2N2880	TI	32.01	73
2N2880JAN	TI	36.37	—
2N2894	MOT	1.95	50
2N2894	TI	.68	68
2N2895	MOT	1.41	—
2N2896	MOT	2.06	—
2N2897	MOT	1.16	—
2N2897	RCA	1.16	—
2N2903	MOT	5.85	—
2N2904	SPR	.80	—
2N2904	TI	1.31	67,68
2N2904A	TI	1.94	67,68
2N2904S	MOT	.65	53
2N2905	TI	1.07	67,68
2N2905A	TI	1.65	67,68
2N2905AJAN	MOT	3.00	—
2N2905AJAN	TI	1.84	—
2N2905AJANTX	MOT	4.05	—
2N2905AJANTX	TI	3.88	—
2N2905AS	MOT	.71	53
2N2905JAN	MOT	2.55	—
2N2905JAN	TI	1.31	—
2N2905S	MOT	.65	53
2N2906	MOT	.44	52
2N2906	SPR	.60	—
2N2906	TI	1.26	67,68
2N2906A	MOT	.46	52
2N2906A	TI	1.84	67,68
2N2906AJANTX	TI	2.62	—
2N2906JAN	MOT	2.30	—
2N2906JAN	TI	1.46	—
2N2907	MOT	.47	52
2N2907	SPR	.60	—
2N2907	TI	1.07	67,68
2N2907A	MOT	.49	52
2N2907A	TI	1.60	67,68
2N2907AJAN	MOT	2.60	—
2N2907AJAN	TI	1.79	—
2N2907AJANTX	TI	2.62	—
2N2907JAN	MOT	2.35	—
2N2907JAN	TI	1.26	—
2N2907JANTX	TI	2.42	—
2N2907R	TI	1.30	—
2N2913	MOT	2.70	—
2N2913	TI	2.62	69
2N2914	MOT	3.00	—
2N2914	TI	2.91	69
2N2915	TI	6.89	69
2N2916	MOT	7.15	—
2N2916	TI	8.88	69
2N2917	MOT	3.60	—
2N2917	TI	3.49	69
2N2918	MOT	4.05	—
2N2918	TI	4.51	69
2N2919	MOT	4.70	—
2N2919	TI	7.61	69
2N2920	MOT	5.25	—
2N2920	TI	5.67	69
2N2920A	TI	8.49	69
2N2923	GE	.29	—
2N2924	GE	.32	—
2N2925	GE	.38	—
2N2926	GE	.27	—
2N2942	SPR	.23	—
2N2944	MOT	2.76	—
2N2944	TI	2.68	65,68
2N2944A	TI	2.68	65,68
2N2945	MOT	2.52	—
2N2945	TI	2.42	65,68
2N2945A	TI	2.42	65,68
2N2946	MOT	2.88	—
2N2946	TI	2.62	65,68
2N2946A	TI	2.62	65,68
2N2948	MOT	15.50	—
2N2959S	MOT	2.70	52
2N2962	SPR	22.00	—
2N2972	TI	5.74	69
2N2973	TI	7.86	69
2N2974	TI	16.30	69
2N2976	TI	15.28	69
2N2977	TI	17.31	69
2N2978	TI	19.89	69
2N2987	TI	8.00	72
2N2989	TI	9.89	72
2N2990	TI	12.71	72
2N2991	TI	8.73	—
2N2992	TI	11.64	—
2N3001	TI	1.16	75
2N3002	TI	1.31	75
2N3003	TI	1.46	75
2N3004	TI	1.75	75
2N3005	TI	1.02	75
2N3006	TI	1.16	75
2N3009	MOT	1.98	—
2N3011	MOT	1.00	50
2N3012	MOT	1.75	50
2N3012	TI	1.21	68
2N3013	MOT	1.05	—
2N3014	MOT	1.75	—
2N3015	TI	1.46	68
2N3036	TI	2.81	67
2N3045	MOT	14.25	—
2N3047	MOT	20.80	—
2N3053	RCA	.55	—
2N3053	TI	.78	66
2N3053S	MOT	.55	52
2N3054	RCA	1.24	77
2N3054A	MOT	1.10	47
2N3055	MOT	1.45	48
2N3055	RCA	1.49	79
2N3055	TI	1.38	74
2N3073	MOT	.90	52
2N3091	IR	43.55	—
2N3092	IR	48.05	—
2N3093	IR	54.45	—
2N3094	IR	60.00	—
2N3096	IR	69.80	—
2N3097	IR	75.25	—
2N3098	IR	81.70	—
2N3114	TI	2.18	65
2N3114S	MOT	6.00	51
2N3117	TI	1.65	65
2N3118	RCA	4.95	—
2N3119	RCA	5.36	—
2N3135	MOT	4.95	52
2N3137	MOT	1.95	—
2N3217	SPR	2.10	—
2N3218	SPR	1.90	—
2N3219	SPR	2.55	—
2N3227	MOT	2.40	50
2N3228	RCA	1.47	—
2N3244	TI	2.42	68
2N3245	TI	2.52	68
2N3249	MOT	4.65	50
2N3250	MOT	.65	52
2N3250	TI	1.21	67,68
2N3250A	MOT	.85	52
2N3250A	TI	1.31	67,68
2N3250AJANTX	MOT	5.00	—
2N3251	MOT	1.05	52
2N3251	TI	1.26	67,68
2N3251A	MOT	1.10	52
2N3251A	TI	1.36	67,68
2N3251AJAN	MOT	4.25	—
2N3251AJAN	TI	2.72	—
2N3252	IR	.82	—
2N3253	TI	1.36	68
2N3253JAN	MOT	10.50	—
2N3253S	MOT	1.50	50
2N3262	RCA	8.30	—
2N3265	RCA	47.15	79
2N3266	RCA	40.45	79
2N3287	MOT	4.30	—
2N3291	MOT	1.50	—
2N3292	MOT	1.40	—
2N3294	MOT	1.15	—
2N3300S	MOT	1.05	52
2N3301	MOT	.75	52
2N3302	MOT	1.05	52
2N3307	MOT	10.50	52
2N3320	TI	3.60	—
2N3330	MOT	1.50	57
2N3330	TI	3.01	72
2N3331	TI	2.86	72
2N3350	TI	6.31	69
2N3365	MOT	1.35	57
2N3367	MOT	1.80	57
2N3375	MOT	7.00	—
2N3375	RCA	8.75	—
2N3375JANTX	RCA	16.80	—
2N3390	GE	.95	—
2N3391	GE	.43	—
2N3391	SPR	.40	—
2N3391A	GE	.47	—
2N3391A	SPR	.44	—
2N3392	GE	.29	—
2N3392	SPR	.34	—
2N3393	GE	.29	—
2N3393	SPR	.34	—
2N3394	GE	.27	—
2N3394	SPR	.34	—
2N3395	GE	.40	—
2N3395	SPR	.44	—
2N3396	GE	.40	—
2N3396	SPR	.44	—
2N3397	GE	.40	—
2N3397	SPR	.44	—
2N3398	GE	.45	—
2N3398	SPR	.44	—
2N3402	GE	.39	—
2N3403	GE	.42	—
2N3403	SPR	.48	—
2N3404	GE	.50	—
2N3404	SPR	.52	—
2N3405	GE	.61	—
2N3414	GE	.34	—
2N3414	SPR	.34	—
2N3415	GE	.37	—
2N3415	SPR	.36	—
2N3416	GE	.45	—
2N3416	SPR	.40	—
2N3417	GE	.56	—
2N3417	SPR	.42	—
2N3420/TI3034	TI	10.14	72
2N3421/TI3036	TI	10.48	72
2N3437	MOT	1.95	—
2N3439	RCA	1.59	77
2N3439JAN	RCA	2.29	—
2N3439S	MOT	1.38	—
2N3440	MOT	1.09	47
2N3440	RCA	1.14	77
2N3440	TI	.86	—
2N3441	MOT	3.63	—
2N3441	RCA	1.56	78
2N3442	MOT	2.54	—
2N3442	RCA	2.54	78
2N3442JAN	RCA	3.64	—
2N3445	MOT	7.98	—
2N3446	MOT	11.66	—
2N3447	MOT	11.56	—
2N3448	MOT	12.76	—
2N3458	TI	1.89	69
2N3460	TI	2.57	69
2N3467	TI	2.57	68
2N3467JAN	MOT	10.50	—
2N3468	TI	2.52	68
2N3468S	MOT	2.40	50
2N3478	RCA	1.48	—
2N3485	TI	8.44	68
2N3494	TI	3.12	65
2N3495	TI	3.59	65
2N3496	MOT	9.75	51
2N3497	TI	3.15	65
2N3498-JAN	IR	1.42	—
2N3498JAN	MOT	7.35	—
2N3498S	MOT	6.60	51
2N3500-JAN	IR	1.22	—
2N3501JAN	MOT	13.35	—
2N3501S	MOT	12.60	51
2N3502	TI	1.84	67,68
2N3503	TI	6.06	67,68
2N3504	TI	1.75	67,68
2N3505	TI	1.94	67,68
2N3506	MOT	11.55	—
2N3506JAN	MOT	12.30	—
2N3507	MOT	13.20	—
2N3507JAN	MOT	13.85	—
2N3507JANTX	MOT	15.30	—
2N3509	MOT	5.40	50
2N3510	MOT	1.45	—
2N3511	MOT	1.95	—
2N3525	RCA	1.77	—
2N3528	RCA	1.44	—
2N3529	RCA	1.75	—

Key	Mfr.
IDI	International Devices Inc.
IR	International Rectifier
GE	General Electric
GI	General Instrument
MOT	Motorola
RCA	Radio Corp. of America
SPR	Sprague
TI	Texas Instruments

Type	Mfr	1-24	Page
2N3544	MOT	7.50	51
2N3546	MOT	2.50	50
2N3553	MOT	1.80	—
2N3553	RCA	2.25	—
2N3553JAN	MOT	4.60	—
2N3554	TI	1.41	68
2N3556	TI	1.57	—
2N3570	TI	9.36	66
2N3571	TI	3.98	66
2N3572	TI	3.44	66
2N3576	TI	2.38	68
2N3583	RCA	1.25	—
2N3584	RCA	1.79	—
2N3585	MOT	2.10	47
2N3585	RCA	2.18	—
2N3585	TI	3.72	72
2N3585JAN	RCA	4.67	—
2N3600	RCA	2.14	—
2N3611	IDI	1.95	—
2N3612	IDI	1.95	—
2N3613	IDI	1.95	—
2N3614	IDI	1.95	—
2N3616	IDI	1.95	—
2N3617	IDI	1.95	—
2N3618	IDI	2.50	—
2N3632	MOT	8.40	—
2N3632	RCA	11.50	—
2N3634JAN	IR	.78	—
2N3634JAN	MOT	13.95	—
2N3634S	MOT	13.20	50, 51
2N3635	IDI	7.70	—
2N3635JAN	MOT	15.15	—
2N3635S	MOT	14.40	51,50
2N3637JAN	MOT	22.05	—
2N3638	IDI	.26	—
2N3638A	IDI	.27	—
2N3645	IDI	.33	—
2N3647	MOT	2.25	50
2N3648	MOT	2.70	50
2N3649	GE	6.15	—
2N3650	GE	8.02	—
2N3652	GE	15.30	—
2N3653	GE	20.85	—
2N3654	GE	6.82	—
2N3656	GE	13.27	—
2N3657	GE	16.70	—
2N3658	GE	22.80	—
2N3662(16G1)	GE	.52	—
2N3663(16G2)	GE	.56	—
2N3668	RCA	2.39	83
2N3669	RCA	2.81	83
2N3670	RCA	3.80	83
2N3680	TI	11.16	69
2N3700JAN	IR	.18	—
2N3701	IR	.28	—
2N3702	TI	.36	67
2N3703	TI	.33	67
2N3704	TI	.33	66
2N3705	TI	.28	66
2N3706	TI	.26	66
2N3707	TI	.33	65
2N3708	TI	.26	65
2N3709	TI	.28	65
2N3710	TI	.26	65
2N3711	TI	.28	65
2N3713	MOT	1.67	—
2N3713	TI	2.76	73,74

DISCRETE DEVICES

NEW TYPES STOCKED AS SOON AS RELEASED

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfr	1-24	Page
2N3714	MOT	1.74	—
2N3714	TI	2.96	73,74
2N3715	MOT	2.03	48
2N3715	TI	3.15	73,74
2N3715JAN	MOT	9.06	—
2N3716	MOT	2.76	48
2N3716	TI	3.69	73,74
2N3716JAN	MOT	9.79	—
2N3716JANTX	MOT	13.05	—
2N3716JTX	MOT	13.05	—
2N3717	TI	.31	—
2N3719	MOT	4.50	—
2N3720	MOT	6.16	—
2N3721	SPR	.32	—
2N3724	TI	1.36	68
2N3724A	TI	1.84	68
2N3725	IR	.18	—
2N3725	MOT	1.10	50
2N3725	TI	1.55	68
2N3725A	TI	2.13	68
2N3730	IDI	2.75	—
2N3731	IDI	3.25	—
2N3733	RCA	12.70	—
2N3736	MOT	4.95	50
2N3737	MOT	4.95	50
2N3738	MOT	1.82	47
2N3739	MOT	2.16	47
2N3739JANTX	MOT	8.41	—
2N3740	MOT	1.52	47
2N3740A	MOT	3.26	—
2N3741	IR	.32	—
2N3741	MOT	1.74	47
2N3741JANTX	MOT	8.63	—
2N3757	GE	6.59	—
2N3763	MOT	10.50	50
2N3764	MOT	5.00	—
2N3765JANTX	MOT	15.25	—
2N3766	MOT	1.60	—
2N3767	MOT	1.81	—
2N3771	RCA	3.04	79
2N3771	TI	2.96	74
2N3771JANTX	RCA	17.67	—
2N3772	RCA	3.04	79
2N3772	TI	2.96	74
2N3773	MOT	3.81	—
2N3773	RCA	4.42	—
2N3789	MOT	3.34	—
2N3789	TI	3.93	73,74
2N3790	MOT	3.84	—
2N3790	TI	4.61	73,74
2N3791	MOT	3.84	48
2N3791	TI	4.27	73,74
2N3791JANTX	MOT	15.23	—
2N3792	MOT	4.28	48
2N3792	TI	4.90	73,74
2N3792HS	MOT	9.79	—
2N3792JAN	MOT	13.78	—
2N3796	MOT	3.45	57
2N3797	MOT	3.45	57
2N3798	MOT	3.20	51
2N3798A	MOT	3.20	—
2N3799	MOT	3.50	51
2N3799	TI	3.40	65
2N3799A	MOT	3.50	—
2N3806	MOT	5.20	—
2N3810	MOT	8.60	—
2N3810	TI	16.34	69
2N3811	MOT	9.45	—
2N3811	TI	18.72	69
2N3811A	MOT	14.30	—
2N3814	MOT	24.80	—
2N3816	MOT	29.90	—
2N3819	TI	.54	70
2N3820	TI	.70	70
2N3821	MOT	1.60	—
2N3821	TI	2.42	69
2N3822	MOT	1.50	—
2N3822	TI	2.04	69,70
2N3823	MOT	1.10	57
2N3823	TI	1.84	70
2N3824	MOT	1.10	57
2N3824	TI	1.65	70,71
2N3829	TI	4.56	68
2N3830	TI	.44	—
2N3835	TI	19.40	—
2N3836	TI	45.00	—
2N3838	MOT	15.60	—
2N3839	RCA	9.90	—
2N3843	SPR	.38	—
2N3843A	GE	.45	—
2N3844	GE	.45	—
2N3844	SPR	.40	—
2N3845A	GE	.50	—
2N3846	TI	65.48	—
2N3854	GE	.34	—
2N3854A	GE	.36	—
2N3855	GE	.36	—
2N3855A	GE	.38	—
2N3856	GE	.38	—
2N3856A	GE	.41	—
2N3858	GE	.27	—
2N3858A	GE	.34	—
2N3859	GE	.29	—
2N3859A	GE	.36	—
2N3860	GE	.32	—
2N3866	MOT	1.09	—
2N3866	RCA	1.40	—
2N3866A	MOT	1.32	—
2N3868	MOT	9.28	47
2N3868JAN	MOT	12.33	—
2N3868JANTX	MOT	16.39	—
2N3870	MOT	3.63	—
2N3870	RCA	3.56	83
2N3871	MOT	4.54	—
2N3871	RCA	4.54	83
2N3872	MOT	5.94	—
2N3872	RCA	6.78	83
2N3873	MOT	7.34	—
2N3873	RCA	8.82	83
2N3877	GE	.45	—
2N3877A (D16X1)	GE	.52	—
2N3878	RCA	1.65	—
2N3879	RCA	2.70	79
2N3896	MOT	3.96	—
2N3896	RCA	3.86	83
2N3897	MOT	4.87	—
2N3897	RCA	4.84	84
2N3898	MOT	6.27	—
2N3898	RCA	7.08	84
2N3899	MOT	7.67	—
2N3899	RCA	9.12	84
2N3900	GE	.41	—
2N3900	SPR	.38	—
2N3900A	GE	.45	—
2N3900A	SPR	.42	—
2N3902	IR	6.03	100
2N3902	MOT	6.16	47
2N3902	TI	6.55	72
2N3903	MOT	.47	54,55
2N3903	TI	.53	66,67
2N3904	MOT	.49	54,55
2N3904	SPR	.42	—
2N3904	TI	.53	66,67
2N3905	MOT	.50	54,55
2N3905	TI	.53	67,68
2N3906	MOT	.52	54,55
2N3906	SPR	.44	—
2N3906	TI	.53	67,68
2N3909	MOT	1.00	—
2N3909	TI	1.60	70
2N3909A	TI	1.65	70
2N3924	MOT	3.20	—
2N3926	MOT	10.35	—
2N3927	MOT	11.50	—
2N3940	TI	27.06	—
2N3946	MOT	2.40	52
2N3947	MOT	2.75	52
2N3948	MOT	2.00	—
2N3950	MOT	26.25	—
2N3959/MM2400	MOT	6.85	—
2N3960	MOT	7.95	—
2N3962	TI	.97	65
2N3963	TI	1.46	65
2N3964	TI	1.55	65
2N3965	TI	1.94	65
2N3966	TI	3.88	71
2N3970	MOT	4.20	—
2N3970	TI	3.25	70
2N3971	MOT	2.00	—
2N3971	TI	2.91	70
2N3972	MOT	2.70	—
2N3972	TI	2.57	71
2N3975	SPR	.40	—
2N3976	SPR	.44	—
2N3977	SPR	2.30	—
2N3979	SPR	2.30	—
2N3980	MOT	3.40	62
2N3993	TI	3.64	—
2N3993A	TI	5.34	—
2N3996	TI	22.31	73
2N3997	TI	23.28	73
2N3998	TI	17.75	73
2N4001	TI	7.42	72
2N4012	MOT	13.50	—
2N4012	RCA	14.20	—
2N4013/2N3724	MOT	1.80	50
2N4014/2N3725	MOT	1.90	50
2N4036	RCA	.97	80
2N4037S	RCA	.78	—
2N4040	TI	19.15	—
2N4058	TI	.38	65
2N4059	TI	.39	65
2N4060	TI	.42	65
2N4061	TI	.42	65
2N4062	TI	.36	65
2N4063	RCA	1.35	—
2N4064	RCA	1.06	—
2N4066	MOT	17.00	—
2N4067	MOT	22.00	—
2N4072	MOT	1.70	—
2N4073	MOT	2.00	—
2N4091	MOT	1.55	—
2N4091	TI	3.06	70
2N4092	MOT	1.25	—
2N4093	MOT	1.30	—
2N4093	TI	2.09	71
2N4101	RCA	2.22	—
2N4101	TI	.84	—
2N4102	RCA	2.22	—
2N4103	RCA	5.12	83
2N4104	TI	4.85	65
2N4123	MOT	.34	54, 55
2N4123	SPR	.34	—
2N4123	TI	.38	66, 67
2N4124	MOT	.35	54, 55
2N4124	SPR	.34	—
2N4124	TI	.39	66, 67
2N4125	MOT	.34	54, 55
2N4125	SPR	.36	—
2N4125	TI	.39	67, 68
2N4126	MOT	.35	54, 55
2N4126	SPR	.36	—
2N4130	MOT	25.30	—
2N4138	TI	7.86	65, 68
2N4167	MOT	2.01	—
2N4168	MOT	2.07	—
2N4169	MOT	2.13	—
2N4170	MOT	2.18	—
2N4171	MOT	2.16	—
2N4172	MOT	2.46	—
2N4174	MOT	4.69	—
2N4183	MOT	1.93	—
2N4184	MOT	1.99	—
2N4185	MOT	2.05	—
2N4186	MOT	2.09	—
2N4187	MOT	2.07	—
2N4188	MOT	2.36	—
2N4190	MOT	4.54	—
2N4199	MOT	23.44	62
2N4199JAN	MOT	41.63	62
2N4200	MOT	33.09	62
2N4201	MOT	37.37	62
2N4202	MOT	50.89	62
2N4203JAN	MOT	95.91	62
2N4204	MOT	73.31	62
2N4213	IR	1.90	—
2N4214	IR	2.40	—
2N4215	IR	2.65	—
2N4216	IR	2.85	—
2N4217	IR	3.10	—
2N4218	IR	3.35	—
2N4219	IR	3.80	—
2N4220	MOT	.90	57
2N4220	TI	.84	—
2N4220A	MOT	1.05	57
2N4220A	TI	1.65	70
2N4221	MOT	.95	57
2N4221	TI	1.36	70
2N4221A	MOT	1.05	57
2N4222	MOT	.95	57
2N4222	TI	1.36	—
2N4222A	MOT	1.05	57
2N4222A	TI	1.60	70
2N4223	MOT	1.05	—
2N4223	TI	1.46	—
2N4224	MOT	1.05	—
2N4224	TI	1.60	70
2N4234S	MOT	1.74	—
2N4235S	MOT	2.03	—
2N4236S	MOT	2.18	—
2N4237S	MOT	2.18	—
2N4238S	MOT	1.67	—
2N4239S	MOT	1.81	—
2N4240	MOT	1.87	47
2N4240	RCA	1.95	—
2N4240	TI	1.78	72
2N4252	TI	2.09	66
2N4253	TI	1.84	66
2N4256	GE	.68	—
2N4260	MOT	12.35	53
2N4261	MOT	14.60	52
2N4264	MOT	.48	55
2N4265	MOT	.54	55
2N4300	TI	7.86	72
2N4301	TI	30.56	73
2N4314	RCA	.87	80
2N4342	MOT	1.12	—
2N4347	RCA	1.40	78
2N4348	RCA	3.34	78
2N4351	MOT	2.85	57,58
2N4352	MOT	2.70	57,58
2N4353	GI	10.00	—
2N4360	MOT	.63	—
2N4361	IR	21.00	—
2N4362	IR	24.70	—
2N4363	IR	33.25	—
2N4364	IR	41.55	—
2N4365	IR	51.95	—
2N4366	IR	62.35	—
2N4367	IR	71.70	—
2N4371	IR	21.00	—
2N4383	SPR	1.30	—
2N4384	SPR	1.10	—
2N4386	SPR	1.10	—
2N4391	MOT	1.80	—
2N4391	TI	3.25	70
2N4392	MOT	1.40	—
2N4392	TI	2.91	71
2N4393	MOT	1.60	—
2N4393	TI	2.57	71
2N4398	MOT	5.95	49
2N4398	TI	6.21	74
2N4399	MOT	7.83	49
2N4399	TI	8.20	74
2N4400	MOT	.56	54,55
2N4401	MOT	.72	54,55
2N4402	MOT	.56	54,55
2N4403	MOT	.72	54,55
2N4404	MOT	8.25	51
2N4405	MOT	9.75	51
2N4406	MOT	11.25	—
2N4407	MOT	12.75	—
2N4409	MOT	.67	—
2N4409	TI	.87	66
2N4410	MOT	.96	—
2N4412	SPR	1.20	—
2N4412A	SPR	1.28	—

NEW TYPES STOCKED AS SOON AS RELEASED

Type	Mfr	1-24	Page
2N4413	SPR	1.00	—
2N4413A	SPR	1.08	—
2N4414	SPR	1.20	—
2N4414A	SPR	1.28	—
2N4415	SPR	1.00	—
2N4416	MOT	1.05	58
2N4416	TI	2.09	70
2N4416A	TI	2.18	70
2N4424	SPR	.40	—
2N4425	GE	.43	—
2N4427	MOT	1.24	—
2N4427	RCA	1.40	—
2N4440	RCA	11.30	—
2N4440JANTX	RCA	24.00	—
2N4441	MOT	1.28	—
2N4442	MOT	1.38	—
2N4443	MOT	1.88	—
2N4444	MOT	2.95	—
2N4851	MOT	.97	62
2N4852	MOT	.97	62
2N4853	MOT	2.25	62
2N4854	MOT	6.50	—
2N4854	TI	9.65	69
2N4856	MOT	1.85	58
2N4856	TI	3.10	70
2N4856A	MOT	1.95	—
2N4857	MOT	1.75	58
2N4857	TI	2.81	70
2N4857A	TI	2.96	70
2N4858	MOT	1.65	58
2N4858	TI	2.62	70
2N4858JANTX	TI	3.30	—
2N4859	MOT	1.75	—
2N4859	TI	2.52	70
2N4859A	MOT	1.80	—
2N4860	MOT	1.60	—
2N4860	TI	2.67	70
2N4861	MOT	1.40	—
2N4861	TI	2.62	70
2N4861A	TI	2.76	70
2N4870	MOT	.75	62
2N4871	MOT	.68	62
2N4877	MOT	3.74	—
2N4890	MOT	1.12	50
2N4891	TI	1.07	71
2N4893	TI	1.21	71
2N4894	TI	2.18	71
2N4898	MOT	1.38	—
2N4899	MOT	1.52	—
2N4900	MOT	1.74	—
2N4901	MOT	1.67	—
2N4901	TI	1.83	74
2N4902	MOT	2.47	—
2N4903	MOT	2.90	—
2N4903	TI	3.14	74
2N4904	MOT	2.06	—
2N4904	TI	1.97	74
2N4905	MOT	2.76	—
2N4905	TI	2.62	74
2N4906	MOT	3.41	—
2N4906	TI	3.27	74
2N4910	MOT	1.23	—
2N4911	MOT	1.31	—
2N4912	MOT	1.38	—
2N4913	MOT	1.60	—
2N4913	TI	1.57	73,74
2N4914	MOT	1.74	—
2N4915	MOT	1.89	—
2N4915	TI	1.83	73, 74
2N4918	MOT	1.28	47
2N4919	MOT	1.52	47
2N4920	MOT	1.80	47
2N4921	MOT	1.09	47
2N4922	MOT	1.31	47
2N4923	MOT	1.52	47
2N4925S	MOT	2.50	—
2N4926	MOT	2.95	51
2N4927	MOT	3.15	51
2N4929S	MOT	4.95	50, 51
2N4930JAN	MOT	6.65	—
2N4931SS	MOT	6.75	51
2N4937	MOT	7.15	—
2N4939	MOT	3.40	—
2N4941	MOT	12.30	—
2N4947	TI	2.86	71
2N4948	MOT	.85	62
2N4948	TI	1.31	71
2N4949	MOT	2.40	62
2N4949	TI	2.33	71
2N4949JAN	MOT	3.90	62
2N4951	SPR	.36	—
2N4952	SPR	.38	—
2N4953	SPR	.40	—
2N4954	SPR	.34	—
2N4957	MOT	6.30	—
2N4958	MOT	4.35	—
2N4959	MOT	3.90	—
2N4983(D13D1)	GE	1.25	95
2N4984(D13D2)	GE	1.65	95
2N4985(D13D3)	GE	2.80	95
2N4985(D13D3)	GE	2.80	95
2N4987(D13P1)	GE	.84	95
2N4988(D13P2)	GE	1.35	95
2N4989(D13P3)	GE	1.82	95
2N4990(D13Q1)	GE	.94	95
2N4991	GE	.83	95
2N4992(D13Q2)	GE	1.46	95
2N4993	GE	2.06	95
2N4996	TI	.49	66
2N4997	TI	.56	66
2N5000	TI	17.46	72
2N5001	TI	21.34	72
2N5004	TI	29.10	73
2N5005	TI	34.92	73
2N5016	RCA	14.95	—
2N5031	MOT	3.15	—
2N5034	RCA	1.65	—
2N5035	RCA	1.63	—
2N5036	RCA	1.78	—
2N5037	RCA	1.76	—
2N5038	RCA	5.78	—
2N5038JAN	RCA	10.30	—
2N5039	RCA	4.87	—
2N5045	TI	9.21	71
2N5046	TI	7.76	—
2N5047	TI	6.50	71
2N5050	MOT	3.74	—
2N5051	MOT	4.34	—
2N5052	MOT	4.86	—
2N5058	TI	4.22	65
2N5058S	MOT	3.00	51
2N5059	TI	2.91	65
2N5059S	MOT	2.75	51
2N5060	MOT	.63	—
2N5061	MOT	.66	—
2N5062	MOT	.75	—
2N5063	MOT	.80	—
2N5064	MOT	.84	—
2N5067	MOT	1.38	—
2N5068	MOT	1.60	—
2N5069	MOT	1.81	—
2N5070	MOT	13.80	—
2N5070	RCA	12.90	—
2N5071	RCA	24.70	—
2N5086	MOT	.50	54,55
2N5087	MOT	.60	54,55
2N5088	MOT	.50	54,55
2N5089	MOT	.72	54,55
2N5090	RCA	11.40	—
2N5102	RCA	21.75	—
2N5108	MOT	3.90	—
2N5109	MOT	1.55	—
2N5109	RCA	2.14	—
2N5148	TI	4.37	72
2N5149	TI	10.19	72
2N5150	TI	5.82	72
2N5157	IR	10.23	100
2N5160	MOT	3.34	—
2N5161	MOT	10.35	—
2N5162	MOT	15.50	—
2N5164	MOT	2.60	—
2N5165	MOT	2.85	—
2N5166	MOT	3.75	—
2N5168	MOT	2.94	—
2N5169	MOT	3.23	—
2N5170	MOT	4.08	—
2N5171	MOT	5.28	—
2N5172	GE	.24	—
2N5172	SPR	.30	—
2N5179	MOT	.68	—
2N5179	RCA	.81	—
2N5189	RCA	.90	—
2N5190	MOT	1.25	47
2N5191	MOT	1.51	47
2N5192	MOT	1.80	47
2N5193	MOT	1.41	47
2N5194	MOT	1.65	47
2N5195	MOT	2.03	47
2N5202	RCA	2.47	—
2N5204	GE	9.30	87
2N5205	GE	14.10	87
2N5206	GE	18.45	87
2N5208	MOT	.54	—
2N5209	MOT	.66	55
2N5210	MOT	.72	55
2N5219	MOT	.28	—
2N5220	MOT	.27	—
2N5221	MOT	.30	—
2N5222	MOT	.24	—
2N5223	MOT	.21	—
2N5224	MOT	.24	—
2N5225	MOT	.27	—
2N5226	MOT	.30	—
2N5227	MOT	.24	—
2N5228	MOT	.28	—
2N5229	MOT	2.49	—
2N5230	MOT	3.00	—
2N5231	MOT	3.75	—
2N5232	GE	.34	—
2N5232A	GE	.38	—
2N5239	RCA	2.97	—
2N5240	RCA	3.47	—
2N5241	IR	13.85	100
2N5241	MOT	14.50	—
2N5245/TIS88	TI	.82	70
2N5246	TI	.68	70
2N5247	TI	.68	70
2N5248	TI	.58	70
2N5249	GE	.50	—
2N5249A	GE	.54	—
2N5257	IR	74.35	99
2N5265	GE	.42	—
2N5266	MOT	3.75	—
2N5267	MOT	3.45	—
2N5268	MOT	3.30	—
2N5270	MOT	3.75	—
2N5293	RCA	.73	77
2N5294	RCA	.73	77
2N5295	RCA	.73	77
2N5296	RCA	.73	77
2N5297	RCA	.74	77
2N5298	RCA	.74	77
2N5301	MOT	4.42	49
2N5301	TI	4.09	74
2N5302	MOT	5.08	49
2N5302	TI	4.72	74
2N5303	MOT	6.02	48
2N5305	GE	.45	—
2N5306	GE	.43	—
2N5307	GE	.47	—
2N5308	GE	.52	—
2N5308A	GE	.59	—
2N5311	GE	.74	—
2N5320	RCA	1.14	—
2N5321	RCA	.91	—
2N5322	RCA	1.47	—
2N5323	RCA	1.01	—
2N5333	TI	13.10	72
2N5335/D29A5	GE	.41	—
2N5336	MOT	4.50	—
2N5337	MOT	5.08	—
2N5338	MOT	5.73	—
2N5339	MOT	6.16	—
2N5344	MOT	9.79	—
2N5345	MOT	12.33	—
2N5346	MOT	28.71	—
2N5349	MOT	38.86	—
2N5354	SPR	.40	—
2N5354/D29A4	GE	.36	—
2N5358	MOT	3.95	—
2N5359	MOT	3.45	—
2N5360	MOT	3.00	—
2N5362	MOT	3.00	—
2N5363	MOT	3.45	—
2N5364	MOT	3.95	—
2N5365/D29A7	GE	.45	—
2N5366/D29A8	GE	.50	—
2N5368	SPR	.40	—
2N5369	SPR	.40	—
2N5370	GE	.28	—
2N5370	SPR	.40	—

Key	Mfr.
IDI	International Devices Inc.
IR	International Rectifier
GE	General Electric
GI	General Instrument
MOT	Motorola
RCA	Radio Corp. of America
SPR	Sprague
TI	Texas Instruments

Type	Mfr	1-24	Page
2N5371	SPR	.40	—
2N5374	SPR	.44	—
2N5375	SPR	.44	—
2N5376	SPR	.40	—
2N5377	SPR	.40	—
2N5378	SPR	.44	—
2N5379	SPR	.44	—
2N5380	SPR	.40	—
2N5381	SPR	.44	—
2N5382	SPR	.44	—
2N5383	SPR	.44	—
2N5384	TI	26.19	73
2N5385	GE	.40	—
2N5397	TI	3.83	70
2N5400	MOT	.75	54, 56
2N5401	MOT	.89	54, 56
2N5415	RCA	1.46	—
2N5416	RCA	1.98	—
2N5427	MOT	6.09	—
2N5428	MOT	7.61	—
2N5429	MOT	8.41	—
2N5430	MOT	9.64	—
2N5431	MOT	3.50	62
2N5441/TA2836	RCA	5.64	82
2N5442	MOT	6.77	—
2N5443	RCA	8.46	82
2N5444	RCA	5.97	82
2N5445	MOT	7.10	61
2N5446	MOT	8.79	61
2N5446	RCA	8.79	82
2N5447	GE	.30	—
2N5447	TI	.36	67
2N5448	GE	.34	—
2N5448	TI	.33	67
2N5450	TI	.28	66
2N5451	TI	.26	—
2N5457	MOT	.50	57
2N5458	MOT	.50	57
2N5459	MOT	.55	57
2N5460	MOT	.90	57
2N5461	MOT	.67	57
2N5462	MOT	.90	57
2N5463	MOT	1.35	—
2N5464	MOT	1.08	—
2N5465	MOT	1.35	—
2N5471	MOT	2.55	—
2N5472	MOT	2.33	—
2N5474	MOT	2.00	57
2N5475	MOT	1.80	57
2N5484	MOT	.65	58
2N5485	MOT	.72	58
2N5486	MOT	.72	58
2N5490	RCA	.96	78
2N5491	RCA	.96	78
2N5492	RCA	.96	78
2N5493	RCA	.96	78
2N5494	RCA	.96	78
2N5495	RCA	.96	78
2N5496	RCA	1.04	78
2N5497	RCA	1.04	78
2N5544	TI	3.25	—
2N5545	TI	10.67	71
2N5546	TI	6.98	71
2N5547	TI	5.82	71
2N5549	TI	4.22	71
2N5550	MOT	.58	54, 56
2N5551	MOT	.62	54, 56

NEW TYPES STOCKED AS SOON AS RELEASED

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfr	1-24	Page
2N5555	MOT	.90	—
2N5557	MOT	10.00	57
2N5567	RCA	3.05	81
2N5568	RCA	3.66	81
2N5569	RCA	3.38	81
2N5570	MOT	3.99	61
2N5570	RCA	3.99	81
2N5571	MOT	3.25	61
2N5571	RCA	3.25	81
2N5572	MOT	3.89	61
2N5572	RCA	3.89	81
2N5573	MOT	3.58	61
2N5573	RCA	3.58	81
2N5574	MOT	4.42	61
2N5574	RCA	4.22	81
2N5575	RCA	11.22	79
2N5578	RCA	13.96	79
2N5583	MOT	5.60	—
2N5589	MOT	4.60	—
2N5590	MOT	6.30	—
2N5591	MOT	10.35	—
2N5629	MOT	4.93	48
2N5630	MOT	5.66	48
2N5631	MOT	6.60	48
2N5633	MOT	4.71	48
2N5634	MOT	5.80	48
2N5635	MOT	4.95	—
2N5637	MOT	20.70	—
2N5638	MOT	.75	58
2N5639	MOT	.68	58
2N5640	MOT	.75	58
2N5641	MOT	4.90	—
2N5642	MOT	12.00	—
2N5643	MOT	20.70	—
2N5653	MOT	.70	—
2N5654	MOT	.68	—
2N5655	MOT	1.00	47
2N5656	MOT	1.15	47
2N5657	MOT	1.35	47
2N5668	MOT	.90	—
2N5669	MOT	.84	56
2N5670	MOT	.90	—
2N5671	RCA	12.35	79
2N5672	RCA	16.25	79
2N5679	MOT	1.67	—
2N5679S	MOT	1.67	—
2N5680S	MOT	1.91	—
2N5681S	MOT	1.25	—
2N5682	MOT	1.67	—
2N5682S	MOT	1.67	—
2N5683	MOT	18.13	49
2N5684	MOT	21.03	49
2N5685	MOT	13.63	49
2N5685	TI	16.01	74
2N5686	MOT	16.89	49
2N5692	MOT	1.67	—
2N5716	MOT	.80	57
2N5717	MOT	.75	57
2N5745	MOT	9.37	48
2N5754	RCA	1.19	81
2N5755	RCA	1.41	81
2N5756	RCA	1.69	81
2N5757	RCA	2.12	81
2N5758	MOT	3.77	48
2N5759	MOT	4.32	48
2N5760	MOT	5.22	48
2N5777	GE	.60	—
2N5777	MOT	.60	—
2N5778	GE	.62	—
2N5778	MOT	.70	—
2N5779	GE	1.00	—
2N5779	MOT	1.00	—
2N5780	GE	1.20	—
2N5780	MOT	1.20	—
2N5781	RCA	1.47	80
2N5782	RCA	1.43	80
2N5783	RCA	1.40	80
2N5784	RCA	1.24	77
2N5785	RCA	1.08	77
2N5786	RCA	.99	77
2N5793	MOT	5.65	—
2N5797	MOT	.75	57
2N5799	MOT	.90	—
2N5800	MOT	.98	57
2N5804	IR	4.40	100
2N5805	IR	5.76	100
2N5810	GE	.36	—
2N5811	GE	.46	—
2N5812	GE	.38	—
2N5813	GE	.45	—
2N5815	GE	.38	—
2N5815	SPR	.35	—
2N5816	GE	.41	—
2N5817	GE	.41	—
2N5818	GE	.43	—
2N5819	GE	.45	—
2N5820	GE	.49	—
2N5821	GE	.58	—
2N5822	GE	.62	—
2N5823	GE	.70	—
2N5824	GE	.25	—
2N5825	GE	.27	—
2N5826	GE	.29	—
2N5827	GE	.32	—
2N5827A	GE	.38	—
2N5828	GE	.34	—
2N5828A	GE	.41	—
2N5829	MOT	10.30	—
2N5836	MOT	4.45	—
2N5838	RCA	2.67	—
2N5839	IR	2.64	—
2N5839	RCA	2.84	—
2N5840	IR	2.93	100
2N5840	MOT	2.90	—
2N5840	RCA	3.17	—
2N5842	MOT	8.65	—
2N5847	MOT	9.70	—
2N5848	MOT	13.80	—
2N5859	MOT	.90	50
2N5861	MOT	1.35	50
2N5867	MOT	1.35	—
2N5871	TI	1.57	74
2N5874	TI	1.77	74
2N5875	MOT	1.99	48
2N5876	MOT	2.39	48
2N5877	MOT	1.38	48
2N5878	TI	2.02	74
2N5880	MOT	3.68	48
2N5882	MOT	3.12	48
2N5883	MOT	4.13	49
2N5884	MOT	4.64	49
2N5884	TI	4.85	74
2N5885	MOT	3.92	49
2N5886	MOT	4.50	49
2N5913	RCA	3.25	—
2N5915	RCA	16.10	—
2N5916	RCA	13.90	—
2N5919A	RCA	16.30	—
2N5941	MOT	16.70	—
2N5942	MOT	49.50	—
2N5943	MOT	1.75	—
2N5944	MOT	7.50	—
2N5945	MOT	10.90	—
2N5946	MOT	13.20	—
2N5949	TI	.59	69-71
2N5950	TI	.54	69-71
2N5953	TI	.75	69
2N5954	RCA	1.56	—
2N5955	RCA	1.40	—
2N5956	RCA	1.23	—
2N5974	MOT	1.70	—
2N5975	MOT	1.94	—
2N5976	MOT	2.35	—
2N5977	MOT	1.52	—
2N5978	MOT	1.77	—
2N5979	MOT	2.18	—
2N5980	MOT	2.26	—
2N5981	MOT	2.61	—
2N5982	MOT	3.16	—
2N5983	MOT	1.64	—
2N5984	MOT	1.89	—
2N5985	MOT	2.38	—
2N5986	MOT	2.47	48
2N5987	MOT	2.76	48
2N5988	MOT	3.05	48
2N5989	MOT	2.32	48
2N5990	MOT	2.61	48
2N5991	MOT	2.90	48
2N5995	RCA	12.35	—
2N6000	GE	.54	—
2N6001	GE	.56	—
2N6004	GE	.59	—
2N6010	GE	.68	—
2N6027	GE	.79	95
2N6027	MOT	.79	63
2N6028	GE	1.00	95
2N6028	MOT	1.00	63
2N6030	MOT	6.38	48
2N6031	MOT	7.40	48
2N6034	MOT	1.52	47,49
2N6035	MOT	1.73	47,49
2N6036	MOT	2.03	47,49
2N6038	MOT	1.46	47,49
2N6041	MOT	2.25	48,49
2N6042	MOT	2.47	48,49
2N6043	MOT	1.89	48,49
2N6044	MOT	2.03	48,49
2N6045	MOT	2.18	48,49
2N6049	MOT	1.74	47
2N6050	MOT	4.38	48,49
2N6051	MOT	4.76	48,49
2N6052	MOT	5.58	48,49
2N6055	MOT	1.50	48,49
2N6055	RCA	1.65	—
2N6056	MOT	1.65	48,49
2N6056	RCA	1.84	—
2N6057	MOT	3.42	48,49
2N6058	MOT	3.83	48,49
2N6059	MOT	4.54	48,49
2N6068	MOT	.84	—
2N6069	MOT	.95	—
2N6069A	MOT	.98	—
2N6070	MOT	1.07	—
2N6071	MOT	1.17	—
2N6071A	MOT	1.22	—
2N6072	MOT	1.23	—
2N6073	MOT	1.28	—
2N6073A	MOT	1.32	—
2N6074	MOT	1.65	—
2N6075	MOT	1.85	—
2N6076	GE	.25	—
2N6077	RCA	2.64	78
2N6078	RCA	2.47	78
2N6079	RCA	2.96	78
2N6080	MOT	5.45	—
2N6081	MOT	8.60	—
2N6082	MOT	11.25	—
2N6083	MOT	12.95	—
2N6084	MOT	13.75	—
2N6098	RCA	1.07	78
2N6099	RCA	1.07	78
2N6100	RCA	1.15	78
2N6101	RCA	1.15	78
2N6102	RCA	1.15	79
2N6103	RCA	1.15	79
2N6106	RCA	.89	—
2N6107	RCA	.89	—
2N6108	RCA	.89	—
2N6109	RCA	.89	—
2N6110	RCA	.86	—
2N6111	RCA	.86	—
2N6116/MPU231	MOT	1.35	63
2N6117/MPU232	MOT	2.16	63
2N6118/MPU233	MOT	2.78	63
2N6145	MOT	4.73	61
2N6146	MOT	5.37	61
2N6147	MOT	6.35	61
2N6151	MOT	1.40	—
2N6152	MOT	1.70	—
2N6153	MOT	2.10	—
2N6154	MOT	1.30	—
2N6155	MOT	1.60	—
2N6156	MOT	2.00	—
2N6157	MOT	3.29	61
2N6158	MOT	3.94	61
2N6159	MOT	5.00	61
2N6160	MOT	4.85	61
2N6161	MOT	5.74	61
2N6162	MOT	7.00	61
2N6163	MOT	6.00	61
2N6164	MOT	6.90	61
2N6167	MOT	3.83	—
2N6168	MOT	3.96	—
2N6169	MOT	5.23	—
2N6170	MOT	6.44	—
2N6171	MOT	4.50	—
2N6172	MOT	5.54	—
2N6173	MOT	7.43	—
2N6174	MOT	6.85	—
2N6175	RCA	.97	—
2N6176	RCA	1.08	—
2N6177	RCA	1.32	—
2N6178	RCA	1.14	—
2N6179	RCA	.99	—
2N6180	RCA	1.42	—
2N6181	RCA	1.12	—
2N6211	MOT	3.41	—
2N6212	MOT	4.34	—
2N6212	RCA	3.71	—
2N6213	MOT	6.24	—
2N6213	RCA	5.33	—
2N6218	GE	.68	—
2N6219	GE	.65	—
2N6220	GE	.63	—
2N6221	GE	.56	—
2N6222	GE	.29	—
2N6224	GE	.34	—
2N6226	MOT	4.23	48
2N6227	MOT	4.97	48
2N6228	MOT	6.21	48
2N6229	MOT	4.35	48
2N6230	MOT	5.29	48
2N6231	MOT	6.38	48
2N6233	MOT	5.52	—
2N6234	MOT	5.76	—
2N6235	MOT	5.97	—
2N6239	MOT	.90	—
2N6246	RCA	1.98	—
2N6247	RCA	2.31	—
2N6248	RCA	2.64	—
2N6249	IR	7.33	101
2N6249	MOT	7.25	48
2N6249	RCA	6.65	—
2N6250	IR	8.13	101
2N6250	MOT	8.34	48
2N6250	RCA	7.38	—
2N6251	IR	8.72	101
2N6251	MOT	9.50	48
2N6251	RCA	7.91	—
2N6253	RCA	.91	79
2N6254	RCA	1.98	79
2N6257	RCA	2.48	79
2N6259	RCA	5.95	—
2N6260	RCA	1.14	77
2N6261	RCA	1.40	77
2N6262	RCA	3.22	78
2N6263	RCA	1.24	78
2N6264	RCA	1.82	78
2N6267	RCA	120.00	—
2N6274	MOT	20.30	49
2N6275	MOT	23.93	49
2N6276	MOT	29.00	49
2N6277	MOT	31.90	49
2N6278	MOT	87.43	—
2N6279	MOT	71.05	—
2N6280	MOT	81.20	—
2N6281	MOT	91.35	—
2N6282	MOT	5.80	48,49
2N6283	MOT	6.26	48,49
2N6284	MOT	7.02	48,49
2N6285	MOT	6.13	48,49
2N6286	MOT	6.74	48,49
2N6287	MOT	7.63	48,49
2N6288	RCA	.78	—
2N6290	RCA	.81	—
2N6291	RCA	.81	—
2N6292	RCA	.81	—
2N6294	MOT	1.84	47,49

NEW TYPES STOCKED AS SOON AS RELEASED

DISCRETE DEVICES

Type	Mfr	1-24	Page
2N6295	MOT	2.16	47,49
2N6296	MOT	2.31	47,49
2N6297	MOT	2.62	47,49
2N6298	MOT	3.43	48,49
2N6299	MOT	3.80	48,49
2N6300	MOT	2.42	48,49
2N6301	MOT	2.74	48,49
2N6306	IR	4.50	100
2N6307	IR	5.00	100
2N6308	IR	6.55	100
2N6308	MOT	6.24	48
2N6338	MOT	10.37	49
2N6342	MOT	1.10	—
2N6342A	MOT	1.40	—
2N6343	MOT	1.45	—
2N6343A	MOT	1.70	—
2N6344	MOT	2.00	—
2N6344A	MOT	2.30	—
2N6346	MOT	1.30	—
2N6346A	MOT	1.50	—
2N6347	MOT	1.55	—
2N6347A	MOT	1.80	—
2N6349A	MOT	4.50	—
2N6354	RCA	5.20	79
2N6371	RCA	1.49	79
2N6372	RCA	1.40	—
2N6373	RCA	1.23	—
2N6374	RCA	1.07	—
2N6383	RCA	1.61	80
2N6384	RCA	1.78	80
2N6385	RCA	1.98	80
2N6386	RCA	1.09	80
2N6387	RCA	1.19	80
2N6388	RCA	1.32	80
2N6389	RCA	3.80	—
2N6394	MOT	1.30	—
2N6396	MOT	1.40	—
2N6400	MOT	1.68	—
2N6402	MOT	1.98	—
2N6404	MOT	3.96	—
2N6405	MOT	5.94	—
2N6417	MOT	1.45	47
2N6419	MOT	1.57	47
2N6420	MOT	2.32	47
2N6421	MOT	2.97	47
2N6422	MOT	4.63	47
2N6423	MOT	3.19	47
2N6424	MOT	1.65	47
2N6425	MOT	1.96	47
2N6436	MOT	11.60	49
2N6437	MOT	13.05	49
2N6438	MOT	15.23	49
2N6467	RCA	1.73	80
2N6468	RCA	1.89	80
2N6469	RCA	1.81	—
2N6470	RCA	1.56	—
2N6471	RCA	1.98	—
2N6472	RCA	2.31	—
2N6473	RCA	.86	—
2N6474	RCA	.93	—
2N6475	RCA	.95	80
2N6476	RCA	1.02	80
2N6478	RCA	1.36	78
2N6495	MOT	3.05	—
2N6497	MOT	2.13	—
2N6498	MOT	2.55	—
2N6499	MOT	3.78	—
2N6542	IR	3.35	100
2N6542	MOT	3.26	—
2N6543	IR	4.20	100
2N6543	MOT	4.13	—
2N6544	IR	5.41	100
2N6544	MOT	5.44	48
2N6545	IR	6.80	100
2N6545	MOT	6.89	48
2N6546	IR	10.80	101
2N6546	MOT	9.43	48
2N6547	IR	15.54	101
2N6547	MOT	15.59	48
2N6573	IR	5.90	100
2N6574	IR	6.70	100
2N6575	IR	7.48	101
3N35JAN	TI	23.65	—
3N74	TI	11.06	68
3N75	TI	9.12	68
3N76	TI	7.08	68
3N77	TI	7.18	68
3N79	TI	3.47	68
3N81	GE	3.40	95
3N82	GE	4.95	95
3N83	GE	1.98	95
3N84	GE	1.98	95
3N85	GE	3.30	95
3N86	GE	6.00	95
3N92	SPR	6.90	—
3N95	SPR	7.90	—
3N110	TI	9.60	68
3N123	SPR	4.00	—
3N124	MOT	3.00	—
3N125	MOT	3.00	—
3N126	MOT	3.00	—
3N128	MOT	1.35	—
3N128	RCA	1.29	—
3N138	GI	3.05	—
3N138	RCA	2.89	—
3N139	RCA	2.48	—
3N140	GI	1.33	—
3N140	MOT	1.65	—
3N140	RCA	1.62	—
3N141	RCA	1.25	—
3N142	RCA	1.04	—
3N143	RCA	1.30	—
3N151	GI	11.85	—
3N152	RCA	1.62	—
3N153	RCA	1.42	—
3N154	RCA	1.49	—
3N155	GI	2.97	—
3N155	MOT	3.30	—
3N155A	MOT	6.30	—
3N156	MOT	3.30	—
3N157	MOT	3.30	—
3N157A	MOT	6.30	—
3N158	MOT	3.30	—
3N158A	MOT	6.30	—
3N159	RCA	2.43	—
3N160	TI	2.42	71
3N161	TI	2.42	71
3N162	GI	16.20	—
3N163	GI	2.76	—
3N169	MOT	6.40	—
3N170	MOT	5.50	—
3N171	MOT	4.20	—
3N174	TI	2.81	71
3N175	GI	7.20	—
3N176	GI	3.66	—
3N177	GI	1.36	—
3N178	GI	6.25	—
3N179	GI	3.34	—
3N180	GI	1.79	—
3N181	GI	10.00	—
3N182	GI	5.00	—
3N183	GI	2.65	—
3N187	RCA	2.98	—
3N188	GI	6.10	—
3N200	RCA	4.37	—
3N201	TI	1.02	70
3N202	TI	1.02	70
3N203	TI	.82	70
3N204	TI	1.16	70
.37TI71	TI	.37	—
A5T2193	TI	.43	66
A5T5058	TI	1.21	65
A7T6028	TI	.82	71
A14A	GE	.34	90
A14C	GE	.40	90
A14E	GE	.57	90
A14F	GE	.30	90
A15	IR	14.13	—
A15A	GE	.62	90
A15F	GE	.57	90
A15M	IR	29.72	—
A28D	GE	9.90	90
A38/A40D	GE	3.47	—
A40A	GE	2.48	—
A40B	GE	2.64	—
A40C	GE	2.91	—
A40D	GE	3.47	—
A40E	GE	4.13	—
A40F	GE	2.31	—
A40M	GE	4.95	—
A41E	GE	4.13	—
A41M	GE	4.95	—
A44A	GE	1.97	90
A44B	GE	2.16	90
A44C	GE	2.37	90
A44D	GE	2.58	90
A44F	GE	1.82	90
A45D	GE	2.58	—
A114A	GE	.85	90
A114B	GE	.91	90
A114D	GE	1.07	90
A114F	GE	.75	90
A115A	GE	1.56	90
A115B	GE	1.89	90
A115D	GE	2.55	90
A115E	GE	2.97	90
A115F	GE	1.50	90
A115M	GE	3.72	90
A2402	IR	2.34	—
A2410	IR	2.86	—
B1B	IR	3.30	—
B1H	IR	1.50	—
B4	IR	4.40	—
B6F80	IR	45.87	—
B6F100	IR	55.87	—
B10PL	IR	5.72	—
B12F5	IR	9.60	—
B12F10	IR	16.70	—
B12F40	IR	32.64	—
B12F100	IR	55.87	—
B70H60	IR	54.55	—
B-2M	IR	2.69	—
BC101	IR	20.17	—
BD1	GE	9.27	—
BD2	GE	9.27	—
BD3	GE	5.57	—
BD4	GE	9.27	—
BD5	GE	18.54	—
BD6	GE	18.54	—
BE741	TLS	1.20	—
BF741	TLS	1.20	—
BFY50	TI	2.00	—
C1H	IR	1.72	—
C6A	GE	1.80	—
C6B	GE	2.10	—
C6D	GE	5.34	—
C6F	GE	1.65	—
C6G	GE	1.95	—
C6U	GE	1.50	—
C12A	GE	8.58	—
C13F	GE	.50	—
C13Y	GE	.45	—
C15A	GE	2.07	86
C15B	GE	2.24	86
C15C	GE	2.84	86
C15D	GE	3.17	86
C15F	GE	1.90	86
C15G	GE	2.17	86
C15U	GE	1.84	86
C35A	GE	4.78	86
C35A	MOT	4.78	—
C35B	GE	6.41	86
C35B	MOT	6.41	—
C35C	GE	7.65	86
C35C	MOT	7.65	—
C35D	GE	9.02	86
C35D	MOT	9.02	—
C35E	GE	10.35	86
C35E	MOT	10.35	—
C35F	GE	3.74	86
C35F	MOT	3.74	—
C35G	MOT	5.61	—
C35H	GE	7.01	86
C35H	MOT	7.01	—
C35M	GE	11.36	87
C35M	MOT	11.36	—
C35N	MOT	16.20	—
C35S	MOT	13.35	—
C35U	MOT	3.17	—
C37B	GE	5.44	86
C37D	GE	7.58	86
C37F	GE	3.17	86
C37M	GE	9.35	87
C38D	GE	13.06	86
C38F	GE	4.58	86
C38G	GE	6.85	—
C38U	GE	4.18	86
C45B	GE	21.00	86
C46B	GE	21.00	86
C46D	GE	28.40	86
C46G	GE	19.80	86

Key	Mfr.
IDI	International Devices Inc.
IR	International Rectifier
GE	General Electric
GI	General Instrument
MOT	Motorola
RCA	Radio Corp. of America
SPR	Sprague
TI	Texas Instruments

Type	Mfr	1-24	Page
C46H	GE	23.00	86
C46N	GE	42.40	87
C50M	GE	41.50	87
C50N	GE	50.00	87
C50T	GE	54.00	—
C103A	GE	.75	86
C103A2	GE	.80	—
C103B	GE	.84	86
C103B2	GE	.89	—
C103Y	GE	.63	86
C103YY	GE	.66	86
C106A	MOT	.71	—
C106A1	GE	.71	—
C106A2	GE	.76	—
C106A3	GE	.76	—
C106A4	GE	.76	—
C106A41	GE	.78	—
C106B	MOT	.79	—
C106B1	GE	.79	—
C106B2	GE	.84	—
C106B3	GE	.84	—
C106B4	GE	.84	—
C106B21	GE	.86	—
C106B41	GE	.86	—
C106C	MOT	.99	—
C106C1	GE	.99	—
C106C2	GE	1.04	—
C106D	MOT	1.16	—
C106D1	GE	1.16	—
C106D2	GE	1.21	—
C106D4	GE	1.21	—
C106E	MOT	1.39	—
C106F	MOT	.69	—
C106F1	GE	.69	—
C106F2	GE	.74	—
C106F4	GE	.74	—
C106M	MOT	1.60	—
C106Q	MOT	.63	—
C106Q2	GE	.68	—
C106Y	MOT	.66	—
C106Y1	GE	.66	—
C106Y2	GE	.71	—
C106Y4	GE	.71	—
C106Y21	GE	.73	—
C106Y41	GE	.73	—
C107A1	GE	.65	—
C107A4	GE	.70	—
C107B	GE	.73	86
C107B1	GE	.73	—
C107C1	GE	.84	—
C107D1	GE	1.01	—
C107F1	GE	.62	—
C107Q1	GE	.57	—
C107Y1	GE	.58	—
C107Y4	GE	.63	—
C122A1	GE	1.35	—
C122A1	MOT	1.35	—
C122B1	GE	1.50	86
C122B1	MOT	1.50	—
C122C1	MOT	1.88	—
C122D1	GE	2.00	86
C122D1	MOT	2.00	—
C122E1	MOT	3.00	—
C122F1	GE	1.20	86
C122F1	MOT	1.20	—
C137E	GE	9.75	—
C137M	GE	10.80	87

NEW TYPES STOCKED AS SOON AS RELEASED

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfr	1-24	Page
C137N	GE	16.20	87
C137PB	GE	26.55	87
C137S	GE	13.35	87
C147B	GE	16.00	86
C147D	GE	18.00	86
C150P	GE	66.00	87
C152T	GE	60.50	87
C155M	GE	64.00	88
C156B	GE	35.50	89
C156E	GE	59.50	89
C180N	GE	93.00	87
C180T	GE	102.00	87
C185A	GE	59.50	89
C185B	GE	64.00	89
C185M	GE	108.00	89
C220A	GE	1.77	86
C220B	GE	1.84	86
C220C	GE	2.37	86
C220D	GE	2.71	86
C220E	GE	4.21	86
C220F	GE	1.70	86
C220U	GE	1.62	86
C222A	GE	1.57	86
C222B	GE	1.64	86
C222C	GE	2.17	86
C222D	GE	2.51	86
C228A	MOT	4.11	—
C228B	GE	5.54	86
C228B	MOT	5.54	—
C228C	MOT	6.70	—
C228D	MOT	8.00	—
C228E	MOT	8.75	—
C228F	MOT	3.27	—
C228M	MOT	9.89	—
C229A	MOT	3.91	—
C229B	MOT	5.34	—
C229C	MOT	6.50	—
C229D	MOT	7.80	—
C229E	MOT	8.55	—
C229F	MOT	3.07	—
C229M	MOT	9.69	—
C230A	GE	3.54	86
C230B	GE	4.88	86
C230C	GE	6.05	86
C230D	GE	7.05	86
C230E	GE	7.88	86
C230F	GE	2.76	86
C230U	GE	2.37	86
C231A	GE	3.96	86
C231B	GE	5.29	86
C231C	GE	6.46	86
C231D	GE	7.46	86
C231F	GE	3.17	86
C231U	GE	2.79	86
C232A	GE	3.34	86
C232B	GE	4.68	86
C232C	GE	5.85	86
C232D	GE	6.85	86
C232F	GE	2.56	86
C232U	GE	2.17	86
C233B	GE	5.09	86
C233C	GE	6.26	86
C233D	GE	7.26	86
C233F	GE	2.97	86
C250C	MOT	.99	—
C291C	GE	76.00	88
C350M	GE	34.00	87
C350N	GE	43.00	87
C358P	GE	82.00	89
C380N	GE	76.00	87
C611A	GE	2.40	—
C611B	GE	2.60	—
C611F	GE	2.20	—
C611U	GE	2.10	—
C-1B	IR	3.80	—
CR102	RCA	12.85	—
CR103	RCA	14.25	—
CR104	RCA	17.25	—
CR105	RCA	18.80	—
CR106	RCA	23.30	—
CR108	RCA	27.90	—
CR110	RCA	33.30	—
CR201	RCA	5.25	—
CR203	RCA	7.35	—
CR204	RCA	8.60	—
CR206	RCA	12.40	—
CR208	RCA	12.40	—
CR210	RCA	14.15	—
CR302	RCA	39.30	—
CR407	RCA	31.85	—
D5K1	GE	6.96	95
D5K2	GE	2.55	95
D13H1	GE	.90	—
D13H2	GE	.85	—
D13T1	GE	.75	—
D16G6	GE	.45	—
D16P1	GE	.38	—
D16U3	GE	.58	—
D16U4	GE	.66	—
D29E1	GE	.52	—
D29E2	GE	.56	—
D29E4	GE	.47	—
D29E5	GE	.52	—
D29E6	GE	.56	—
D29E7	GE	.63	—
D29E9	GE	.88	—
D29E10	GE	.95	—
D33D21	GE	.47	—
D33D22	GE	.52	—
D33D25	GE	.47	—
D33D26	GE	.52	—
D33D27	GE	.59	—
D33D27J1	GE	.61	—
D33D30	GE	.88	—
D33D30J1	GE	.90	—
D40C1	GE	.64	93
D40C2	GE	.89	93
D40C4	GE	.71	93
D40C5	GE	1.02	93
D40C7	GE	1.02	93
D40D1	GE	.61	93
D40D2	GE	.77	93
D40D3	GE	.82	93
D40D4	GE	.74	93
D40D5	GE	.90	93
D40D7	GE	.82	93
D40D8	GE	1.02	93
D40K1	GE	1.02	93
D40K2	GE	1.17	93
D40N1	GE	.82	93
D40N2	GE	.84	93
D40N3	GE	.90	93
D40P1	GE	.92	93
D40P3	GE	1.02	93
D40P5	GE	1.25	93
D41D1	GE	.66	93
D41D2	GE	.87	93
D41D4	GE	.79	93
D41D5	GE	1.00	93
D41D7	GE	.87	93
D41D8	GE	1.13	93
D42C1	GE	.77	93
D42C2	GE	.95	93
D42C3	GE	1.00	93
D42C4	GE	.87	93
D42C5	GE	1.02	93
D42C7	GE	1.00	93
D42C8	GE	1.17	93
D42C9	GE	1.20	93
D42R2	GE	1.13	93
D43C1	GE	.84	93
D43C2	GE	1.07	93
D43C3	GE	1.12	93
D43C4	GE	.94	93
D43C5	GE	1.15	93
D43C7	GE	1.05	93
D43C8	GE	1.30	93
D43C10	GE	1.22	93
D43C11	GE	1.33	93
D44C1	GE	.84	94
D44C2	GE	1.02	94
D44C3	GE	1.07	94
D44C4	GE	.91	94
D44C5	GE	1.10	94
D44C6	GE	1.17	94
D44C7	GE	1.04	94
D44C8	GE	1.25	94
D44C10	GE	1.17	94
D44C11	GE	1.30	94
D44H2	GE	1.53	94
D44H4	GE	1.53	94
D44H5	GE	1.66	94
D44H7	GE	1.65	94
D44H8	GE	1.78	94
D44H10	GE	1.78	94
D44H11	GE	1.93	94
D44R1	GE	1.28	94
D44R2	GE	1.38	94
D44R4	GE	1.48	94
D45C1	GE	.89	94
D45C2	GE	1.15	94
D45C3	GE	1.20	94
D45C4	GE	.99	94
D45C5	GE	1.23	94
D45C6	GE	1.30	94
D45C7	GE	1.14	94
D45C8	GE	1.38	94
D45C10	GE	1.30	94
D45E3	GE	1.88	94
D45H2	GE	1.78	94
D45H4	GE	1.60	94
D45H5	GE	1.98	94
D45H7	GE	1.76	94
D45H10	GE	1.91	94
D45H11	GE	2.60	94
D1201A	RCA	.29	84
D1300A	RCA	.45	84
D2101S	RCA	.99	—
D2103SF	RCA	1.24	—
D2520M	RCA	10.70	—
D2600EF	RCA	.83	—
D2601DF	RCA	.91	—
D2601EF	RCA	.99	—
D3202U	RCA	.28	84
D3202Y	RCA	.46	84
D4093	GE	1.02	93
DA1701	GE	.30	—
DA1702	GE	.26	—
DD05	IR	.72	—
DD05-C	IR	.72	—
DD104	IR	4.00	—
DD119-C	IR	4.00	—
DD124	IR	4.00	—
DD190	IR	4.00	—
DF3D	RCA	.05	—
DF3H	RCA	.05	—
DF6B	RCA	.02	—
DF6C	RCA	.02	—
DF6D	RCA	.02	—
DF7A	RCA	.04	—
DF13A	RCA	.08	—
DF13C	RCA	.05	—
DF14A	RCA	.03	—
DF31A	RCA	.03	—
DF63A	RCA	.02	—
DF103B	RCA	.02	—
DF103C	RCA	.02	—
DF137A	RCA	.02	—
DF147A	RCA	.03	—
DF293A	RCA	.13	—
DS3000	RCA	.04	—
DZ800	GE	.14	—
E075L	IR	1.72	—
E150L	IR	3.40	—
E300L	IR	3.20	—
E500L	IR	3.75	—
E650L	IR	5.30	—
E1000-40	IR	7.70	—
FC300	IR	6.00	—
G01	TI	.29	—
G02	TI	.29	—
GE11	GE	1.53	—
GE51	GE	1.14	—
GE59	GE	1.26	—
GE60	GE	1.20	—
GE510	GE	.81	—
GE511	GE	.99	—
GE-1	GE	1.20	—
GE-2	GE	1.02	—
GE-4	GE	2.94	—
GE-5	GE	1.68	—
GE-6	GE	2.18	—
GE-7	GE	1.77	—
GE-8	GE	1.29	—
GE-10	GE	1.20	—
GE-12	GE	2.34	—
GE-13MP	GE	3.56	—
GE-14	GE	3.51	—
GE-15-MP	GE	7.02	—
GE-16	GE	3.15	—
GE-17	GE	1.42	—
GE-18	GE	1.46	—
GE-19	GE	3.06	—
GE-20	GE	1.10	—
GE-21	GE	1.12	—
GE-22	GE	1.03	—
GE-23	GE	2.52	—
GE-24-MP	GE	5.04	—
GE-25	GE	7.50	—
GE-26	GE	3.10	—
GE-27	GE	2.18	—
GE-28	GE	2.15	—
GE-29	GE	2.40	—
GE-30	GE	2.20	—
GE-31MP	GE	4.40	—
GE-32	GE	2.79	—
GE-41	GE	3.36	—
GE-42	GE	2.28	—
GE-44	GE	2.40	—
GE-53	GE	1.02	—
GE-61	GE	1.32	—
GE-62	GE	.81	—
GE-63	GE	1.80	—
GE-64	GE	.96	—
GE-66	GE	2.49	—
GE-67	GE	1.80	—
GE-69	GE	2.76	—
GE-300	GE	.81	—
GE-504A	GE	.65	—
GE-509	GE	.79	—
GE-FET-1	GE	1.95	—
GE-FET-2	GE	1.44	—
GE-X1	GE	2.60	—
GE-X2A	GE	2.80	—
GE-X4	GE	3.20	—
GE-X5	GE	2.30	—
GE-X6	GE	1.40	—
GE-X7	GE	.90	—
GE-X8	GE	.70	—
GE-X9	GE	.70	—
GE-X10	GE	1.35	—
GE-X11	GE	1.80	—
GE-X12	GE	4.50	—
GE-X13	GE	1.60	—
GE-X16	GE	3.45	—
GE-X19	GE	1.10	—
GECR-1	GE	2.25	—
GECR-2	GE	.99	—
GECR-3	GE	.86	—
GEMR-1	GE	4.80	—
GEMR-2	GE	6.90	—
GEMR-3	GE	8.60	—
GEMR-4	GE	3.80	—
GEMR-5	GE	1.40	—
GEMR-6	GE	1.42	—
GER4001	GE	.29	—
GER4002	GE	.33	—
GER4003	GE	.35	—
GER4004	GE	.42	—
GER4005	GE	.54	—
GER4006	GE	.75	—
GER4007	GE	.82	—
GET929	GE	.37	—
GET930	GE	.37	—
GET2221	GE	.30	—
GET2221A	GE	.41	—
GET2222	GE	.41	—
GET2222A	GE	.46	—

NEW TYPES STOCKED AS SOON AS RELEASED

DISCRETE DEVICES

Type	Mfr	1-24	Page
GET2904	GE	.43	—
GET2905	GE	.43	—
GET2906	GE	.34	—
GET2907	GE	.34	—
GET3013	GE	.57	—
GET3014	GE	.67	—
GET3563	GE	.34	—
GET3638	GE	.24	—
GET3638A	GE	.27	—
GET3646	GE	.27	—
GET3904	GE	.55	—
GET3906	GE	.55	—
GET4870	GE	.75	—
GET4871	GE	.68	—
GET5306	GE	.43	—
GEX-3	GE	4.00	—
GEX-14	GE	1.15	—
GEX-15	GE	5.50	—
GEZD-5.1	GE	1.20	—
GEZD-9.1	GE	.90	—
GEZD-10-4	GE	.90	—
GEZD-12	GE	.90	—
GEZD-15	GE	.90	—
GEZD-18	GE	.90	—
GEZD-20	GE	.90	—
H11A1	GE	1.65	—
H11A2	GE	1.25	—
H11A3	GE	1.50	—
H11A4	GE	1.13	—
H11B1	GE	2.32	—
H11B2	GE	2.17	—
H11C1	GE	4.00	—
H11C2	GE	3.35	—
H11C3	GE	1.71	—
H13A1	GE	2.25	—
H13A2	GE	2.02	—
H13B1	GE	2.40	—
H13B2	GE	2.17	—
H15A1	GE	1.65	—
H15A2	GE	1.50	—
H15B1	GE	1.72	—
H15B2	GE	1.58	—
H17B1	GE	2.02	—
H35	TI	4.85	—
H60	TI	7.76	—
H61	TI	8.73	—
HC200H	RCA	55.00	—
HC2500	RCA	53.00	—
HEPC200P-S	MOT	2.40	—
HEPC1045P-S	MOT	1.10	—
HEPC2003P-S	MOT	2.40	—
HEPC2005P-S	MOT	2.30	—
HEPC2006G-S	MOT	3.00	—
HEPC2007G-S	MOT	3.00	—
HEPC2008G-S	MOT	3.68	—
HEPC2009G-S	MOT	5.32	—
HEPC2010G-S	MOT	3.00	—
HEPC3020P-S	MOT	.58	—
HEPC3030P-S	MOT	.65	—
HEPC3040P-S	MOT	.58	—
HEPC3041P-S	MOT	2.21	—
HEPC3050P-S	MOT	.58	—
HEPC3073P-S	MOT	.89	—
HEPC3075P-S	MOT	1.25	—
HEPC6052P-S	MOT	.80	—
HEPC6053G-S	MOT	2.72	—
HEPC6054G-S	MOT	6.20	—
HEPC6054R-S	MOT	7.98	—
HEPC6062P-S	MOT	3.78	—
HEPC6091G-S	MOT	2.98	—
HEPC6092G-S	MOT	3.98	—
HEPC6093G-S	MOT	5.49	—
HEPC6094P-S	MOT	3.62	—
HEPC6095P-S	MOT	3.80	—
HEPF0010-S	MOT	1.72	—
HEPF0015-S	MOT	1.38	—
HEPF1036-S	MOT	3.36	—
HEPF2004-S	MOT	2.40	—
HEPF2005-S	MOT	2.54	—
HEPF2007-S	MOT	2.20	—
HEPR0050-S	MOT	.38	—
HEPR0052-S	MOT	.46	—
HEPR0053-S	MOT	.55	—
HEPR0054-S	MOT	.60	—
HEPR0055-S	MOT	.68	—
HEPR0056-S	MOT	.82	—
HEPR0084-S	MOT	2.30	—
HEPR0090-S	MOT	1.98	—
HEPR0091-S	MOT	2.20	—
HEPR0092-S	MOT	1.90	—
HEPR0094-S	MOT	2.60	—
HEPR0096-S	MOT	2.98	—
HEPR0097-S	MOT	3.20	—
HEPR0098-S	MOT	3.90	—
HEPR0106	MOT	2.60	—
HEPR0106-S	MOT	2.60	—
HEPR0136-S	MOT	3.14	—
HEPR0160-S	MOT	3.04	—
HEPR0162-S	MOT	3.40	—
HEPR0170-S	MOT	.30	—
HEPR0220S	MOT	1.38	—
HEPR0222-S	MOT	1.76	—
HEPR0250-S	MOT	2.98	—
HEPR0700-S	MOT	1.16	—
HEPR0801-S	MOT	1.48	—
HEPR0803-S	MOT	1.98	—
HEPR0804-S	MOT	2.66	—
HEPR0805-S	MOT	1.98	—
HEPR1001-S	MOT	.80	—
HEPR1005-S	MOT	1.15	—
HEPR1202-S	MOT	5.44	—
HEPR1205-S	MOT	4.56	—
HEPR1221-S	MOT	1.70	—
HEPR1222-S	MOT	2.30	—
HEPR1223-S	MOT	5.10	—
HEPR1241-S	MOT	3.00	—
HEPR1243-S	MOT	3.52	—
HEPR1244-S	MOT	3.77	—
HEPR1301-S	MOT	3.76	—
HEPR1304-S	MOT	5.50	—
HEPR1307-S	MOT	7.80	—
HEPR1475-S	MOT	10.75	—
HEPR1723-S	MOT	2.15	—
HEPR1785-S	MOT	12.95	—
HEPR2002-S	MOT	.98	—
HEPR9001-S	MOT	.54	—
HEPR9002-S	MOT	.54	—
HEPR9134-S	MOT	.52	—
HEPR9135-S	MOT	.52	—
HEPS0005-S	MOT	.90	—
HEPS0011-S	MOT	.94	—
HEPS0012-S	MOT	1.28	—
HEPS0013-S	MOT	1.48	—
HEPS0014-S	MOT	1.12	—
HEPS0015-S	MOT	.90	—
HEPS0016-S	MOT	1.16	—
HEPS0017-S	MOT	1.42	—
HEPS0019-S	MOT	1.18	—
HEPS0020-S	MOT	1.18	—
HEPS0024-S	MOT	.74	—
HEPS0025-S	MOT	.98	—
HEPS0030-S	MOT	1.18	—
HEPS0031-S	MOT	1.36	—
HEPS0032-S	MOT	.98	—
HEPS0033-S	MOT	1.38	—
HEPS3001-S	MOT	3.72	—
HEPS3002-S	MOT	9.95	—
HEPS3003-S	MOT	19.95	—
HEPS3005-S	MOT	9.95	—
HEPS3007	MOT	16.50	—
HEPS3008-S	MOT	1.92	—
HEPS3010-S	MOT	9.95	—
HEPS3013-S	MOT	1.90	—
HEPS3014-S	MOT	5.60	—
HEPS3019-S	MOT	2.56	—
HEPS3020-S	MOT	1.60	—
HEPS3021-S	MOT	1.84	—
HEPS3024-S	MOT	1.32	—
HEPS3028-S	MOT	1.38	—
HEPS3032-S	MOT	1.90	—
HEPS5000-S	MOT	1.84	—
HEPS5004-S	MOT	2.72	—
HEPS5005-S	MOT	3.82	—
HEPS5006-S	MOT	2.20	—
HEPS5011-S	MOT	2.24	—
HEPS5012-S	MOT	2.57	—
HEPS5013-S	MOT	1.85	—
HEPS5014-S	MOT	1.75	—
HEPS5015-S	MOT	2.06	—
HEPS5018-S	MOT	5.25	—
HEPS5019-S	MOT	1.80	—
HEPS5020-S	MOT	7.96	—
HEPS5021-S	MOT	7.96	—
HEPS5022-S	MOT	1.38	—
HEPS5023-S	MOT	1.74	—
HEPS5024-S	MOT	3.24	—
HEPS5025-S	MOT	3.25	—
HEPS5026-S	MOT	2.56	—
HEPS7000-S	MOT	7.34	—
HEPS7002-S	MOT	3.62	—
HEPS7003-S	MOT	3.96	—
HEPS7004-S	MOT	2.60	—
HEPS9001-S	MOT	1.28	—
HEPS9002-S	MOT	1.38	—
HEPS9100-S	MOT	.86	—
HEPZ0206-S	MOT	.50	—
HEPZ0208-S	MOT	.50	—
HEPZ0210-S	MOT	.50	—
HEPZ0211-S	MOT	.50	—
HEPZ0212-S	MOT	.50	—
HEPZ0214-S	MOT	.50	—
HEPZ0215-S	MOT	.50	—
HEPZ0217-S	MOT	.50	—
HEPZ0219-S	MOT	.50	—
HEPZ0220-S	MOT	.50	—
HEPZ0222-S	MOT	.50	—
HEPZ0225-S	MOT	.50	—
HEPZ0402-S	MOT	.85	—
HEPZ0405-S	MOT	.85	—
HEPZ0407-S	MOT	.85	—
HEPZ0408-S	MOT	.85	—
HEPZ0412-S	MOT	.85	—
HEPZ0413-S	MOT	.85	—
HEPZ0414-S	MOT	.85	—
HEPZ0415-S	MOT	.85	—
HEPZ0416-S	MOT	.85	—
HEPZ0417-S	MOT	.85	—
HEPZ0418-S	MOT	.85	—
HEPZ0420-S	MOT	.85	—
HEPZ0424-S	MOT	.85	—
HEPZ0426-S	MOT	.85	—
HEPZ0432-S	MOT	.85	—
HEPZ0433-S	MOT	.85	—
HEPZ0436-S	MOT	.85	—
HEPZ0439-S	MOT	.85	—
HEPZ2500-S	MOT	1.78	—
HEPZ2502-S	MOT	1.78	—
HEPZ2504-S	MOT	1.78	—
HEPZ2506-S	MOT	1.78	—
HEPZ2508-S	MOT	1.78	—
HEPZ2510-S	MOT	1.78	—
HEPZ2513-S	MOT	1.78	—
HEPZ2516-S	MOT	1.78	—
HEPZ2519-S	MOT	1.78	—
HEPZ2528-S	MOT	1.78	—
HEPZ2537-S	MOT	1.78	—
HEPZ2542-S	MOT	1.78	—
HEPZ2545	MOT	1.78	—
HEPZ3511	MOT	3.60	—
HEPZ3514	MOT	3.60	—
HEPZ3518	MOT	3.60	—
HEPZ3520	MOT	3.60	—
HEPZ3522	MOT	3.60	—
HEPZ3530	MOT	3.60	—
HEPZ3534	MOT	3.60	—
HEPZ3536	MOT	3.60	—
HS5308	GE	.54	—
HS-1	IR	6.00	—
IN333	IR	4.25	—
IN343	IR	3.26	—
IN708A	IR	1.05	98
IN962A/ .4M11Z10	MOT	2.35	—
IN1342RA	IR	1.27	—
IN3743	IR	64.05	—
IN4587	IR	15.23	—
IN4595	IR	37.80	—
IR6D	IR	3.15	—
IR30E	IR	6.75	—
IR106A1	IR	.80	98
IR106B1	IR	.90	98
IR106B2	IR	.92	—
IR106B4	IR	.92	—
IR106C1	IR	1.10	98
IR106D1	IR	1.25	98
IR106F1	IR	.78	98
IR106F2	IR	.80	—
IR106Y1	IR	.75	98
IR122A	IR	1.32	98
IR122B	IR	1.47	98
IR122C	IR	1.84	98

Key	Mfr.
IDI	International Devices Inc.
IR	International Rectifier
GE	General Electric
GI	General Instrument
MOT	Motorola
RCA	Radio Corp. of America
SPR	Sprague
TI	Texas Instruments

Type	Mfr	1-24	Page
IR122D	IR	1.96	98
IR122F	IR	1.20	98
IR401	IR	3.78	100
IR402	IR	5.65	100
IR403	IR	7.02	—
IR409	IR	2.80	100
IR410	IR	2.80	100
IR411	IR	3.36	100
IR413	IR	3.82	100
IR423	IR	5.65	100
IR424	IR	6.86	—
IR425	IR	7.28	—
IR430	IR	6.57	100
IR431	IR	10.56	100
J14C1	IR	2.48	104
J14C5	IR	6.10	104
J14C8	IR	7.70	104
J14C04	IR	2.05	104
J14C17	IR	12.16	104
J24B1	IR	3.73	—
J29B1	IR	4.47	104
J29B5	IR	12.54	104
J29B8	IR	17.00	104
J29B04	IR	2.92	104
J29D2	IR	30.00	—
J58B1	IR	7.19	104
J58B5	IR	21.04	104
J58B8	IR	29.10	104
J58B04	IR	4.78	104
J58B17	IR	44.47	104
J116B1	IR	12.76	104
J116B5	IR	37.58	104
J116B8	IR	52.94	104
J116B04	IR	8.54	104
J135B1	IR	15.36	104
J135B8	IR	64.64	104
J135B04	IR	10.14	104
JD117K	IR	5.30	—
KB33C	RCA	3.22	—
KBP02	GI	.97	—
KC31B	RCA	.10	—
KC42A	RCA	1.00	—
KC4002	RCA	6.30	—
KC4003	RCA	11.30	—
KC4011	RCA	6.95	—
KC4012	RCA	6.95	—
KC4500	RCA	6.10	—
KD2105	RCA	13.50	—
KD2117	RCA	5.90	—
KD2131	RCA	29.95	—
KD2504	RCA	2.00	—
KL2DAF	IR	3.74	—
KL5DAF	IR	4.58	—
KL6DBF	IR	4.58	—
KSA1DAF	IR	3.90	—
KSA2DAF	IR	4.40	105
KSA4DAF	IR	5.48	105
KSA5DAF	IR	5.98	105
KSA6DBF	IR	6.48	105
KSA7DBF	IR	7.01	105
KSA8DBF	IR	7.54	—
KSA9DBF	IR	8.05	105
KSA10DBF	IR	8.56	105
KSA11DBF	IR	9.08	—
KSA12DBF	IR	9.60	105
KSA13DBF	IR	10.12	—
KSA15DBF	IR	11.18	—

NEW TYPES STOCKED AS SOON AS RELEASED

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfr	1-24	Page
KSA17DBF	IR	12.20	—
KSA18DBF	IR	12.70	105
KSA19DBF	IR	13.24	—
KSA20DBF	IR	13.74	105
KSL1DAF	IR	4.48	—
KSL2DAF	IR	6.47	105
KSL5DAF	IR	12.68	105
KSL6DBF	IR	14.37	105
KSL7DBF	IR	16.60	105
KSL8DBF	IR	18.60	—
KSL9DBF	IR	20.60	105
KSL10DBF	IR	22.40	105
KSL11DBF	IR	24.50	—
KSL12DBF	IR	26.60	105
KSL13DBF	IR	28.30	—
KSL15DBF	IR	32.20	—
KSL19DBF	IR	40.20	—
KSL20DBF	IR	44.20	105
KSP11DBF	IR	24.50	—
KY1DPF	IR	1.40	—
KY3DPF	IR	1.70	105
KY4DPF	IR	1.80	105
KY5DPF	IR	1.94	105
KY6DPF	IR	2.02	105
KY7DPF	IR	2.20	105
KY8DPF	IR	2.30	—
KY9DPF	IR	2.46	105
KY10DPF	IR	2.58	105
KY12DPF	IR	2.86	105
KY13DPF	IR	2.96	—
KY15DPF	IR	3.16	—
KY16DPF	IR	3.36	105
KY17DPF	IR	3.50	—
KY18DPF	IR	3.60	105
KY19DPF	IR	3.78	—
KY20DPF	IR	3.90	105
KZ1DPF	IR	1.32	—
KZ1DPM	IR	1.65	—
KZ2DPF	IR	1.76	105
KZ2DPM	IR	2.08	—
KZ3DPM	IR	2.39	—
KZ4DPE	IR	2.22	—
KZ4DPF	IR	2.22	105
KZ4DPM	IR	2.62	—
KZ5DPF	IR	2.50	105
KZ5DPM	IR	2.90	—
KZ6DPF	IR	2.72	105
KZ6DPM	IR	3.21	—
KZ7DPF	IR	2.94	105
KZ7DPM	IR	3.47	—
KZ8DPF	IR	3.14	—
KZ8DPM	IR	3.71	—
KZ9DPM	IR	3.99	—
KZ10DPF	IR	3.58	—
KZ10DPM	IR	4.23	—
KZ11DPM	IR	4.60	—
KZ12DPF	IR	4.04	—
KZ12DPM	IR	4.78	—
KZ13DPF	IR	4.26	—
KZ13DPM	IR	5.05	—
KZ14DPF	IR	4.48	—
KZ14DPM	IR	5.32	—
KZ15DPF	IR	4.70	—
KZ15DPM	IR	5.50	—
KZ16DPF	IR	4.92	—
KZ16DPM	IR	5.88	—
KZ17DPF	IR	5.18	—
KZ17DPM	IR	6.15	—
KZ18DPF	IR	5.40	—
KZ18DPM	IR	6.45	—
KZ19DPF	IR	5.66	—
KZ19DPM	IR	6.72	—
KZ20DPF	IR	5.86	—
KZ20DPM	IR	6.92	—
KZP4DPF	IR	1.88	105
KZP11DPF	IR	2.76	—
KZP19DPF	IR	3.84	105
L8A	GE	7.00	—
L8B	GE	11.85	—
L8F	GE	4.90	—
L8U	GE	4.50	—
L9A	GE	7.65	—
L9B	GE	13.05	—
L9F	GE	5.40	—
L9G	GE	10.45	—
L9U	GE	4.95	—
L811B	GE	13.35	—
L811G	GE	10.95	—
L811U	GE	6.00	—
L911A	GE	9.15	—
L911B	GE	14.55	—
L911U	GE	6.45	—
LCM1001	TI	149.50	—
LED55C	GE	3.10	—
LS-400	TI	5.53	—
LS-600	TI	3.10	—
MAC10-1	MOT	1.26	60
MAC10-2	MOT	1.38	60
MAC10-3	MOT	1.49	60
MAC10-4	MOT	1.61	60
MAC10-5	MOT	1.84	60
MAC10-6	MOT	1.95	60
MAC10-7	MOT	2.24	60
MAC10-8	MOT	2.41	60
MAC11-1	MOT	1.15	60
MAC11-2	MOT	1.26	60
MAC11-3	MOT	1.38	60
MAC11-4	MOT	1.49	60
MAC11-5	MOT	1.72	60
MAC11-6	MOT	1.84	60
MAC11-7	MOT	2.13	60
MAC11-8	MOT	2.30	60
MAC35-1	MOT	2.64	61
MAC35-2	MOT	2.99	61
MAC35-3	MOT	3.33	61
MAC35-7	MOT	4.43	61
MAC36-1	MOT	3.94	61
MAC36-2	MOT	4.43	61
MAC36-3	MOT	4.90	61
MAC36-4	MOT	4.85	61
MAC36-5	MOT	5.36	61
MAC37-1	MOT	2.53	61
MAC37-2	MOT	2.87	61
MAC37-3	MOT	3.22	61
MAC37-4	MOT	3.20	61
MAC37-5	MOT	3.60	61
MAC37-6	MOT	3.80	61
MAC37-7	MOT	4.40	61
MAC38-1	MOT	2.94	61
MAC38-2	MOT	4.27	61
MAC38-3	MOT	4.74	61
MAC38-4	MOT	4.78	61
MAC38-5	MOT	5.22	61
MAC38-6	MOT	5.70	61
MAC38-7	MOT	6.46	61
MAC77-1	MOT	.97	—
MAC77-2	MOT	1.09	—
MAC77-3	MOT	1.23	—
MAC77-4	MOT	1.34	—
MAC77-5	MOT	1.41	—
MAC77-6	MOT	1.47	—
MAC77-7	MOT	1.90	—
MAC77-8	MOT	2.13	—
MAC92-2	MOT	.80	60
MAC92-4	MOT	1.15	60
MAC40689	MOT	8.25	61
MAC40796	MOT	4.92	61
MAC40797	MOT	4.87	61
MAC40798	MOT	5.20	61
MBD101	MOT	.89	—
MBD102	MOT	.98	—
MBD501	MOT	.94	—
MBD502	MOT	1.06	—
MBD701	MOT	1.16	—
MBD702	MOT	1.16	—
MBS4991	MOT	.68	63
MBS4992	MOT	1.35	63
MCA1911N	MOT	4.50	—
MCA1911P	MOT	4.50	—
MCA1912N	MOT	7.95	—
MCA1913N	MOT	14.10	—
MCA1914N	MOT	23.40	—
MCA1932P	MOT	14.10	—
MCA2014P	MOT	23.40	—
MCA2111N	MOT	5.25	—
MCA2134N	MOT	49.50	—
MCL1300	MOT	2.30	—
MCL1301	MOT	2.30	—
MCR101	MOT	.42	59
MCR102	MOT	.63	59
MCR103	MOT	.66	59
MCR104	MOT	.75	59
MCR105-1	MOT	.74	59
MCR106-2	MOT	.78	59
MCR106-3	MOT	.81	59
MCR106-4	MOT	.90	59
MCR106-5	MOT	1.13	59
MCR106-6	MOT	1.31	59
MCR106-7	MOT	2.10	59
MCR106-8	MOT	2.25	59
MCR107-3	MOT	.76	—
MCR107-4	MOT	.85	—
MCR115	MOT	.80	—
MCR120	MOT	.84	—
MCR201	MOT	.65	—
MCR202	MOT	.71	—
MCR203	MOT	.84	—
MCR204	MOT	.91	—
MCR205	MOT	.97	—
MCR206	MOT	1.04	—
MCR649-1	MOT	3.72	—
MCR649-2	MOT	4.47	—
MCR649-3	MOT	4.75	—
MCR649-4	MOT	5.79	—
MCR649-5	MOT	6.77	—
MCR649-7	MOT	9.35	—
MCR649AP1	MOT	3.36	60
MCR649AP2	MOT	4.09	60
MCR649P2	MOT	3.97	—
MCR729-5	MOT	21.56	62
MCR846-1	MOT	5.92	62
MCR846-2	MOT	6.61	62
MCR846-3	MOT	8.45	62
MCR846-4	MOT	16.79	62
MCR1330	MOT	.83	—
MCR1350	MOT	1.00	—
MCR1718-5	MOT	29.32	62
MCR3000-1	MOT	1.26	59
MCR3000-3	MOT	1.32	59
MCR3000-5	MOT	1.50	59
MCR3000-7	MOT	2.15	59
MCR3818-1	MOT	2.17	60
MCR3818-2	MOT	2.26	—
MCR3818-3	MOT	2.34	60
MCR3818-4	MOT	2.48	—
MCR3818-5	MOT	3.15	60
MCR3818-6	MOT	3.75	—
MCR3818-8	MOT	4.95	—
MCR3835-2	MOT	3.07	—
MCR3835-3	MOT	3.63	—
MCR3835-4	MOT	4.54	—
MCR3835-5	MOT	5.50	—
MCR3835-6	MOT	5.94	—
MCR3918-1	MOT	2.50	60
MCR3918-2	MOT	2.56	—
MCR3918-3	MOT	2.67	60
MCR3918-4	MOT	2.81	—
MCR3918-5	MOT	3.47	60
MCR3918-6	MOT	4.08	—
MCR3918-7	MOT	4.82	60
MCR3918-8	MOT	5.28	—
MCR3935-1	MOT	3.00	—
MCR3935-2	MOT	3.32	—
MCR3935-3	MOT	3.96	—
MCR3935-4	MOT	4.87	—
MCR3935-5	MOT	5.90	—
MCR3935-6	MOT	6.27	—
MCR3935-7	MOT	7.00	—
MCR3935-8	MOT	7.67	—
MD708	MOT	3.38	—
MD708A	MOT	5.59	—
MD708B	MOT	4.80	—
MD918	MOT	5.20	—
MD918A	MOT	8.45	—
MD985	MOT	6.85	—
MD2218	MOT	6.75	—
MD2219	MOT	7.95	—
MD2219A	MOT	10.15	—
MD2219AF	MOT	17.70	—
MD2219F	MOT	12.45	—
MD2369	MOT	5.85	—
MD2369A	MOT	7.15	—
MD2369B	MOT	6.50	—
MD2904F	MOT	11.25	—
MD2905	MOT	7.95	—
MD2905A	MOT	8.85	—
MD3250	MOT	7.80	—
MD3250A	MOT	8.45	—
MD3251	MOT	7.50	—
MD3251F	MOT	14.95	—
MD3410	MOT	7.50	—
MD5000	MOT	11.25	—
MD5000B	MOT	15.75	—
MD6002	MOT	7.80	—
MD6003	MOT	7.35	—
MD6100	MOT	7.70	—
MD7003	MOT	4.50	—
MD8001	MOT	2.10	—
MD8002	MOT	2.25	—
MD8003	MOT	2.50	—
MDA800	MOT	5.60	—
MDA801	MOT	6.20	—
MDA802	MOT	6.80	—
MDA804	MOT	8.00	—
MDA806	MOT	10.00	—
MDA920-1	MOT	1.66	—
MDA920-2	MOT	1.98	—
MDA920-3	MOT	2.28	—
MDA920-4	MOT	2.72	—
MDA920-5	MOT	2.82	—
MDA920-6	MOT	2.90	—
MDA920-7	MOT	3.78	—
MDA920A1	MOT	1.66	—
MDA920A2	MOT	1.98	45
MDA920A3	MOT	2.28	45
MDA920A4	MOT	2.72	45
MDA920A5	MOT	2.82	—
MDA920A6	MOT	2.90	45
MDA920A7	MOT	3.78	45
MDA922-1	MOT	2.12	—
MDA922-2	MOT	2.30	—
MDA922-3	MOT	2.64	—
MDA922-4	MOT	3.14	—
MDA922-5	MOT	3.32	—
MDA922-6	MOT	3.66	—
MDA922-7	MOT	4.26	—
MDA942-1	MOT	3.80	—
MDA942-2	MOT	4.40	—
MDA942-3	MOT	5.00	—
MDA942-4	MOT	5.80	—
MDA942-5	MOT	6.40	—
MDA942-6	MOT	7.30	—
MDA942A1	MOT	3.80	—
MDA942A2	MOT	4.40	—
MDA942A3	MOT	5.00	—
MDA942A4	MOT	5.80	—
MDA942A5	MOT	6.40	—
MDA960-1	MOT	3.40	—
MDA960-2	MOT	4.00	—
MDA960-3	MOT	4.50	—
MDA970-1	MOT	3.20	45
MDA970-2	MOT	3.65	45
MDA970-3	MOT	4.10	45
MDA980-1	MOT	4.60	45
MDA980-2	MOT	4.90	45
MDA980-3	MOT	5.30	45
MDA980-4	MOT	5.80	—
MDA980-5	MOT	6.50	45
MDA980-6	MOT	7.30	45
MDA990-1	MOT	5.40	45
MDA990-2	MOT	5.80	45
MDA990-3	MOT	6.20	45
MDA990-4	MOT	6.80	—
MDA990-5	MOT	7.60	45
MDA990-6	MOT	8.60	45
MDA1200	MOT	6.80	45
MDA1201	MOT	7.10	45
MDA1202	MOT	7.80	45

NEW TYPES STOCKED AS SOON AS RELEASED

DISCRETE DEVICES

Type	Mfr	1-24	Page
MDA1204	MOT	9.40	45
MDA1206	MOT	10.20	45
MDA3500	MOT	2.54	45
MDA3501	MOT	2.62	45
MDA3502	MOT	2.70	45
MDA3504	MOT	2.77	45
MDA3506	MOT	3.77	45
MDA3508	MOT	4.54	45
MDA3510	MOT	5.77	45
MEM511	GI	7.50	—
MEM511A	GI	5.35	—
MEM511C	GI	2.25	—
MEM517	GI	19.00	—
MEM517A	GI	19.00	—
MEM517AL	GI	3.22	—
MEM520	GI	8.00	—
MEM520C	GI	2.25	—
MEM550	GI	17.50	—
MEM550C	GI	3.98	—
MEM551	GI	17.50	—
MEM551C	GI	3.98	—
MEM554C	GI	1.75	—
MEM556C	GI	2.98	—
MEM557	GI	5.35	—
MEM557C	GI	1.85	—
MEM560C	GI	1.98	—
MEM562C	GI	1.90	—
MEM563C	GI	2.25	—
MEM564C	GI	1.90	—
MEM655	GI	1.42	—
MFE824	MOT	1.65	57
MFE2000	MOT	.90	—
MFE2001	MOT	1.00	—
MFE2004	MOT	2.25	—
MFE2005	MOT	1.85	—
MFE2006	MOT	2.70	—
MFE2007	MOT	3.65	—
MFE2012	MOT	6.00	—
MFE2093	MOT	2.10	—
MFE2094	MOT	2.10	—
MFE2095	MOT	2.10	—
MFE3001	MOT	2.25	57
MFE3002	MOT	3.35	58
MFE3003	MOT	3.00	58
MFE3004	MOT	1.80	—
MFE3005	MOT	6.75	—
MFE3020	MOT	10.20	—
MFE4009	MOT	2.90	—
MFE4011	MOT	2.90	—
MH745	MOT	.45	—
MH746	MOT	.51	—
MH746B	MOT	.26	—
MHQ2222	MOT	7.80	—
MHQ2369	MOT	7.45	—
MHQ2484	MOT	9.40	—
MHQ3798	MOT	8.15	—
MHQ3799	MOT	8.80	—
MHQ6002	MOT	7.80	—
MHQ6100	MOT	8.15	—
MHW560	MOT	39.10	—
MHW561	MOT	44.50	—
MHW562	MOT	50.60	—
MHW602	MOT	42.00	—
MJ400	MOT	1.64	—
MJ401	MOT	4.35	—
MJ410	MOT	2.68	—
MJ411	MOT	2.97	—
MJ413	MOT	2.71	48
MJ420	MOT	.94	—
MJ421	MOT	1.04	—
MJ423	MOT	4.44	48
MJ424	MOT	6.16	—
MJ425	MOT	7.98	—
MJ431	MOT	5.73	—
MJ440	MOT	1.67	—
MJ450	MOT	4.22	—
MJ480	MOT	1.91	—
MJ481	MOT	2.08	—
MJ490	MOT	2.40	—
MJ491	MOT	2.84	—
MJ721	MOT	5.48	—
MJ802	MOT	5.92	49
MJ900	MOT	3.31	48, 49
MJ901	MOT	3.93	—
MJ921	MOT	6.44	—
MJ1000	MOT	2.28	48, 49
MJ1001	MOT	3.10	—
MJ1200	MOT	4.64	—
MJ1201	MOT	5.50	—
MJ1800	MOT	3.23	—
MJ2249	MOT	1.80	—
MJ2250	MOT	2.06	—
MJ2251	MOT	1.99	—
MJ2252	MOT	2.16	—
MJ2253	MOT	1.35	47
MJ2254	MOT	1.44	47
MJ2267	MOT	5.42	—
MJ2268	MOT	5.99	—
MJ2500	MOT	4.45	—
MJ2501	MOT	5.04	—
MJ2801	MOT	3.04	—
MJ2840	MOT	1.99	—
MJ2841	MOT	2.40	—
MJ2901	MOT	4.16	—
MJ2940	MOT	4.25	—
MJ2941	MOT	5.09	—
MJ2955	MOT	1.96	48
MJ3000	MOT	3.29	—
MJ3001	MOT	3.84	—
MJ3011	MOT	10.89	—
MJ3026	MOT	2.35	—
MJ3027	MOT	2.62	—
MJ3028	MOT	2.90	—
MJ3029	MOT	2.62	—
MJ3030	MOT	4.00	—
MJ3055	MOT	2.19	—
MJ3101	MOT	1.42	—
MJ3201	MOT	1.67	—
MJ3202	MOT	1.81	—
MJ3430	MOT	7.89	—
MJ3701	MOT	1.92	—
MJ3702	MOT	2.08	—
MJ3771	MOT	2.90	—
MJ3772	MOT	2.90	—
MJ4030	MOT	6.31	—
MJ4031	MOT	7.03	—
MJ4032	MOT	7.76	—
MJ4033	MOT	6.02	—
MJ4034	MOT	6.60	—
MJ4035	MOT	7.40	—
MJ4200	MOT	3.99	—
MJ4201	MOT	4.35	—
MJ4210	MOT	5.22	—
MJ4211	MOT	5.58	—
MJ4502	MOT	5.10	49
MJ4647	MOT	13.05	—
MJ6701	MOT	32.99	—
MJ7000	MOT	68.19	—
MJ7160	MOT	9.79	48
MJ7161	MOT	12.69	48
MJ7260	MOT	19.94	48
MJ7261	MOT	23.93	48
MJ8020	MOT	7.25	—
MJ8100	MOT	9.14	—
MJ8101	MOT	10.88	—
MJ9000	MOT	7.83	—
MJ10000	MOT	9.06	—
MJ10001	MOT	11.24	—
MJ10002	MOT	5.73	—
MJ10003	MOT	7.40	—
MJ11011	MOT	6.96	—
MJ11012	MOT	5.95	—
MJ11013	MOT	7.69	—
MJ11014	MOT	6.67	—
MJ11015	MOT	8.63	—
MJ11016	MOT	7.61	—
MJE29	MOT	.59	47
MJE29A	MOT	.65	47
MJE29B	MOT	.75	47
MJE29C	MOT	.87	47
MJE30	MOT	.67	47
MJE30A	MOT	.71	47
MJE30B	MOT	.78	47
MJE30C	MOT	.93	47
MJE31	MOT	.68	47
MJE31A	MOT	.74	47
MJE31B	MOT	.86	47
MJE31C	MOT	1.04	47
MJE32	MOT	.75	47
MJE32A	MOT	.78	47
MJE32B	MOT	.88	47
MJE32C	MOT	1.03	47
MJE33	MOT	1.02	48
MJE33A	MOT	1.09	48
MJE33B	MOT	1.17	48
MJE33C	MOT	1.35	48
MJE34	MOT	1.16	48
MJE34A	MOT	1.22	48
MJE34B	MOT	1.31	48
MJE34C	MOT	1.48	48
MJE34E	MOT	1.22	48
MJE41	MOT	.93	48
MJE41A	MOT	1.00	48
MJE41B	MOT	1.09	48
MJE41C	MOT	1.25	48
MJE42	MOT	1.06	48
MJE42A	MOT	1.13	48
MJE42B	MOT	1.22	48
MJE42C	MOT	1.39	48
MJE47	MOT	1.25	47
MJE48	MOT	1.32	47
MJE49	MOT	1.71	47
MJE51	MOT	2.10	—
MJE52	MOT	2.45	—
MJE53	MOT	3.26	—
MJE101	MOT	2.03	—
MJE102	MOT	2.61	—
MJE103	MOT	2.32	—
MJE104	MOT	2.76	—
MJE105	MOT	2.25	—
MJE170	MOT	.67	—
MJE171	MOT	.73	—
MJE172	MOT	.86	—
MJE180	MOT	.61	—
MJE181	MOT	.68	—
MJE182	MOT	.80	—
MJE200	MOT	.84	—
MJE201	MOT	1.67	—
MJE202	MOT	2.25	—
MJE203	MOT	1.96	—
MJE204	MOT	2.32	—
MJE205	MOT	1.81	—
MJE205K	MOT	1.84	—
MJE210	MOT	.96	—
MJE220	MOT	.94	—
MJE221	MOT	.87	—
MJE222	MOT	.77	—
MJE223	MOT	1.07	—
MJE224	MOT	1.00	—
MJE225	MOT	.91	—
MJE230	MOT	1.06	—
MJE231	MOT	.97	—
MJE232	MOT	.88	—
MJE233	MOT	1.20	—
MJE234	MOT	1.13	—
MJE235	MOT	1.03	—
MJE240	MOT	1.22	—
MJE241	MOT	1.15	—
MJE242	MOT	1.02	—
MJE243	MOT	1.31	—
MJE244	MOT	1.16	—
MJE250	MOT	1.33	—
MJE340	MOT	.97	47
MJE340K	MOT	1.23	47
MJE341	MOT	.90	—
MJE341K	MOT	1.15	—
MJE344	MOT	.93	—
MJE344K	MOT	1.17	—
MJE345	MOT	.87	—
MJE350	MOT	1.42	47
MJE370	MOT	.96	—
MJE371	MOT	1.29	—
MJE520	MOT	.59	47
MJE521	MOT	1.15	—
MJE700	MOT	1.70	47, 49, 59
MJE701	MOT	1.93	—
MJE702	MOT	2.00	59
MJE703	MOT	2.35	—
MJE710	MOT	.77	—
MJE711	MOT	.88	—
MJE712	MOT	1.04	—
MJE720	MOT	.70	—
MJE721	MOT	.81	—
MJE722	MOT	.97	—
MJE800	MOT	1.45	47, 49, 59
MJE801	MOT	1.65	—
MJE802	MOT	1.70	59
MJE803	MOT	1.99	—
MJE1090	MOT	2.83	49
MJE1091	MOT	3.07	—
MJE1092	MOT	3.31	—
MJE1093	MOT	3.65	—
MJE1100	MOT	1.93	49
MJE1101	MOT	2.10	—
MJE1102	MOT	2.35	—
MJE1103	MOT	2.60	—
MJE1290	MOT	2.61	—
MJE1291	MOT	3.12	—
MJE1660	MOT	2.22	—
MJE1661	MOT	2.54	—
MJE2010	MOT	1.99	—
MJE2011	MOT	2.27	—
MJE2021	MOT	1.78	—
MJE2050	MOT	.87	—
MJE2055	MOT	1.57	—
MJE2090	MOT	2.83	—
MJE2091	MOT	3.07	—
MJE2092	MOT	3.31	—
MJE2093	MOT	3.65	—
MJE2100	MOT	1.93	—
MJE2101	MOT	2.10	—
MJE2102	MOT	2.35	—
MJE2103	MOT	2.60	—
MJE2150	MOT	.91	—
MJE2160	MOT	1.86	47
MJE2360	MOT	1.16	—
MJE2361	MOT	1.52	—
MJE2370	MOT	1.10	—
MJE2480	MOT	1.28	—
MJE2490	MOT	1.59	—
MJE2491	MOT	1.80	—
MJE2520	MOT	1.09	—
MJE2801	MOT	1.64	—
MJE2801K	MOT	1.77	—
MJE2901	MOT	2.39	—
MJE2901K	MOT	2.39	—
MJE2955	MOT	2.39	48
MJE3055	MOT	1.64	48
MJE3439	MOT	1.02	47
MJE3440	MOT	.80	47
MJE4919	MOT	1.95	—
MJE4923	MOT	1.95	—
MJE5978	MOT	1.98	—
MK10	MOT	.48	—
MK15	MOT	.46	—
MK20	MOT	.60	—
MK25	MOT	.48	—
MK30	MOT	.42	—
MK35	MOT	.56	—
MLC400	MOT	14.00	—
MLC400T	MOT	14.00	—
MLC500	MOT	9.50	—
MLC501	MOT	9.50	—
MLED60	MOT	.62	—
MLED90	MOT	.58	—
MLED900	MOT	.85	—
MLED910	MOT	.85	—
MLED930	MOT	3.50	—
MM1941	MOT	1.95	51
MM2258	MOT	3.90	51
MM2259	MOT	4.20	51
MM2484	MOT	.48	—
MM3000	MOT	1.25	—
MM3001	MOT	1.40	51
MM3002	MOT	1.65	51
MM3003	MOT	1.90	51

Key Mfr.

IDI	International Devices Inc.
IR	International Rectifier
GE	General Electric
GI	General Instrument
MOT	Motorola
RCA	Radio Corp. of America
SPR	Sprague
TI	Texas Instruments

NEW TYPES STOCKED AS SOON AS RELEASED

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfr	1-24	Page
MM3005	MOT	1.60	51
MM3007	MOT	2.55	51
MM3009	MOT	1.80	51
MM3904	MOT	1.50	52
MM4000	MOT	1.24	51
MM4001	MOT	1.39	50, 51
MM4002	MOT	1.65	51
MM4003	MOT	1.85	51
MM4005	MOT	1.85	50
MM4006	MOT	2.25	50
MM4018	MOT	1.38	—
MM4019	MOT	2.90	—
MM4030	MOT	.91	50
MM4036	MOT	1.60	50, 51
MM4039	MOT	1.60	50, 51
MM4049	MOT	10.05	—
MM4208	MOT	2.25	—
MM4208A	MOT	2.25	—
MM4209	MOT	2.75	—
MM5005	MOT	1.12	51
MM5006	MOT	1.35	51
MM5007	MOT	1.73	51
MM8000	MOT	.98	—
MM8001	MOT	1.75	—
MM8006	MOT	2.15	—
MM8009	MOT	2.30	—
MMD70	MOT	.35	—
MMD6050	MOT	.75	—
MMD6100	MOT	.85	—
MMD6150	MOT	2.00	—
MMD7000	MOT	2.13	—
MMF1	MOT	23.25	—
MMF2	MOT	23.25	—
MMF3	MOT	15.75	—
MMF5	MOT	12.75	—
MMF6	MOT	12.75	—
MMT70	MOT	.50	—
MMT71	MOT	.54	—
MMT72	MOT	.61	—
MMT74	MOT	.94	—
MMT76	MOT	.49	—
MMT807	MOT	16.25	—
MMT809	MOT	18.25	—
MMT918	MOT	1.25	—
MMT930	MOT	.94	—
MMT2222	MOT	1.19	—
MMT2369	MOT	1.38	—
MMT2484	MOT	1.06	—
MMT2857	MOT	2.50	—
MMT2907	MOT	1.44	—
MMT3014	MOT	1.90	—
MMT3798	MOT	1.88	—
MMT3799	MOT	2.19	—
MMT3823	MOT	1.25	—
MMT3903	MOT	1.13	—
MMT3904	MOT	1.25	—
MMT3905	MOT	1.13	—
MMT3906	MOT	1.25	—
MMT3960A	MOT	6.25	—
MOC1005	MOT	2.75	—
MOC2000	MOT	4.75	—
MPC1000	MOT	15.85	—
MPD200	GE	1.21	—
MPD300	GE	1.49	—
MPD400	GE	1.62	—
MPF102	MOT	.45	58
MPF108	MOT	.97	—
MPF109	MOT	.75	—
MPF111	MOT	.38	—
MPF112	MOT	.38	—
MPF131	MOT	1.00	—
MPF256	MOT	.80	58
MPF820	MOT	.85	—
MPF4391	MOT	.80	—
MPN3401	MOT	.52	—
MPN3402	MOT	.52	—
MPQ918	MOT	2.70	—
MPQ2222	MOT	3.15	—
MPQ2906	MOT	3.00	—
MPQ3725	MOT	3.70	—
MPS404	MOT	.37	—
MPS404A	MOT	.45	—
MPS706	MOT	.45	55
MPS706A	MOT	.63	55
MPS708	MOT	.49	—
MPS834	MOT	.52	55
MPS835	MOT	.60	55
MPS918	MOT	.83	—
MPS2222	MOT	.32	55
MPS2369	MOT	.53	55
MPS2714	MOT	.43	—
MPS2716	MOT	.28	—
MPS2907	MOT	.39	55
MPS2923	MOT	.26	—
MPS2924	MOT	.30	—
MPS2925	MOT	.34	—
MPS2926	MOT	.27	—
MPS3390	MOT	.46	—
MPS3391	MOT	.39	—
MPS3391A	MOT	.42	—
MPS3392	MOT	.27	—
MPS3393	MOT	.28	—
MPS3394	MOT	.27	—
MPS3395	MOT	.35	—
MPS3397	MOT	.37	—
MPS3398	MOT	.39	—
MPS3563	MOT	.38	—
MPS3569	MOT	.38	—
MPS3638	MOT	.26	—
MPS3638A	MOT	.29	—
MPS3639	MOT	.34	55
MPS3640	MOT	.44	55
MPS3646	MOT	.52	55
MPS3693	MOT	.44	—
MPS3694	MOT	.44	—
MPS3702	MOT	.34	55
MPS3703	MOT	.30	—
MPS3704	MOT	.34	55
MPS3705	MOT	.29	—
MPS3706	MOT	.27	—
MPS3707	MOT	.34	—
MPS3709	MOT	.29	—
MPS3710	MOT	.28	—
MPS3711	MOT	.29	—
MPS4354	MOT	.48	—
MPS4355	MOT	.52	—
MPS4356	MOT	.51	—
MPS5172	MOT	.19	—
MPS6507	MOT	.53	54
MPS6511	MOT	.68	54
MPS6512	MOT	.28	—
MPS6513	MOT	.44	—
MPS6514	MOT	.46	55
MPS6515	MOT	.44	54
MPS6516	MOT	.55	—
MPS6517	MOT	.54	—
MPS6518	MOT	.59	55
MPS6519	MOT	.71	54
MPS6520	MOT	.49	55
MPS6521	MOT	.54	55
MPS6522	MOT	.52	55
MPS6523	MOT	.58	55
MPS6530	MOT	.44	—
MPS6531	MOT	.52	54, 55
MPS6532	MOT	.40	—
MPS6533	MOT	.54	—
MPS6534	MOT	.55	54, 55
MPS6535	MOT	.46	—
MPS6539	MOT	.60	—
MPS6540	MOT	.63	—
MPS6543	MOT	1.32	54
MPS6544	MOT	.54	—
MPS6545	MOT	.84	—
MPS6547	MOT	1.35	54
MPS6548	MOT	.90	—
MPS6560	MOT	.48	—
MPS6561	MOT	.45	—
MPS6562	MOT	.54	—
MPS6563	MOT	.51	—
MPS6565	MOT	.47	55
MPS6566	MOT	.50	55
MPS6568	MOT	1.50	54
MPS6568A	MOT	.70	—
MPS6571	MOT	.53	55
MPS6579	MOT	.75	—
MPS6580	MOT	.70	—
MPS8097	MOT	.72	55
MPS8099	MOT	.39	55
MPSA05	MOT	.48	54,55
MPSA06	MOT	.50	54,55
MPSA09	MOT	.54	55
MPSA10	MOT	.25	—
MPSA12	MOT	.58	59
MPSA13	MOT	.42	59
MPSA14	MOT	.51	59
MPSA16	MOT	.36	—
MPSA17	MOT	.36	—
MPSA18	MOT	.72	54,55
MPSA20	MOT	.26	55
MPSA42	MOT	.76	56
MPSA43	MOT	.68	56
MPSA5	MOT	.52	54,55
MPSA56	MOT	.60	54,55
MPSA63	MOT	.42	—
MPSA64	MOT	.51	—
MPSA65	MOT	.57	59
MPSA66	MOT	.63	59
MPSA70	MOT	.30	55
MPSA92	MOT	.58	56
MPSA93	MOT	.53	56
MPSH02	MOT	.76	54
MPSH04	MOT	.38	54
MPSH05	MOT	.32	54
MPSH07	MOT	.68	54
MPSH08	MOT	.73	54
MPSH10	MOT	.49	54
MPSH11	MOT	.54	54
MPSH19	MOT	.45	54
MPSH20	MOT	.59	54
MPSH24	MOT	.62	54
MPSH30	MOT	.51	54
MPSH31	MOT	.51	54
MPSH32	MOT	.62	54
MPSH34	MOT	.65	54
MPSH37	MOT	.51	54
MPSH54	MOT	.40	54
MPSH55	MOT	.38	54
MPSH81	MOT	.45	—
MPSH83	MOT	1.15	54
MPSK300	MOT	49.50	—
MPSL01	MOT	.54	56
MPSL51	MOT	.61	56
MPSU01	MOT	.79	56
MPSU01A	MOT	.84	56
MPSU02	MOT	.81	56
MPSU03	MOT	.85	56
MPSU04	MOT	.95	56
MPSU05	MOT	.74	56
MPSU06	MOT	.82	56
MPSU07	MOT	.90	56
MPSU10	MOT	1.05	56
MPSU45	MOT	.78	56
MPSU51	MOT	.80	56
MPSU51A	MOT	.85	56
MPSU52	MOT	.82	56
MPSU55	MOT	.79	56
MPSU56	MOT	.80	56
MPSU57	MOT	.87	56
MPSU60	MOT	1.65	56
MPSU95	MOT	1.25	56
MPU131	MOT	.71	63
MPU132	MOT	.84	63
MPU133	MOT	.90	63
MPU231	MOT	1.35	—
MPU6027	MOT	.73	—
MPU6028	MOT	.93	—
MPZ5-32A	MOT	17.70	—
MQ3251	MOT	26.25	—
MQ3725	MOT	25.50	—
MR1-1600	MOT	1.40	46
MR250-1	MOT	1.08	46
MR250-2	MOT	1.18	46
MR250-3	MOT	1.28	46
MR250-4	MOT	1.38	46
MR250-5	MOT	1.48	46
MR327	MOT	2.12	—
MR327R	MOT	2.12	—
MR328	MOT	2.58	44
MR328R	MOT	2.58	—
MR331	MOT	5.58	44
MR331R	MOT	5.58	—
MR501	MOT	.50	44
MR502	MOT	.56	44
MR504	MOT	.66	44
MR506	MOT	.80	44
MR508	MOT	1.02	44
MR510	MOT	1.40	44
MR751	MOT	.84	44
MR752	MOT	.88	44
MR754	MOT	1.00	44
MR756	MOT	1.56	44
MR810	MOT	.60	46
MR811	MOT	.68	46
MR812	MOT	.76	46
MR813	MOT	.84	—
MR814	MOT	1.00	46
MR816	MOT	1.18	46
MR830	MOT	1.80	46
MR831	MOT	2.00	46
MR832	MOT	2.40	46
MR834	MOT	3.60	46
MR836	MOT	4.40	46
MR840	MOT	1.60	—
MR841	MOT	1.80	—
MR842	MOT	2.20	—
MR846	MOT	4.00	—
MR850	MOT	1.06	46
MR856	MOT	1.98	46
MR890	MOT	5.00	—
MR891R	MOT	6.00	—
MR896	MOT	14.00	—
MR1120	MOT	1.30	44
MR1120R	MOT	1.30	—
MR1121	MOT	1.40	44
MR1121R	MOT	1.40	—
MR1122	MOT	1.50	44
MR1123	MOT	1.68	—
MR1123R	MOT	1.68	—
MR1124	MOT	1.86	—
MR1124R	MOT	1.86	—
MR1125	MOT	2.80	—
MR1125R	MOT	2.80	—
MR1126	MOT	3.30	44
MR1126R	MOT	3.30	—
MR1128	MOT	6.27	44
MR1128R	MOT	6.27	—
MR1130	MOT	8.89	44
MR1130R	MOT	8.89	—
MR1205FL	MOT	7.15	45
MR1205FLR	MOT	7.15	—
MR1209FL	MOT	11.60	45
MR1215SL	MOT	8.75	—
MR1215SLR	MOT	8.75	—
MR1245FLR	MOT	32.25	—
MR1245SL	MOT	33.00	45
MR1249SL	MOT	57.00	45
MR1269FL	MOT	101.00	—
MR1366	MOT	6.60	46
MR1376	MOT	9.25	46
MR1386	MOT	12.70	46
MR1815SL	MOT	9.35	—
MR1815SLR	MOT	9.35	—
MR2266	MOT	1.30	—
MR2272	MOT	.68	—
MR2273	MOT	.58	—
MR4936	MOT	.90	—
MR5020	MOT	2.90	—
MR5040	MOT	3.80	—
MRA163	MOT	52.00	45
MRA163B	MOT	109.00	45
MRA333	MOT	34.80	45
MRA363	MOT	53.40	45
MRA363B	MOT	112.00	45
MRA363R	MOT	53.40	—
MRD14B	MOT	.55	—
MRD150	MOT	1.20	—
MRD300	MOT	2.50	—
MRD310	MOT	2.25	—

NEW TYPES STOCKED AS SOON AS RELEASED

DISCRETE DEVICES

Type	Mfr	1-24	Page
MRD450	MOT	1.13	—
MRD500	MOT	10.90	—
MRD510	MOT	9.90	—
MRD601	MOT	3.45	—
MRD602	MOT	3.60	—
MRD603	MOT	3.80	—
MRD604	MOT	4.10	—
MRD3050	MOT	1.20	—
MRD3051	MOT	1.35	—
MRD3055	MOT	1.45	—
MRD3056	MOT	1.65	—
MRF207	MOT	2.00	—
MRF208	MOT	10.20	—
MRF226	MOT	10.35	—
MRF501	MOT	.52	—
MRF502	MOT	.58	—
MRF8004	MOT	1.90	—
MS10	MOT	2.85	—
MS15	MOT	2.35	—
MSD6100	MOT	.36	—
MSD6101	MOT	.40	—
MSD6102	MOT	.30	—
MSD6150	MOT	.37	—
MSD7000	MOT	.38	—
MSS1000	MOT	.20	—
MU10	MOT	.40	62
MU20	MOT	.50	62
MU4891	MOT	.90	62
MU4892	MOT	1.15	62
MU4893	MOT	.96	62
MU4894	MOT	1.05	62
MUS4987	MOT	.65	63
MUS4988	MOT	1.23	63
MV104	MOT	.89	—
MV109	MOT	1.15	—
MV830	MOT	1.35	—
MV832	MOT	1.35	—
MV833	MOT	1.35	—
MV834	MOT	1.35	—
MV835	MOT	1.35	—
MV836	MOT	1.35	—
MV837	MOT	1.35	—
MV838	MOT	1.35	—
MV839	MOT	1.35	—
MV840	MOT	1.35	—
MV1401	MOT	8.95	—
MV1402	MOT	8.95	—
MV1403	MOT	8.95	—
MV1404	MOT	8.95	—
MV1405	MOT	8.95	—
MV1620	MOT	1.42	—
MV1622	MOT	1.42	—
MV1624	MOT	1.42	—
MV1626	MOT	1.42	—
MV1628	MOT	1.42	—
MV1630	MOT	1.42	—
MV1632	MOT	1.42	—
MV1634	MOT	1.42	—
MV1636	MOT	1.42	—
MV1638	MOT	1.42	—
MV1640	MOT	1.42	—
MV1642	MOT	1.42	—
MV1644	MOT	1.42	—
MV1646	MOT	1.42	—
MV1648	MOT	1.42	—
MV1650	MOT	1.42	—
MV1652	MOT	3.60	—
MV1654	MOT	3.60	—
MV1656	MOT	3.60	—
MV1658	MOT	3.60	—
MV1660	MOT	3.60	—
MV1662	MOT	3.60	—
MV1860D	MOT	10.40	—
MV1862D	MOT	10.40	—
MV1863D	MOT	10.40	—
MV1864D	MOT	10.40	—
MV1866D	MOT	10.40	—
MV1868D	MOT	10.40	—
MV1870	MOT	10.50	—
MV1870D	MOT	10.40	—
MV1872	MOT	10.50	—
MV1878	MOT	10.50	—
MV2101	MOT	.90	—
MV2102	MOT	.90	—
MV2103	MOT	.90	—
MV2104	MOT	.90	—
MV2105	MOT	.90	—
MV2106	MOT	.90	—
MV2107	MOT	.90	—
MV2108	MOT	.90	—
MV2109	MOT	.90	—
MV2110	MOT	.90	—
MV2111	MOT	.90	—
MV2112	MOT	.90	—
MV2113	MOT	.90	—
MV2114	MOT	.90	—
MV2115	MOT	.90	—
MV2201	MOT	.53	—
MV2203	MOT	.53	—
MV2205	MOT	.53	—
MV2207	MOT	.53	—
MV2209	MOT	.53	—
MV2301	MOT	1.50	—
MV2305	MOT	1.50	—
MV2308	MOT	1.50	—
MV3102	MOT	1.05	—
MV3103	MOT	.82	—
MV3140	MOT	1.20	—
MV3141	MOT	.82	—
MV3142	MOT	.60	—
MZ1-1000-21	MOT	.67	—
MZ500-1	MOT	.57	—
MZ500-2	MOT	.57	—
MZ500-4	MOT	.57	—
MZ500-5	MOT	.57	—
MZ500-7	MOT	.57	—
MZ500-9	MOT	.57	—
MZ500-10	MOT	.57	—
MZ500-11	MOT	.57	—
MZ500-12	MOT	.57	—
MZ500-14	MOT	.57	—
MZ500-15	MOT	.57	—
MZ500-16	MOT	.57	—
MZ500-18	MOT	.57	—
MZ500-19	MOT	.57	—
MZ500-20	MOT	.57	—
MZ500-21	MOT	.57	—
MZ500-22	MOT	.57	—
MZ500-23	MOT	.57	—
MZ500-25	MOT	.57	—
MZ500-27	MOT	.57	—
MZ500-28	MOT	.57	—
MZ500-29	MOT	.57	—
MZ500-32	MOT	.57	—
MZ500-33	MOT	.57	—
MZ500-34	MOT	.57	—
MZ500-36	MOT	.57	—
MZ500-37	MOT	.57	—
MZ500-38	MOT	.57	—
MZ500-40	MOT	.57	—
MZ1000-5	MOT	.67	—
MZ1000-6	MOT	.67	—
MZ1000-7	MOT	.67	—
MZ1000-9	MOT	.67	—
MZ1000-10	MOT	.67	—
MZ1000-11	MOT	.67	—
MZ1000-12	MOT	.67	—
MZ1000-13	MOT	.67	—
MZ1000-14	MOT	.67	—
MZ1000-15	MOT	.67	—
MZ1000-17	MOT	.67	—
MZ1000-18	MOT	.67	—
MZ1000-20	MOT	.67	—
MZ1000-21	MOT	.67	—
MZ1000-23	MOT	.67	—
MZ1000-24	MOT	.67	—
MZ1000-25	MOT	.67	—
MZ1000-26	MOT	.67	—
MZ1000-27	MOT	.67	—
MZ1000-33	MOT	.67	—
MZ1000-37	MOT	.67	—
MZ2360	MOT	.28	—
MZ2361	MOT	.57	—
MZ2362	MOT	.84	—
MZ4614	MOT	3.85	43
MZ4615	MOT	3.85	43
MZ4616	MOT	3.85	43
MZ4617	MOT	3.85	43
MZ4618	MOT	3.85	43
MZ4619	MOT	3.85	43
MZ4620	MOT	3.85	43
MZ4621	MOT	3.85	43
MZ4622	MOT	3.85	43
MZ4623	MOT	3.85	43
MZ4624	MOT	3.85	43
MZ4625	MOT	3.85	43
MZ4626	MOT	3.85	43
MZ4627	MOT	3.85	43
MZ4699	MOT	3.65	—
MZ5555	MOT	4.50	—
MZ5556	MOT	4.50	—
MZ-500-19	MOT	.57	—
NA38B	RCA	.05	—
NA38C	RCA	.03	—
NR59B	RCA	.03	—
NR68A	RCA	.10	—
NR109A	RCA	.02	—
NR110A	RCA	.02	—
NR166B	RCA	.13	—
NR184A	RCA	.03	—
NR193B	RCA	.09	—
NR231A	RCA	.02	—
P101	IR	24.00	—
P101KW	IR	30.00	—
P101W	IR	25.60	—
P102	IR	34.75	—
P102KW	IR	37.75	—
P102W	IR	33.75	—
P141	IR	22.00	—
P142	IR	26.75	—
P201KW	IR	58.10	—
P201W	IR	56.70	—
P202KW	IR	63.00	—
P241	IR	44.00	—
P242	IR	53.50	—
Q1B	IR	2.22	—
Q1H	IR	1.04	—
Q2T2222	TI	3.40	66,68, 69
Q2T2905	TI	3.54	67-69
Q2T3244	TI	4.66	68,69
Q2T3725	TI	4.07	68,69
Q48	IR	3.78	—
RA1	GE	7.64	—
RA1A	GE	13.46	—
RA1B	GE	23.94	—
RA2	GE	13.46	—
RA2A	GE	38.17	—
RA3	GE	14.03	—
RCA1A01	RCA	.74	—
RCA1A03	RCA	1.31	—
RCA1A04	RCA	1.50	—
RCA1A05	RCA	.78	—
RCA29	RCA	.56	77
RCA29A	RCA	.61	77
RCA29B	RCA	.69	77
RCA29C	RCA	.77	77
RCA30	RCA	.64	80
RCA30A	RCA	.69	80
RCA30B	RCA	.74	80
RCA30C	RCA	.82	80
RCA31	RCA	.64	77
RCA31A	RCA	.70	77
RCA31B	RCA	.74	77
RCA31C	RCA	.85	77
RCA32	RCA	.70	80
RCA32A	RCA	.72	80
RCA32B	RCA	.80	80
RCA41	RCA	.82	79
RCA41A	RCA	.88	77
RCA41B	RCA	.93	77
RCA41C	RCA	1.10	—
RCA42	RCA	.90	—
RCA42A	RCA	.99	—
RCA42B	RCA	1.09	—
RCA42C	RCA	1.22	—
RCA126	RCA	1.76	—
RCA410	RCA	2.30	—
RCA411	RCA	2.55	—
RCA413	RCA	2.56	—
RCA423	RCA	3.90	—
RCA507	RCA	3.30	—
RCA1000	RCA	1.65	—
RCA1001	RCA	1.83	—
RCA3054	RCA	.79	77
RCA3055	RCA	.93	79
RCA3441	RCA	.99	77
RCA6263	RCA	.92	77
S1V1P	IR	1.20	105
S1W1P	IR	2.38	105
S1X1P	IR	1.88	105

Key Mfr.

IDI	International Devices Inc.
IR	International Rectifier
GE	General Electric
GI	General Instrument
MOT	Motorola
RCA	Radio Corp. of America
SPR	Sprague
TI	Texas Instruments

Type	Mfr	1-24	Page
S1Y1P	IR	1.40	105
S2V1D	IR	1.40	—
S2V1P	IR	1.20	105
S2W1P	IR	2.73	105
S2X1P	IR	2.10	105
S2Y1P	IR	1.36	105
S2Z1P	IR	1.58	105
S3V3P	IR	1.32	105
S3W3P	IR	3.68	105
S3X3P	IR	2.72	105
S3Y2P	IR	1.42	105
S3Y3P	IR	1.48	105
S3Z2P	IR	1.78	105
S3Z3P	IR	1.80	105
S4V4P	IR	1.36	105
S4W2P	IR	3.68	105
S4W4P	IR	4.30	105
S4X2P	IR	2.72	105
S4X4P	IR	3.00	105
S4Y2P	IR	1.48	105
S4Y4P	IR	1.55	105
S4Z2P	IR	1.84	105
S4Z4P	IR	1.98	105
S5V2P	IR	1.32	105
S5V5P	IR	1.40	105
S5W2P	IR	4.00	105
S5X2P	IR	2.90	105
S5Y2P	IR	1.55	105
S5Y5P	IR	1.58	105
S5Z2P	IR	1.90	105
S5Z5P	IR	2.14	105
S6W2P	IR	4.30	105
S6W6P	IR	5.66	105
S6X2P	IR	3.00	105
S6Y2P	IR	1.55	105
S6Y6P	IR	1.68	105
S6Z2P	IR	1.98	105
S6Z6P	IR	2.30	105
S6Z29	IR	1.98	105
S7V2P	IR	1.38	105
S7W2P	IR	4.70	105
S7X2P	IR	3.22	105
S7Y2P	IR	1.56	105
S7Z2P	IR	2.12	105
S1010GE12	IR	3.73	—
S1020E6PL	IR	3.25	—
S1020GE10PL	IR	4.86	—
S2060A	RCA	.71	—
S2060B	RCA	.79	—
S2060D	RCA	1.16	—
S2060Y	RCA	.66	—
S2061A	RCA	.63	—
S2061B	RCA	.71	—
S2061D	RCA	.99	—
S2062A	RCA	.59	—
S2062B	RCA	.66	—
S2062D	RCA	.92	—
S2400M	RCA	4.58	—
S2600B	RCA	1.41	83
S2600D	RCA	1.69	83
S2600M	RCA	2.03	83
S2610B	RCA	1.58	83
S2610D	RCA	1.85	83
S2620B	RCA	1.49	83
S2620D	RCA	1.77	83
S2620M	RCA	2.12	83
S2710B	RCA	1.64	—

NEW TYPES STOCKED AS SOON AS RELEASED

Type	Mfr	1-24	Page
S2710D	RCA	1.94	—
S2710M	RCA	2.38	—
S2800A	MOT	1.34	—
S2800A	RCA	1.34	83
S2800B	MOT	1.50	—
S2800B	RCA	1.50	83
S2800D	MOT	2.03	—
S2800D	RCA	2.03	83
S3700B	RCA	2.75	—
S3700D	RCA	4.44	—
S3700M	RCA	4.76	—
S3701M	RCA	7.12	—
S3702S	RCA	3.63	—
S3703SF	RCA	3.10	—
S3705M	RCA	2.72	—
S6200A	MOT	2.88	—
S6200A	RCA	2.88	—
S6200B	MOT	4.04	—
S6200B	RCA	4.04	—
S6200D	MOT	5.41	—
S6200D	RCA	5.41	—
S6200M	MOT	7.32	—
S6200M	RCA	7.32	—
S6210A	MOT	3.31	—
S6210A	RCA	3.31	—
S6210B	MOT	4.52	—
S6210B	RCA	4.52	—
S6210D	MOT	5.89	—
S6210D	RCA	5.89	—
S6210M	MOT	7.88	—
S6210M	RCA	7.88	—
S6220A	MOT	3.70	—
S6220B	MOT	4.94	—
S6220B	RCA	4.94	—
S6220D	MOT	6.32	—
S6220D	RCA	6.32	—
S6220M	MOT	8.28	—
S6220M	RCA	8.28	—
S6410N	RCA	10.53	84
S6420A	RCA	4.52	—
S6420B	RCA	5.82	—
S6420D	RCA	8.05	—
S6420M	RCA	9.78	—
S6420N	RCA	6.02	84
SC136B	GE	.91	92
SC136D	GE	1.09	92
SC141B	GE	1.50	92
SC141B	MOT	1.50	—
SC141D	GE	1.74	92
SC141D	MOT	1.74	—
SC141D3	GE	1.79	—
SC141E	GE	2.49	92
SC141E	MOT	2.49	—
SC141M	MOT	3.24	—
SC142B	GE	1.62	92
SC142D	GE	1.88	92
SC142E	GE	2.69	92
SC146B	GE	1.88	92
SC146B	MOT	1.88	—
SC146D	GE	2.31	92
SC146D	MOT	2.31	—
SC146E	GE	3.31	92
SC146E	MOT	3.31	—
SC146M	MOT	4.10	—
SC240B	GE	3.23	92
SC240D	GE	4.15	92
SC240D2	GE	4.20	92
SC240E	GE	4.64	92
SC241B	GE	2.84	92
SC241D	GE	3.75	92
SC241E	GE	4.25	92
SC245B	GE	3.87	92
SC245B	MOT	3.87	—
SC245B3	MOT	5.20	—
SC245D	GE	4.57	92
SC245D	MOT	4.57	—
SC245D3	MOT	5.89	—
SC245D12	GE	4.57	—
SC245E	GE	5.48	92
SC245E	MOT	5.48	—
SC245E3	MOT	6.80	—
SC245M	MOT	5.92	—
SC245M3	MOT	7.34	—
SC246B	GE	3.50	92
SC246B	MOT	3.50	—
SC246D	GE	4.19	92
SC246D	MOT	4.19	—
SC246E	GE	5.10	92
SC246E	MOT	5.10	—
SC246M	MOT	5.51	—
SC250B	GE	4.10	92
SC250B	MOT	4.10	—
SC250B3	MOT	5.42	—
SC250B12	GE	4.10	—
SC250D	GE	4.82	92
SC250D	MOT	4.82	—
SC250D2	GE	4.87	—
SC250D3	MOT	6.14	—
SC250D13	GE	6.03	—
SC250E	GE	5.80	92
SC250E	MOT	5.80	—
SC250E3	MOT	7.12	—
SC250M	MOT	6.26	—
SC250M3	MOT	7.69	—
SC251B	GE	3.72	92
SC251B	MOT	3.72	—
SC251D	GE	4.44	92
SC251D	MOT	4.44	—
SC251E	GE	5.42	92
SC251E	MOT	5.42	—
SC251M	MOT	5.85	—
SC260B	GE	4.90	92
SC260B	MOT	4.90	—
SC260B3	MOT	6.05	—
SC260D	GE	5.79	92
SC260D	MOT	5.79	—
SC260D2	GE	5.84	92
SC260D3	MOT	6.98	—
SC260E	GE	6.80	92
SC260E	MOT	6.80	—
SC260E3	MOT	7.87	—
SC260F	MOT	6.80	—
SC260M	MOT	7.12	—
SC260M3	MOT	8.29	—
SC261B	GE	4.56	92
SC261B	MOT	4.56	—
SC261D	GE	5.45	92
SC261D	MOT	5.45	—
SC261E	MOT	6.46	—
SC261M	MOT	6.80	—
SC1368	GE	.91	92
SC2618	GE	4.56	92
SF13X10	IR	1.25	106
SF13X15	IR	1.25	106
SF13X20	IR	1.25	106
SF13X25	IR	1.25	106
SF13X30	IR	1.25	106
SF13X45	IR	2.74	106
SF13X60	IR	2.74	106
SF13X100	IR	5.10	106
SF13X200	IR	5.10	106
SF13X250	IR	5.10	106
SF13X300	IR	5.10	106
SF13X400	IR	5.10	106
SF25X10	IR	1.41	106
SF25X15	IR	1.41	106
SF25X25	IR	1.41	106
SF25X30	IR	1.41	106
SF25X50	IR	4.98	106
SF25X100	IR	6.40	106
SF25X400	IR	7.73	106
SF50P80	IR	4.74	106
SF50P100	IR	4.74	106
SF50P125	IR	7.28	106
SF50P150	IR	7.28	106
SF50P200	IR	7.28	106
SF60C500	IR	18.04	106
SH144C	IR	1.26	—
SH149C	IR	1.26	—
SK3003	RCA	.99	—
SK3004	RCA	1.14	—
SK3005	RCA	1.17	—
SK3006	RCA	1.41	—
SK3007	RCA	1.26	—
SK3008	RCA	1.23	—
SK3009	RCA	2.34	—
SK3010	RCA	1.26	—
SK3011	RCA	1.62	—
SK3012	RCA	2.88	—
SK3013	RCA	4.68	—
SK3014	RCA	3.15	—
SK3015	RCA	6.30	—
SK3016	RCA	.57	—
SK3017A	RCA	.60	—
SK3018	RCA	1.35	—
SK3019	RCA	1.47	—
SK3020	RCA	1.32	—
SK3021	RCA	1.95	—
SK3022	RCA	3.96	—
SK3023	RCA	3.96	—
SK3024	RCA	1.98	—
SK3025	RCA	2.70	—
SK3026	RCA	1.80	—
SK3027	RCA	3.15	—
SK3028	RCA	3.60	—
SK3029	RCA	6.30	—
SK3030	RCA	.42	—
SK3031	RCA	.51	—
SK3032	RCA	.61	—
SK3033	RCA	.81	—
SK3034	RCA	4.50	—
SK3035	RCA	5.49	—
SK3036	RCA	5.85	—
SK3037	RCA	11.70	—
SK3038	RCA	1.44	—
SK3039	RCA	1.98	—
SK3040	RCA	2.25	—
SK3041	RCA	2.52	—
SK3042	RCA	3.96	—
SK3043	RCA	1.80	—
SK3044	RCA	5.49	—
SK3045	RCA	5.67	—
SK3046	RCA	1.98	—
SK3047	RCA	2.88	—
SK3048	RCA	5.58	—
SK3049	RCA	8.10	—
SK3051	RCA	1.08	—
SK3052	RCA	2.35	—
SK3054	RCA	2.70	—
SK3055	RCA	1.08	—
SK3055MP	RCA	1.08	—
SK3056	RCA	1.08	—
SK3057	RCA	1.08	—
SK3058	RCA	1.08	—
SK3058MP/ KD2503	RCA	1.08	—
SK3059	RCA	1.08	—
SK3059MP	RCA	1.08	—
SK3060MP/ KD2504	RCA	1.08	—
SK3061	RCA	1.08	—
SK3061MP	RCA	1.08	—
SK3062	RCA	1.08	—
SK3062MP/ KD2505	RCA	1.08	—
SK3063	RCA	1.08	—
SK3064	RCA	1.08	—
SK3066	RCA	2.15	—
SK3068	RCA	3.50	—
SK3071	RCA	7.00	—
SK3075	RCA	4.32	—
SK3076	RCA	4.32	—
SK3077	RCA	5.00	—
SK3078	RCA	7.00	—
SK3080	RCA	.81	—
SK3081	RCA	.90	—
SK3083	RCA	2.52	—
SK3084	RCA	2.88	—
SK3085	RCA	4.50	—
SK3088/1N60MP	RCA	.33	—
SK3105	RCA	1.35	—
SK3108	RCA	4.40	—
SK3109	RCA	1.15	—
SK3112	RCA	1.35	—
SK3113	RCA	2.25	—
SK3114	RCA	1.45	—
SK3116	RCA	1.30	—
SK3121	RCA	.54	—
SK3122	RCA	1.30	—
SK3123	RCA	2.55	—
SK3124	RCA	1.25	—
SK3128	RCA	2.25	—
SK3154	RCA	18.15	—
SK3164	RCA	1.35	—
SK3166	RCA	2.50	—
SK3170	RCA	5.95	—
SK3500	RCA	2.25	—
SK3501	RCA	5.31	—
SK3502	RCA	6.40	—
SK3503	RCA	1.42	—
SK3504	RCA	5.31	—
SK3505	RCA	6.57	—
SK3506	RCA	4.60	—
SK3507	RCA	6.40	—
SK3509	RCA	19.25	—
SK3510	RCA	4.20	—
SK3511	RCA	6.40	—
SK3512	RCA	4.10	—
SK3513	RCA	4.60	—
SQ2529	RCA	1.38	—
ST2	GE	.66	92
ST2	IR	6.56	—
ST4	GE	.60	92
ST-2A	IR	9.68	—
ST-3	IR	7.42	—
ST-7A	IR	11.68	—
ST-11	IR	13.74	—
ST-14	IR	4.50	—
T1493	TI	1.84	—
T2300A	RCA	1.57	81
T2300B	RCA	1.78	81
T2300D	RCA	2.48	81
T2301A	RCA	1.37	81
T2301B	RCA	1.57	81
T2301D	RCA	1.89	81
T2302B	RCA	1.49	81
T2302D	RCA	1.79	81
T2304D	RCA	2.77	82
T2305B	RCA	1.77	82
T2305D	RCA	1.96	82
T2306D	RCA	1.85	82
T2310A	RCA	1.73	81
T2310B	RCA	1.94	81
T2310D	RCA	2.65	81
T2311A	RCA	1.54	81
T2311B	RCA	1.74	81
T2311D	RCA	2.05	81
T2312A	RCA	1.46	81
T2312B	RCA	1.65	81
T2312D	RCA	1.95	81
T2313A	RCA	1.36	81
T2313B	RCA	1.57	81
T2313D	RCA	1.85	81
T2313M	RCA	2.28	81
T2316B	RCA	1.64	82
T2500B	MOT	1.29	—
T2500B	RCA	1.29	81
T2500D	MOT	1.55	—
T2700B	RCA	1.57	81
T2700D	RCA	1.89	81
T2706B	RCA	2.06	82
T2706D	RCA	2.39	82
T2710B	RCA	1.74	81
T2710D	RCA	2.05	81
T2716B	RCA	2.23	82
T2800B	MOT	1.45	—
T2800B	RCA	1.45	81
T2800D	MOT	1.72	—
T2800D	RCA	1.72	81
T2800M	MOT	2.48	—
T2801DF	MOT	1.59	—
T2806B	RCA	1.62	82
T2806D	RCA	2.18	82
T2850B	RCA	1.62	—
T2850D	RCA	1.88	—
T4103B	RCA	5.20	—
T4104B	RCA	4.74	—
T4105B	RCA	3.07	82
T4105D	RCA	4.36	82
T4106B	RCA	3.42	82
T4106D	RCA	4.06	82
T4107B	RCA	3.22	—
T4107D	RCA	3.83	—
T4111M	RCA	4.92	81
T4113B	RCA	5.95	82
T4113D	RCA	7.70	82
T4114B	RCA	5.45	—
T4114D	RCA	6.70	—
T4115B	RCA	3.55	82
T4115D	RCA	4.83	82
T4116B	RCA	3.75	—
T4116D	RCA	4.39	—
T4117B	RCA	3.55	82
T4117D	RCA	4.16	82
T4120B	MOT	4.74	—
T4120D	MOT	5.38	—
T4120D	RCA	5.38	—
T4120M	MOT	6.35	—
T4120M	RCA	6.35	—
T4121B	MOT	4.54	—
T4121B	RCA	4.54	81
T4121D	MOT	5.15	—
T4121D	RCA	5.15	81
T4121M	MOT	6.07	—
T4700B	RCA	2.07	81
T4700D	RCA	2.48	81
T4706B	RCA	2.48	82
T4706D	RCA	3.27	82
T6401B	MOT	4.52	—
T6401B	RCA	4.52	81

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Type	Mfr	1-24	Page
T6401D	MOT	5.41	—
T6401D	RCA	5.41	81
T6401M	MOT	6.77	—
T6406D	RCA	6.93	83
T6407D	RCA	5.58	82
T6407M	RCA	6.93	82
T6411B	MOT	4.85	—
T6411B	RCA	4.85	82
T6411D	MOT	5.74	—
T6411D	RCA	5.74	82
T6411M	MOT	7.10	—
T6411M	RCA	7.10	82
T6414D	RCA	15.73	—
T6416D	RCA	7.26	83
T6416M	RCA	8.96	83
T6417B	RCA	5.02	82
T6417D	RCA	5.91	82
T6417M	RCA	7.26	82
T6420B	MOT	7.13	—
T6420D	MOT	8.25	—
T6420D	RCA	8.25	—
T6420M	MOT	9.95	—
T6420M	RCA	9.95	—
T6420N	MOT	12.97	—
T6420N	RCA	12.97	—
T6421B	MOT	6.00	—
T6421D	MOT	6.90	—
T6421D	RCA	6.90	82
T6421M	MOT	8.25	—
T8450D	RCA	40.00	—
T8450M	RCA	45.00	—
TCR205C	RCA	.32	—
TD264A	GE	26.25	—
TD550	SPR	4.00	—
TD-100	SPR	2.40	—
TD-101	SPR	1.60	—
TD-102	SPR	1.50	—
TD-400	SPR	2.80	—
TD-401	SPR	1.80	—
TD-402	SPR	1.70	—
TD-601	SPR	1.80	—
TD-602	SPR	1.70	—
TI51	TI	.38	—
TI52	TI	.39	—
TI53	TI	.39	—
TI54	TI	.40	—
TI55	TI	.41	—
TI56	TI	.42	—
TI57	TI	.43	—
TI58	TI	.44	—
TI71	TI	.37	—
TI145A1	TI	1.60	75
TI145A2	TI	1.97	75
TI145A3	TI	2.33	75
TI145A4	TI	2.70	75
TI159	TI	.87	—
TI400	TI	1.10	—
TI405	TI	.56	—
TI1124	TI	12.32	—
TI1131	TI	17.61	73
TI1135	TI	9.60	73
TI-408	TI	.20	—
TI-409	TI	.18	—
TI-480	TI	3.49	—
TI-481	TI	4.17	—
TI-482	TI	5.53	—
TI-483	TI	6.16	—
TI-484	TI	7.52	—
TI-486	TI	4.75	72
TI-487	TI	5.43	72
TI-492	TI	3.01	—
TI-493	TI	1.84	—
TI-494	TI	4.85	—
TI-495	TI	5.82	—
TI-496	TI	3.98	—
TI-1151	TI	22.26	73
TIC36B	TI	1.00	—
TIC44	TI	.51	75
TIC45	TI	.58	75
TIC46	TI	.66	75
TIC64	TI	.81	75
TIC106A	TI	.76	75
TIC106B	TI	.81	75
TIC106C	TI	.95	75
TIC106D	TI	1.24	75
TIC106F	TI	.73	75
TIC106Y	TI	.70	75
TIC116A	TI	1.16	75
TIC116B	TI	1.31	75
TIC116E	TI	2.02	75

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TIC126A	TI	1.31	75
TIC126B	TI	1.46	75
TIC126F	TI	1.16	75
TIC220B	TI	2.03	—
TIC220D	TI	2.63	—
TIC226D	TI	1.25	75
TID40	TI	.37	—
TID124	TI	1.66	—
TID125	TI	1.97	—
TID126	TI	1.87	—
TID136N	TI	3.20	—
TID385	TI	.25	—
TIDM186J	TI	5.43	—
TIL23	TI	3.88	—
TIL24	TI	5.34	—
TIL26	TI	3.10	—
TIL31	TI	2.42	—
TIL32	TI	1.26	—
TIL63	TI	.97	—
TIL64	TI	1.13	—
TIL65	TI	1.14	—
TIL66	TI	1.22	—
TIL67	TI	1.46	—
TIL78	TI	1.02	—
TIL81	TI	1.94	—
TIL102	TI	4.85	—
TIL103	TI	8.73	—
TIL107	TI	4.22	—
TIL108	TI	5.04	—
TIL111	TI	1.26	—
TIL112	TI	1.16	—
TIL113	TI	1.36	—
TIL114	TI	1.31	—
TIL115	TI	1.21	—
TIL116	TI	1.50	—
TIL117	TI	2.81	—
TIL118	TI	1.41	—
TIL119	TI	1.21	—
TIL131	TI	34.92	—
TIL133	TI	52.38	—
TIL135	TI	30.56	—
TIL138	TI	3.40	—
TIL139	TI	3.40	—
TIL209A	TI	.22	—
TIL209M	TI	.36	—
TIL211	TI	.49	—
TIL220	TI	.23	—
TIL221	TI	.23	—
TIL222	TI	.53	—
TIL223	TI	.53	—
TIL302	TI	5.87	—
TIL303	TI	5.87	—
TIL304	TI	5.87	—
TIL305	TI	5.92	—
TIL306	TI	11.16	—
TIL307	TI	11.16	—
TIL307A	TI	11.16	—
TIL308	TI	11.16	—
TIL309	TI	11.16	—
TIL310	TI	7.96	—
TIL311	TI	11.54	—
TIL312	TI	10.00	—
TIL360	TI	19.40	—
TIL601	TI	3.41	—
TIL602	TI	3.59	—
TIL603	TI	3.76	—
TIL604	TI	3.98	—
TIL605	TI	3.59	—
TIL606	TI	3.85	—
TIL607	TI	4.01	—
TIL608	TI	4.23	—
TIL610	TI	3.59	—
TIL611	TI	3.76	—
TIL612	TI	3.98	—
TIL613	TI	3.59	—
TIL614	TI	3.85	—
TIL616	TI	4.23	—
TIL3087	TI	19.00	—
TIP29	TI	.59	74
TIP29A	TI	.63	74
TIP29B	TI	.70	74
TIP29C	TI	.79	74
TIP30	TI	.66	74
TIP30A	TI	.70	74
TIP30B	TI	.78	74
TIP30C	TI	.85	74
TIP31	TI	.68	74
TIP31A	TI	.72	74
TIP31B	TI	.79	74
TIP31C	TI	.87	74

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TIP32	TI	.75	74
TIP32A	TI	.79	74
TIP32B	TI	.85	74
TIP32C	TI	.94	74
TIP33	TI	.93	74
TIP33A	TI	1.01	74
TIP33B	TI	1.09	74
TIP33C	TI	1.23	74
TIP34	TI	1.05	74
TIP34A	TI	1.13	74
TIP34B	TI	1.20	74
TIP34C	TI	1.35	74
TIP35	TI	2.28	74
TIP35A	TI	2.42	74
TIP35B	TI	2.57	74
TIP35C	TI	2.81	74
TIP36	TI	2.47	74
TIP36A	TI	2.62	74
TIP36B	TI	2.76	74
TIP36C	TI	3.01	74
TIP41	TI	.85	74
TIP41A	TI	.93	74
TIP41B	TI	1.01	74
TIP41C	TI	1.15	74
TIP42	TI	.97	74
TIP42A	TI	1.05	74
TIP42B	TI	1.13	74
TIP42C	TI	1.27	74
TIP47	TI	1.02	74
TIP48	TI	1.09	74
TIP51	TI	2.18	74
TIP52	TI	2.52	74
TIP53	TI	3.30	74
TIP110	TI	1.02	74
TIP111	TI	1.12	74
TIP115	TI	1.16	74
TIP120	TI	1.65	74
TIP121	TI	1.79	74
TIP126	TI	1.94	74
TIP140	TI	2.23	74
TIP142	TI	3.01	74
TIP145	TI	2.38	74
TIP146	TI	2.62	74
TIP147	TI	3.15	74
TIP538	TI	14.55	73
TIP551	TI	3.64	—
TIP645	TI	3.25	74
TIP2955	TI	1.18	74
TIP3055	TI	1.05	74
TIP-33	TI	.93	74
TIPS58N	TI	.00	—
TIS25	TI	7.28	71
TIS26	TI	6.31	71
TIS37	TI	.37	65,66
TIS38	TI	.34	65,66
TIS43	TI	.74	71
TIS58	TI	.34	70
TIS59	TI	.34	70
TIS62A	TI	.36	66
TIS64	TI	.28	—
TIS69(PAIR)	TI	4.09	71
TIS70(PAIR)	TI	3.41	71
TIS73	TI	1.71	70
TIS74	TI	1.49	70
TIS75	TI	1.55	70
TIS84	TI	.44	66
TIS86	TI	.56	66
TIS87	TI	.60	66
TIS92	TI	.37	66
TIS92M	TI	.39	69
TIS93	TI	.36	67
TIS93M	TI	.38	69
TIS97	TI	.33	65,66
TIS98	TI	.28	65,66
TIS99	TI	.29	65,67
TIS100	TI	.63	67
TIS110	TI	.41	66,67
TIS111	TI	.43	66
TIS112	TI	.72	67,68
TIV306	TI	.97	—
TIV308	TI	.97	—
TIXL13	TI	43.65	—
TIXL27	TI	13.58	—
TIXL109	TI	5.63	—
TN54	SPR	.96	—
TN59	SPR	.96	—
TN61	SPR	.96	—
TN-54	SPR	.96	—
TN-59	SPR	.96	—
TQ59	SPR	1.00	—

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TQ62	SPR	.92	—
V24ZA4	GE	1.93	96
V40LA2A	GE	1.04	—
V40LA2B	GE	1.20	—
V60LA3A	GE	1.10	—
V60LA3B	GE	1.28	—
V130LA1	GE	1.23	96
V130LA2	GE	1.38	96
V130LA10A	GE	1.75	96
V130LA20A	GE	2.60	96
V130PA10A	GE	3.94	96
V130PA20A	GE	4.70	96
V130PA20B	GE	4.95	96
V130PA20C	GE	5.18	96
V150LA1	GE	1.23	96
V150LA2	GE	1.38	96
V150LA10A	GE	1.75	96
V150LA20A	GE	2.60	96
V150PA10A	GE	3.94	96
V150PA20A	GE	4.70	96
V150PA20B	GE	4.95	96
V250LA2	GE	1.53	96
V250LA4	GE	1.77	96
V250LA15A	GE	2.18	96
V250LA20A	GE	2.60	96
V250LA40A	GE	4.30	96
V250PA10A	GE	3.94	96
V250PA20A	GE	4.70	96
V250PA40A	GE	6.23	96
V250PA40B	GE	6.55	96
V250PA40C	GE	6.86	96
V420LB20A	GE	3.93	96
V420LB40A	GE	5.58	96
V460LB20A	GE	3.93	96
V460LB40A	GE	5.58	96
V480LB20A	GE	3.93	96
V480LB40A	GE	5.58	96
V480LB80A	GE	7.90	96
V480LB80B	GE	8.97	96
V480PA20A	GE	6.35	96
V480PA40A	GE	7.88	96
V480PA80A	GE	10.94	96
V510LB20A	GE	4.20	96
V510LB40A	GE	5.85	96
V510LB80A	GE	9.25	96
V510PA20A	GE	6.62	96
V510PA40A	GE	8.15	96
V510PA80A	GE	11.21	96
V550PA20A	GE	6.62	96
V550PA40A	GE	8.15	96
V550PA80A	GE	11.21	96
V1000LB160A	GE	20.00	96
XC6852L	MOT	19.00	—
1/4M2.7AZ10	MOT	2.60	—
1/4M3.9AZ	MOT	2.10	—
1/4M4.7AZ	MOT	2.10	—
1/4M5.6AZ	MOT	2.10	—
1/4M6.8Z	MOT	2.10	—
1/4M7.5Z5	MOT	4.00	—
1/4M10Z5	MOT	4.00	—
1/4M11Z10	MOT	2.60	—
1/4M12Z5	MOT	4.00	—
1/4M13Z5	MOT	4.00	—
1/4M15Z	MOT	2.10	—
1/4M18Z10	MOT	2.60	—
1/4M19Z5	MOT	4.00	—
1/4M20Z5	MOT	4.00	—
1/4M24Z10	MOT	2.60	—
1/4M25Z5	MOT	4.00	—
1/4M56Z5	MOT	4.35	—
1/4M75Z5	MOT	4.35	—
1/4M82Z5	MOT	4.35	—
1/4M91Z5	MOT	4.35	—
1/4M120ZZ10	MOT	3.50	—
1/4M150Z10	MOT	3.50	—
1/4M200Z	MOT	2.80	—
1M110ZS5	MOT	2.33	—
1M110ZS10	MOT	2.26	44
1M120ZS10	MOT	2.26	44
1M130ZS5	MOT	2.33	—
1M130ZS10	MOT	2.26	44
1M150ZS10	MOT	2.26	—
1M200ZS5	MOT	2.33	—
1M200ZS10	MOT	2.26	44
1M2996B	MOT	7.30	—
1M3040	MOT	2.85	44
1RC40A	IR	33.80	—
1Y1	IR	1.05	—
1Z6.2T5	IR	4.04	—
1Z10T10	IR	3.24	—

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Type	Mfr	1-24	Page
1ZC3.9T10	IR	2.60	—
1ZC5.6T10	IR	2.60	—
1ZC8.2T5	IR	3.17	—
1ZC9.1T10	IR	2.60	—
1ZC10T10	IR	2.60	—
1ZC11T10	IR	2.60	—
1ZC12T5	IR	3.17	—
1ZC12T10	IR	2.60	—
1ZC15T10	IR	2.60	—
1ZC16T10	IR	2.60	—
1ZC18T10	IR	2.60	—
1ZC20T10	IR	2.60	—
1ZC27T10	IR	2.60	—
1ZS13A	IR	1.10	—
1ZS40	IR	.95	—
1ZS47	IR	.95	—
1ZS62A	IR	1.10	—
1ZS100	IR	.95	—
2Y1	IR	1.15	—
3F10	IR	1.26	—
3F50	IR	5.15	—
3F60	IR	6.14	—
3F80	IR	8.30	—
3F100	IR	11.34	—
3FR10	IR	1.26	—
3FR20	IR	2.26	—
3FR30	IR	3.26	—
3FR40	IR	4.25	—
3FR50	IR	5.15	—
3FR60	IR	6.14	—
3FR80	IR	8.30	—
3FR100	IR	11.34	—
3RC20	IR	5.05	—
4N22	TI	4.85	—
4N23	TI	5.34	—
4N24	TI	8.73	—
4N26	MOT	2.25	—
4N27	MOT	1.95	—
4N28	MOT	1.25	—
4N29	MOT	2.90	—
4N30	MOT	2.60	—
4N31	MOT	2.25	—
4N35	GE	2.48	—
4N36	GE	2.10	—
4N37	GE	1.88	—
4V1	IR	1.36	—
5MA2/1N1082	IR	.92	—
5MA4	IR	1.12	—
5MA5	IR	1.47	—
5MA6	IR	1.99	—
5T6450	TI	.50	—
5ZS24	IR	2.10	—
5ZS30A	IR	2.31	—
5ZS30B	IR	2.47	—
6F5	IR	1.18	—
6F5A	IR	1.18	—
6F5B	IR	1.21	—
6F10	IR	1.26	—
6F10A	IR	1.26	—
6F10B	IR	1.42	—
6F20	IR	2.26	—
6F20A	IR	2.26	—
6F20B	IR	2.36	—
6F30	IR	3.26	—
6F30A	IR	3.26	—
6F30B	IR	3.36	—
6F40A	IR	4.25	—
6F40B	IR	4.36	—
6F50	IR	5.15	—
6F50A	IR	5.15	—
6F50B	IR	5.25	—
6F60A	IR	6.14	—
6F60B	IR	6.30	—
6F70A	IR	6.72	—
6F70B	IR	7.09	—
6F80	IR	8.30	—
6F80A	IR	8.30	—
6F80B	IR	8.72	—
6F90A	IR	9.77	—
6F90B	IR	10.24	—
6F100A	IR	11.34	—
6F100B	IR	11.87	—
6FR5A	IR	1.18	—
6FR5B	IR	1.21	—
6FR10A	IR	1.26	—
6FR10B	IR	1.42	—
6FR20A	IR	2.26	—
6FR20B	IR	2.36	—
6FR30A	IR	3.26	—
6FR30B	IR	3.36	—
6FR40A	IR	4.25	—
6FR40B	IR	4.36	—
6FR50A	IR	5.15	—
6FR50B	IR	5.25	—
6FR60A	IR	6.14	—
6FR60B	IR	6.30	—
6FR70A	IR	6.72	—
6FR70B	IR	7.09	—
6FR80A	IR	8.30	—
6FR80B	IR	8.72	—
6FR90A	IR	9.77	—
6FR90B	IR	10.24	—
6FR100A	IR	11.34	—
6FR100B	IR	11.87	—
6FV100	IR	14.70	—
7U1	IR	1.70	—
10B1	IR	.65	—
10B2	IR	.77	—
10B3	IR	.87	—
10B4	IR	.95	—
10B5	IR	1.10	—
10B6	IR	1.40	—
10B8	IR	1.88	—
10B10	IR	2.42	—
10C1	IR	.71	—
10C2	IR	.79	—
10C3	IR	.90	—
10C4	IR	.99	—
10C5	IR	1.10	—
10C6	IR	1.19	—
10C8	IR	1.32	—
10C10	IR	1.79	—
10D1	IR	.27	101
10D2	IR	.30	101
10D3	IR	.32	101
10D4	IR	.35	101
10D5	IR	.36	101
10D6	IR	.39	101
10D8	IR	.47	101
10D10	IR	.54	101
10JB05P	IR	5.18	—
10M10ZR10	MOT	5.85	—
10M68Z (1N3001)	MOT	5.45	—
10RC5A	IR	3.70	—
10RC10A	IR	4.10	98
10RC20A	IR	5.45	—
10RC30	IR	6.50	98
10RC30A	IR	6.50	—
10RC40A	IR	7.45	—
10RC50A	IR	8.35	98
10RC60A	IR	9.15	98
10RC80A	IR	12.95	—
10RC100A	IR	16.90	—
12F5A	IR	1.26	—
12F5B	IR	2.10	—
12F10A	IR	1.42	—
12F10B	IR	2.35	—
12F15	IR	1.84	—
12F15A	IR	1.84	—
12F15B	IR	3.31	—
12F20A	IR	2.58	—
12F20B	IR	3.94	—
12F30	IR	3.62	—
12F30A	IR	3.62	—
12F30B	IR	4.73	—
12F40	IR	4.62	—
12F40A	IR	4.62	—
12F40B	IR	5.62	—
12F50A	IR	5.50	—
12F50B	IR	6.67	—
12F60	IR	6.40	—
12F60A	IR	6.40	—
12F60B	IR	7.98	—
12F80A	IR	10.24	—
12F80B	IR	10.76	—
12F100A	IR	14.95	—
12F100B	IR	15.75	—
12FR5A	IR	1.26	—
12FR5B	IR	2.10	—
12FR10A	IR	1.42	—
12FR10B	IR	2.35	—
12FR15A	IR	1.84	—
12FR15B	IR	3.31	—
12FR20A	IR	2.58	—
12FR20B	IR	3.94	—
12FR30A	IR	3.62	—
12FR30B	IR	4.73	—
12FR40A	IR	4.62	—
12FR40B	IR	5.62	—
12FR50A	IR	5.50	—
12FR50B	IR	6.67	—
12FR60A	IR	6.40	—
12FR60B	IR	7.98	—
12FR80A	IR	10.24	—
12FR80B	IR	10.76	—
12FR100A	IR	14.95	—
12FR100B	IR	15.75	—
16F5	IR	1.42	—
16F10	IR	1.58	—
16F15	IR	2.05	—
16F20	IR	3.15	—
16F20A	IR	3.15	—
16F30A	IR	4.10	—
16F40	IR	4.99	—
16F40A	IR	4.99	—
16F50A	IR	5.78	—
16F60A	IR	7.04	—
16F80A	IR	9.45	—
16F100A	IR	11.25	—
16FR5	IR	1.42	—
16FR10	IR	1.58	—
16FR15	IR	2.05	—
16FR20	IR	3.15	—
16FR20A	IR	3.15	—
16FR30A	IR	4.10	—
16FR40A	IR	4.99	—
16FR50A	IR	5.78	—
16FR60A	IR	7.04	—
16FR80A	IR	9.45	—
16FR100A	IR	11.25	—
16RC5A	IR	4.40	—
16RC10A	IR	4.90	98
16RC20A	IR	6.30	98
16RC30A/2N687	IR	7.50	98
16RC40A/2N688	IR	8.80	98
16RC50A	IR	9.85	98
16RC60A	IR	10.80	98
16RC80A	IR	15.40	—
16RC100A	IR	20.10	98
16RC110A	IR	22.25	—
16RC120A	IR	25.25	—
16RCS60	IR	13.10	—
18DB1A	IR	1.40	104
18DB2A	IR	1.40	104
18DB3A	IR	1.64	104
18DB4A	IR	1.88	104
18DB5A	IR	2.12	104
18DB6A	IR	2.36	104
18DB7A	IR	2.58	104
18DB8A	IR	2.85	104
18DB05A	IR	1.40	104
18DB10A	IR	3.07	104
18RC10	IR	6.01	—
18RC20	IR	7.40	—
18RC30	IR	9.10	—
18RC40	IR	10.60	—
18RC50	IR	12.25	—
18RC60	IR	14.30	—
20D1	IR	.36	101
20D2	IR	.40	101
20D3	IR	.44	101
20D4	IR	.51	101
20D5	IR	.54	101
20D6	IR	.58	101
20D8	IR	.66	101
20D05	IR	.34	101
20D10	IR	.76	101
20F5	IR	1.44	—
20F10	IR	1.60	—
20F30	IR	4.12	—
20F40	IR	4.99	—
20FR5	IR	1.44	—
20FR10	IR	1.60	—
20FR20	IR	3.17	—
20FR30	IR	4.12	—
20FR40	IR	4.99	—
22RC30	IR	10.00	—
22RC60	IR	18.25	—
26E5	GE	2.52	—
26E6	GE	3.15	—
26E005	GE	.72	—
30DB1T	IR	4.53	—
30DB2T	IR	5.03	—
30DB3T	IR	5.12	—
30DB4P	IR	4.99	—
30DB4T	IR	5.37	—
30DB05T	IR	4.07	—
30S1	IR	.47	101
30S3	IR	.56	101
30S4	IR	.60	101
30S5	IR	.66	101
30S6	IR	.70	101
30S10	IR	.92	—
36RA120	IR	64.35	98
36RC5A	IR	15.35	—
36RC10A	IR	16.50	—
36RC20A	IR	17.55	—
36RC30A	IR	20.85	—
36RC40A	IR	24.95	—
36RC50A	IR	29.40	—
36RC60A	IR	34.65	—
36RC80A	IR	46.80	—
37RC20A	IR	17.55	—
37RC40A	IR	24.95	—
40HF5	IR	1.63	101
40HF15	IR	2.47	101
40HF30	IR	3.83	101
40HF40	IR	4.67	101
40HF50	IR	5.51	101
40HF60	IR	6.30	101
40HF70	IR	7.09	101
40HF80	IR	8.14	101
40HF90	IR	9.24	101
40HF100	IR	10.60	101
40HF-10/ 1M1184	IR	2.05	101
40HF-20/ 1N1186	IR	2.99	101
40HFR5	IR	1.63	—
40HFR10	IR	2.05	—
40HFR15	IR	2.47	—
40HFR20	IR	2.99	—
40HFR30	IR	3.83	—
40HFR40	IR	4.67	—
40HFR50	IR	5.51	—
40HFR60	IR	6.30	—
40HFR70	IR	7.09	—
40HFR80	IR	8.14	—
40HFR90	IR	9.24	—
40HFR100	IR	10.60	—
40RCS5	IR	12.85	—
40RCS10	IR	14.30	—
40RCS20	IR	14.75	—
40RCS30	IR	15.20	—
40RCS40	IR	16.60	—
40RCS50	IR	18.40	—
40RCS60	IR	21.40	—
40RCS80	IR	28.55	—
40RCS100	IR	35.90	—
50HQ020	IR	11.50	—
50RCS5	IR	13.80	—
50RCS10	IR	15.35	—
50RCS20	IR	15.85	—
50RCS30	IR	16.35	—
50RCS40	IR	17.85	—
50RCS50	IR	19.80	—
50RCS60	IR	23.00	—
50RCS80	IR	30.70	—
50RCS100	IR	38.60	—
60AC60	IR	38.35	99
60FB1L	IR	4.25	—
60FB2L	IR	4.75	—
60FB3L	IR	5.25	—
60FB4L	IR	6.25	—
60FB6L	IR	7.75	—
60FB05L	IR	3.75	—
60FR70A	IR	6.72	—
60HF5	IR	1.79	—
60HF10	IR	2.26	—
60HF15	IR	2.72	—
60HF20	IR	3.30	—
60HF25	IR	3.75	—
60HF30	IR	4.20	—
60HF35	IR	4.67	—
60HF40	IR	5.15	—
60HF45	IR	5.62	—
60HF50	IR	6.09	—
60HF60	IR	6.93	—
60HFR5	IR	1.79	—
60HFR10	IR	2.26	—
60HFR15	IR	2.72	—
60HFR20	IR	3.30	—
60HFR25	IR	3.75	—
60HFR30	IR	4.20	—
60HFR35	IR	4.67	—
60HFR40	IR	5.15	—
60HFR45	IR	5.62	—
60HFR50	IR	6.09	—
60HFR60	IR	6.93	—

NEW TYPES STOCKED AS SOON AS RELEASED

DISCRETE DEVICES

Type	Mfr	1-24	Page
60S1	IR	.71	101
60S2	IR	.78	101
60S4	IR	.98	101
60S6	IR	1.42	101
60S05	IR	.67	101
60S10	IR	3.94	101
70H5A	IR	3.68	—
70H7CA	IR	11.13	101
70H10A	IR	3.99	101
70H15A	IR	4.73	—
70H20A	IR	5.30	101
70H25	IR	5.88	—
70H25A	IR	5.88	101
70H30A	IR	6.46	101
70H40A	IR	7.61	101
70H50A	IR	8.82	101
70H60A	IR	9.98	101
70H80A	IR	12.60	101
70H90A	IR	14.07	101
70H100A	IR	15.54	101
70HR5A	IR	3.68	—
70HR10A	IR	3.99	—
70HR15A	IR	4.73	—
70HR20A	IR	5.30	—
70HR25A	IR	5.88	—
70HR30	IR	6.46	—
70HR30A	IR	6.46	—
70HR40A	IR	7.61	—
70HR50A	IR	8.82	—
70HR60A	IR	9.98	—
70HR70A	IR	11.13	—
70HR80A	IR	12.60	—
70HR90A	IR	14.07	—
70HR100A	IR	15.54	—
71RA50A	IR	39.10	—
71RA60A	IR	43.55	—
71RA80A	IR	54.45	—
71RA100A	IR	65.35	—
71RA120A	IR	75.25	—
71RC5A	IR	19.40	—
71RC10A	IR	20.80	—
71RC15A	IR	22.55	—
71RC20A	IR	24.50	98
71RC25A	IR	27.45	—
71RC30A	IR	28.90	—
71RC40A	IR	33.80	—
71RC50	IR	35.30	—
71RC60A	IR	39.35	98
71RC80A	IR	53.15	—
75JB2L	IR	3.25	104
75JB4L	IR	3.50	104
75JB6L	IR	4.17	104
100AC60	IR	68.25	99
100JB1L	IR	3.00	104
100JB2L	IR	3.42	104
100JB3L	IR	3.50	104
100JB4L	IR	3.67	104
100JB4P	IR	6.02	—
100JB6L	IR	4.33	104
100JB6P	IR	6.68	—
100JB05P	IR	5.18	—
100K10A	IR	13.65	—
100K20A	IR	15.23	—
100K30A	IR	16.28	—
100K40A	IR	17.33	—
100K50A	IR	18.38	—
100K60A	IR	20.48	—
100K80A	IR	25.20	—
100K100A	IR	29.93	—
100K120A	IR	34.13	—
101RA10	IR	36.85	—
101RA20	IR	39.40	—
101RA40	IR	49.85	—
101RA50	IR	59.10	—
101RA60	IR	66.20	—
101RA80	IR	82.95	—
101RA100	IR	99.70	—
101RA110	IR	108.90	—
101RA120	IR	118.35	—
101RC10A	IR	37.60	—
101RC20A	IR	40.25	—
101RC30A	IR	45.55	—
101RC40A	IR	50.90	—
101RC50A	IR	60.30	—
101RC60A	IR	67.60	—
101RC80A	IR	74.35	—
150K5A	IR	11.53	—
150K10A	IR	11.94	—
150K15A	IR	16.52	—
150K20A	IR	19.38	—
150K25A	IR	20.49	—
150K30A	IR	21.53	—
150K40A	IR	23.47	—
150K50A	IR	25.87	—
150K60A	IR	30.79	—
150K70A	IR	34.55	—
150K80A	IR	38.38	—
150K90A	IR	42.20	—
150K100A	IR	46.01	—
150K120A	IR	64.69	—
150KR5A	IR	11.53	—
150KR10A	IR	11.94	—
150KR15A	IR	16.52	—
150KR20A	IR	19.38	—
150KR25A	IR	20.49	—
150KR30A	IR	21.53	—
150KR40A	IR	23.47	—
150KR50A	IR	25.87	—
150KR60A	IR	30.79	—
150KR70A	IR	34.55	—
150KR80	IR	38.38	—
150KR90A	IR	42.20	—
150KR100A	IR	46.01	—
150L5A	IR	11.53	—
150L10A	IR	11.94	101
150L15A	IR	16.52	101
150L20A	IR	19.38	101
150L25A	IR	20.49	101
150L30A	IR	21.53	101
150L40A	IR	23.47	101
150L50A	IR	25.87	101
150L60A	IR	30.79	101
150L70A	IR	34.55	101
150L80A	IR	38.38	101
150L90A	IR	42.20	101
150L100A	IR	46.01	101
150LR5A	IR	11.53	—
150LR10A	IR	11.94	—
150LR15	IR	16.52	—
150LR15A	IR	16.52	—
150LR20A	IR	19.38	—
150LR25A	IR	20.49	—
150LR30A	IR	21.53	—
150LR40A	IR	23.47	—
150LR50A	IR	25.87	—
150LR60A	IR	30.79	—
150LR70A	IR	34.55	—
150LR80A	IR	38.38	—
150LR90A	IR	42.20	—
150LR100A	IR	46.01	—
150V005L	IR	3.16	—
150VC1L	IR	3.31	—
151RA10	IR	43.10	—
151RA20	IR	46.10	—
151RA40	IR	58.30	—
151RA50	IR	69.10	—
151RA60	IR	77.40	—
151RA80	IR	97.00	—
151RA100	IR	116.60	—
151RA110	IR	127.40	—
151RA120	IR	138.20	—
151RC10	IR	39.70	—
151RC10A	IR	41.80	—
151RC20	IR	42.50	—
151RC20A	IR	44.70	—
151RC30	IR	48.45	—
151RC30A	IR	50.60	—
151RC40	IR	53.75	—
151RC40A	IR	56.55	—
151RC50	IR	63.70	—
151RC50A	IR	67.00	—
151RC60	IR	71.35	—
151RC60A	IR	75.10	—
151RC80	IR	78.50	—
151RC80A	IR	82.60	—
250JB1L	IR	3.17	104
250JB2L	IR	3.67	104
250JB3L	IR	3.75	104
250JB4L	IR	3.92	104
250JB6L	IR	4.66	104
250JB05L	IR	3.08	104
300RA10	IR	53.90	—
300RA20	IR	63.70	—
300RA30	IR	74.50	—
300RA40	IR	86.25	—
300RA50	IR	112.20	—
300RA60	IR	116.60	—
300RA80	IR	138.65	—
300RA100	IR	159.75	—
300RA110	IR	170.50	—
300RA120	IR	185.20	—
300U5A	IR	18.90	—
300U10A	IR	20.74	101
300U15A	IR	22.05	101
300U20A	IR	23.10	101
300U30A	IR	27.83	101
300U40A	IR	34.65	101
300U50A	IR	39.90	101
300U60A	IR	43.05	101
300U70A	IR	46.20	101
300U80A	IR	50.40	101
300U90A	IR	54.60	101
300U100A	IR	59.85	101
300U120A	IR	71.82	—
300UR5A	IR	18.90	—
300UR10A	IR	20.74	—
300UR15A	IR	22.05	—
300UR20A	IR	23.10	—
300UR25A	IR	26.25	—
300UR30A	IR	27.83	—
300UR40A	IR	34.65	—
300UR50A	IR	39.90	—
300UR60A	IR	43.05	—
300UR70A	IR	46.20	—
300UR80A	IR	50.40	—
300UR90A	IR	54.60	—
300UR100A	IR	59.85	—
300UR120A	IR	71.82	—
470PA100	IR	160.70	—
40080	RCA	1.55	—
40081	RCA	1.96	—
40082	RCA	4.04	—
40084	RCA	1.13	—
40250	RCA	1.24	77
40250V1	RCA	1.44	—
40251	RCA	1.71	—
40280	RCA	4.62	—
40281	RCA	10.60	—
40282	RCA	11.90	—
40290	RCA	2.48	—
40292	RCA	12.40	—
40310	RCA	1.10	—
40311	RCA	.64	—
40311L	RCA	.81	—
40312	RCA	1.26	—
40312V1	RCA	1.46	—
40313	RCA	1.55	—
40314L	RCA	.81	—
40315L	RCA	.81	—
40316	RCA	.99	—
40317	RCA	.64	—
40318	RCA	1.55	—
40319	RCA	.76	—
40319S	RCA	.76	—
40321	RCA	.98	77
40322	RCA	1.57	—
40323L	RCA	.81	—
40324	RCA	1.10	—
40325	RCA	1.57	—
40326L	RCA	.83	—
40327	RCA	1.17	—
40340	RCA	21.00	—
40341	RCA	21.00	—
40346	RCA	.77	77
40347	RCA	1.12	77
40347V1	RCA	1.16	—
40347V2	RCA	1.16	—
40348	RCA	1.06	77
40348V1	RCA	1.14	—
40349	RCA	1.37	77
40349V1	RCA	1.64	—
40349V2	RCA	1.64	—
40361L	RCA	1.06	—
40362L	RCA	.97	—
40363	RCA	1.49	79
40372	RCA	1.44	—
40373	RCA	1.70	—
40374	RCA	1.57	—
40375	RCA	1.65	—
40385	RCA	5.36	—
40389L	RCA	.84	—
40390	RCA	1.06	—
40391L	RCA	1.04	—
40391S	RCA	.87	—
40392L	RCA	.96	—
40392S	RCA	.79	—
40394L	RCA	1.04	—
40406L	RCA	.97	—
40407	RCA	.61	—
40409S	RCA	.94	—

Key Mfr.

IDI	International Devices Inc.
IR	International Rectifier
GE	General Electric
GI	General Instrument
MOT	Motorola
RCA	Radio Corp. of America
SPR	Sprague
TI	Texas Instruments

Type	Mfr	1-24	Page
40411	RCA	3.47	—
40412	RCA	1.06	77
40412V1	RCA	1.14	—
40412V2	RCA	1.14	—
40446	RCA	4.29	—
40467A	RCA	1.24	—
40468A	RCA	.75	—
40513	RCA	1.65	—
40514	RCA	1.66	—
40537L	RCA	.91	—
40538	RCA	.76	—
40539	RCA	.69	—
40542	RCA	1.64	—
40543	RCA	1.68	—
40559A	RCA	.70	—
40581	RCA	4.87	—
40582	RCA	5.12	—
40600	RCA	1.24	—
40601	RCA	1.16	—
40602	RCA	.83	—
40603	RCA	1.04	—
40604	RCA	.98	—
40606	RCA	45.00	—
40608	RCA	2.48	—
40613	RCA	.69	—
40618	RCA	.69	—
40622	RCA	.73	—
40629	RCA	.73	—
40630	RCA	.74	—
40631	RCA	.90	—
40633	RCA	1.60	—
40637A	RCA	1.65	—
40653	RCA	2.61	—
40673	RCA	1.01	—
40738	RCA	1.57	—
40739	RCA	2.39	—
40740	RCA	3.38	—
40741	RCA	1.82	—
40742	RCA	1.90	—
40743	RCA	2.72	—
40744	RCA	3.71	—
40747	RCA	3.85	—
40748	RCA	4.87	—
40810	RCA	1.13	—
40811	RCA	1.32	—
40812	RCA	1.59	—
40813	RCA	1.98	—
40819	RCA	1.73	—
40823	RCA	.81	—
40828	RCA	.90	—
40831	RCA	1.36	—
40841	RCA	.68	—
40850	RCA	2.18	—
40852	RCA	3.25	—
40853	RCA	6.44	—
40854	RCA	9.80	—
40885	RCA	1.07	—
40886	RCA	1.19	—
40887	RCA	1.41	—
40896	RCA	.81	—
40898	RCA	75.00	—
41015	RCA	1.35	—
41024	RCA	6.60	—
41480	RCA	1.43	—
44001	RCA	.29	—
44003	RCA	.35	—
44004	RCA	1.00	—
44006	RCA	.57	—

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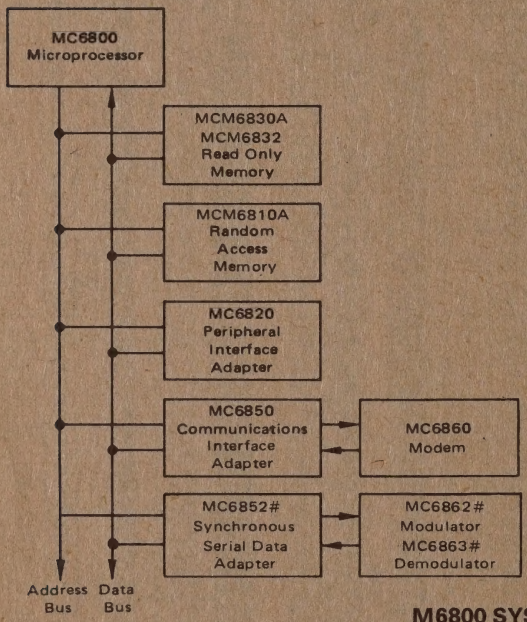
MOTOROLA HEP SEMICONDUCTORS

CROSS REFERENCE GUIDE

Motorola HEP offers a complete line of semiconductor devices appealing to the hobbyist-experimenter and re-replacement markets. All of the HEP devices feature complete published specifications, which will allow the safe "design" of circuits in a manner that will assure maximum device capabilities, as well as determining if the device is operating within its limits.

52F855 Net....**1.00**

M6800 MICROCOMPUTER FAMILY BLOCK DIAGRAM



The M6800 family of parts has been designed to set the standard for microcomputer system architecture. The family provides total-system building functions, yet is designed with the flexibility to allow growth. Programmable logic is designed to replace hardwired logic and costly custom microcomputer functions.

- Minimum System Approach
- Powerful Instructions
- Comprehensive Support:
  - Systems Development Tools
  - Software
  - Documentation
  - Applications Aid

NEWARK stocks the complete line

of Motorola Microprocessor products.
New items will be stocked
as they become available.

M6800 SYSTEM SUPPORT

Numerous semiconductor devices are available to enhance the capabilities of the M6800 Family of integrated circuits. Among these, the following should be given special attention.

NMOS Random Access Memories NMOS Read Only Memories	Various sizes and types of MOS memories are available to supplement those in the M6800 Family.
MEGALOGIC LSI	These computer-oriented products are a natural complement for MPU- based systems.
Linear Interface Circuits	A broad spectrum of interface circuits will be of particular interest to microcomputer system designers.
McMOS Integrated Circuits	Many of the newer McMOS devices are specialized functions which fit specific needs of micro-computer systems.
MPU Clock Buffer (Multiple Transistor)	The MPQ6842 provides the requirements of the clock buffer for Φ1 and Φ2 inputs of the MPU
EXORciser	Ability to emulate a user's system makes the EXORciser an efficient and economical means for development of M6800 Microprocessor Systems. The optional modules can be arranged to represent the user's proposed system, optional. Resident Software permits editing, assembling, and modification of programs.
Evaluation Module	This complete board has all of the M6800 Family devices for ease of parts evaluation. It can be used to run simple programs for familiarization with the system as well as evaluation prior to actual system development with the EXORciser.
EXORdisk	The EXORdisk (Motorola's floppy disk) speeds up microcomputer program development; it is many times faster than teletype or paper tape.

Motorola Selector Guide

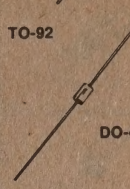
ZENER AND AVALANCHE REGULATOR DIODES

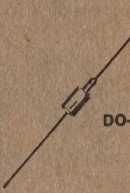
The devices depicted in the accompanying list represent a basic profile of Motorola's large inventory of zener-diodes. Available tolerances from 20% (low cost) to as tight as 1% for critical applications. Check the following features for application to your specific requirements. Listed are a wide selection of package materials and styles. Use Plastic (surmetic) for lowest cost, Glass for highest reliability and Metal for highest power.

(*) Devices shown in 250 mW column and Case 299 of the 400 mW column are JAN/JANTX available ±5% only except items marked with (†).

Nominal Zener Voltage	250 MILLIWATT (400 mW Package) Cathode=Polarity Mark	400 MILLIWATT Cathode=Polarity Mark		500 MILLIWATT Cathode=Polarity Mark		
		Glass				
	*Glass Case 51 (DO-7)	*Case 299 DO-35	Case 51 DO-7	Surmetic Case 182 (TO-92)	Surmetic 20 Case 51 (DO-7)	Glass Case 299-01 (DO-35)
1.8	MZ4614					
2.0	MZ4615					
2.2	MZ4616					
2.4	MZ4617	1N4370		1N5837A	1N5221	1N5985
2.7	MZ4618	1N4371		1N5839A	1N5223	1N5986
3.0	MZ4619	1N4372		1N5841A	1N5225	1N5987
3.3	MZ4620	1N746	1N5518	1N5842A	1N5226	1N5988
3.6	MZ4621	1N747	1N5519	1N5843A	1N5227	1N5989
3.9	MZ4622	1N748	1N5520	1N5844A	1N5228	1N5990
4.3	MZ4623	1N749	1N5521	1N5845A	1N5229	1N5991
4.7	MZ4624	1N750	1N5522	1N5846A	1N5230	1N5992
5.1	MZ4625	1N751	1N5523	1N5847A	1N5231	1N5993
5.6	MZ4626	1N752	1N5524	1N5848A	1N5232	1N5994
6.2	MZ4627	1N753	1N5525	1N5850A	1N5234	1N5995
6.8	1N4099	1N754 1N957†	1N5526	1N5851A	1N5236	1N5996
7.5	1N4100	1N755 1N958†	1N5527	1N5852A	1N5236	1N5997
8.2	1N4101	1N756 1N959†	1N5528	1N5853A	1N5237	1N5998
9.1	1N4103	1N757 1N960†	1N5529	1N5855A	1N5239	1N5999
10	1N4104	1N758 1N961†	1N5530	1N5856A	1N5240	1N6000
11	1N4105	1N962	1N5531	1N5857A	1N5241	1N6001
12	1N4106	1N759 1N963	1N5532	1N5868A	1N5242	1N6002
13	1N4107	1N964	1N5533	1N5859A	1N5243	1N6003
15	1N4109	1N965	1N5535	1N5861A	1N5245	1N6004
16	1N4110	1N966	1N5536	1N5862A	1N5246	1N6005
18	1N4112	1N967	1N5538	1N5864A	1N5248	1N6006
20	1N4114	1N968	1N5540	1N5866A	1N5250	1N6007
22	1N4115	1N969	1N5541	1N5867A	1N5251	1N6008
24	1N4116	1N970	1N5542	1N5868A	1N5252	1N6009
27	1N4118	1N971		1N5870A	1N5254	1N6010
30	1N4120	1N972	1N5545	1N5872A	1N5256	1N6011
33	1N4121	1N973	1N5546	1N5873A	1N5257	1N6012
36	1N4122	1N974		1N5874A	1N5258	1N6013
39	1N4123	1N975		1N5875A	1N5259	1N6014
43	1N4124	1N976		1N5876A	1N5260	1N6015
47	1N4125	1N977		1N5877A	1N5261	1N6016
51	1N4126	1N978		1N5878A	1N5262	1N6017
56	1N4127	1N979		1N5879A	1N5263	1N6018
62	1N4129	1N980		1N5881A	1N5265	1N6019
68	1N4130	1N981		1N5882A	1N5266	1N6020
75	1N4131	1N982		1N5883A	1N5267	1N6021
82	1N4132	1N983		1N5884A	1N5268	1N6022
91	1N4134	1N984		1N5886A	1N5270	1N6023
100	1N4135	1N985		1N5887A	1N5271	1N6024
110		1N986		1N5888A	1N5272	1N6025
120		1N987		1N5889A	1N5273	1N6026
130		1N988		1N5890A	1N5274	1N6027
140		1N989		1N5891A	1N5275	
150		1N990		1N5892A	1N5276	1N6028
160		1N991		1N5893A	1N5277	1N6029
170		1N992		1N5894A	1N5278	
180				1N5895A	1N5279	1N6030
200				1N5897A	1N5281	1N6031

TO-92


DO-41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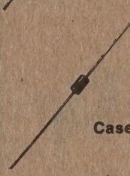
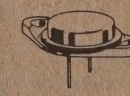
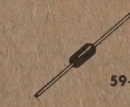
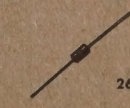

Case 17

DO-4


TO-3

DO-5


59-04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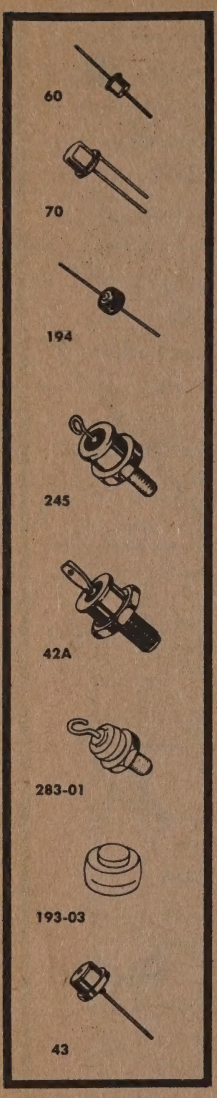
ZENER AND AVALANCHE REGULATORS DIODES (Cont.)



R, RA, and RB reverse polarity types available. (*) JAN/JANTX available in 1 Watt — cathode to case, 10 Watt, and 50 Watt columns except items marked with (†).

	1 WATT	1 WATT	1 WATT	5 WATT	10 WATT Cathode to Case = 1N3993 Series Anode to Case = 1N2970 Series	50 WATT Anode to Case	
	Cathode Polarity Mark	Cathode to Case	Cathode Polarity Mark	Cathode Polarity Mark			
Nominal Zener Voltage	Surmetic 30 Case 59 (DO-41)	Metal Case 52 (DO-13)	Glass Case 59 (DO-41)	Surmetic 40 Case 17	Metal Case 56 (DO-4)	Metal Case 54 (TO-3)	Metal Case 58 (DO-5)
3.3	1N4728	1N3821	1N5913	1N5333			
3.6	1N4729	1N3822	1N5914	1N5334			
3.9	1N4730	1N3823	1N5915	1N5335	1N3993&R	1N4557&R†	1N4549&R
4.3	1N4731	1N3824	1N5916	1N5336	1N3994&R	1N4558&R†	1N4550&R
4.7	1N4732	1N3825	1N5917	1N5337	1N3995&R	1N4559&R†	1N4551&R
5.1	1N4733	1N3826	1N5918	1N5338	1N3996&R	1N4560&R†	1N4552&R
5.6	1N4734	1N3827	1N5919	1N5339	1N3997&R	1N4561&R†	1N4553&R
6.2	1N4735	1N3828	1N5920	1N5341	1N3998&R	1N4562&R†	1N4554&R
6.8	1N4736	1N3829	1N5921	1N5342	1N3999&R	1N4563&R†	1N4555&R
		1N3016			1N2970&R	1N2804&R†	1N3305&R
7.5	1N4737	1N3830	1N5922	1N5343	1N4000&R	1N4564&R†	1N4556&R†
		1N3017			1N2971&R	1N2805&R	1N3306&R
8.2	1N4738	1N3018	1N5923	1N5344	1N2972&R	1N2806&R	1N3307&R
9.1	1N4739	1N3019	1N5924	1N5346	1N2973&R	1N2807&R	1N3308&R
10	1N4740	1N3020	1N5925	1N5347	1N2974&R	1N2808&R	1N3309&R
11	1N4741	1N3021	1N5926	1N5348	1N2975&R	1N2809&R	1N3310&R
12	1N4742	1N3022	1N5927	1N5349	1N2976&R	1N2810&R	1N3311&R
13	1N4743	1N3023	1N5928	1N5350	1N2977&R	1N2811&R	1N3312&R
15	1N4744	1N3024	1N5929	1N5352	1N2979&R	1N2813&R	1N3314&R
16	1N4745	1N3025	1N5930	1N5353	1N2980&R	1N2814&R	1N3315&R
18	1N4746	1N3026	1N5931	1N5355	1N2982&R	1N2816&R	1N3317&R
20	1N4747	1N3027	1N5932	1N5357	1N2984&R	1N2818&R	1N3319&R
22	1N4748	1N3028	1N5933	1N5358	1N2985&R	1N2819&R	1N3320&R
24	1N4749	1N3029	1N5934	1N5359	1N2986&R	1N2820&R	1N3321&R
27	1N4750	1N3030	1N5935	1N5361	1N2988&R	1N2822&R	1N3322&R
30	1N4751	1N3031	1N5936	1N5363	1N2989&R	1N2823&R	1N3324&R
33	1N4752	1N3032	1N5937	1N5364	1N2990&R	1N2824&R	1N3325&R
36	1N4753	1N3033	1N5938	1N5365	1N2991&R	1N2825&R	1N3326&R
39	1N4754	1N3034	1N5939	1N5366	1N2992&R	1N2826&R	1N3327&R
43	1N4755	1N3035	1N5940	1N5367	1N2993&R	1N2827&R	1N3328&R
47	1N4756	1N3036	1N5941	1N5368	1N2996&R	1N2829&R	1N3330&R
51	1N4757	1N3037	1N5942	1N5369	1N2997&R	1N2831&R	1N3332&R
56	1N4758	1N3038	1N5943	1N5370	1N2998&R	1N2832&R	1N3334&R
62	1N4759	1N3039	1N5944	1N5372	1N3000&R	1N2833&R	1N3335&R
68	1N4760	1N3040	1N5945	1N5373	1N3001&R	1N2834&R	1N3336&R
75	1N4761	1N3041	1N5946	1N5374	1N3002&R	1N2835&R	1N3337&R
82	1N4762	1N3042	1N5947	1N5375	1N3003&R	1N2836&R	1N3338&R
91	1N4763	1N3043	1N5948	1N5377	1N3004&R	1N2837&R	1N3339&R
100	1N4764	1N3044	1N5949	1N5378	1N3005&R	1N2838&R	1N3340&R
110	1M110ZS10	1N3045	1N5950	1N5379	1N3007&R	1N2840&R	1N3342&R
120	1M120ZS10	1N3046	1N5951	1N5380	1N3008&R	1N2841&R	1N3343&R
130	1M130ZS10	1N3047	1N5952	1N5381	1N3009&R	1N2842&R	1N3343&R
150	1M140ZS10	1N3048	1N5953	1N5383	1N3011&R	1N2843&R	1N3346&R
160	1M160ZS10	1N3049	1N5354	1N5384	1N3012&R	1N2844&R	1N3347&R
180	1M180ZS10	1N3050	1N5955	1N5386	1N3014&R	1N2845&R	1N3349&R
200	1M200ZS10	1N3051	1N5956	1N5388	1N3015&R	1N2846&R	1N3350&R

GENERAL PURPOSE RECTIFIERS — LOW AND MEDIUM CURRENT

Wide variety of low-cost devices to fit any mounting requirements. Also available with anode-to-case connection by adding "R" suffix to standard part number.

	I_O AVERAGE RECTIFIED FORWARD CURRENT IN AMPS.												
	1.0A	3.0A			6.0A	12A	15A	20A			25A		30A
Case	59-04 Plastic	60 Metal	70 Metal	267 Plastic	194 Plastic	245 (DO-4) Metal	42A (DO-5) Metal	42A (DO-5) Metal	283-01 (DO-4) Low-Cost Plastic	283-01 (DO-4) Low-Cost Plastic	193-03 Low-Cost Plastic	43 (DO-21) Pressfit	43 (DO-21) Metal
V_{RRM} Volts													
50	1N4001#	1N4719	1N4997	MR500	MR750	MR1120 1N1199,A	1N3208	1N248B 1N1191	MR2000S	MR2500S	MR2500	1N3491	1N3659
100	1N4002#	1N4720	1N4998	MR501	MR751	MR1121 1N1200,A	1N3209	1N249B 1N1192	MR2001S	MR2501S	MR2501	1N3492	1N3660
200	1N4003#	1N4721	1N4999	MR502	MR752	MR1122 1N1202,A	1N3210	1N250B 1N1194	MR2002A	MR2502S	MR2502	1N3493	1N3661
400	1N4004#	1N4722	1N5000	MR504	MR754	MR1124 1N1204,A	1N3212	1N1196 1N1196A	MR2004S	MR2504S	MR2504	1N3495	1N3663
600	1N4005#	1N4723	1N5001	MR506	MR756	MR1126 1N1206A	1N3214	1N1198A 1N3214	MR2006S	MR2506S	MR2506	MR328	
800	1N4006#	1N4724	1N5002	MR508		MR1128 1N3988			MR2008S	MR2508S	MR2508	MR330	
1000	1N4007#	1N4725	1N5003	MR510		MR1130 1N3990			MR2010S	MR2510S	MR2510	MR331	
I_{FSM} (Amps)	30	300	300	100	400	300	250	350	400	600	400	30	400
T_A @ Rated I_O (°C)	75	75	75	95	60								
T_C @ Rated I_O (°C)						150	150	150	150	150	150	130	100
T_J (Max) (°C)	175	175	175	175	175	190	175					175	175

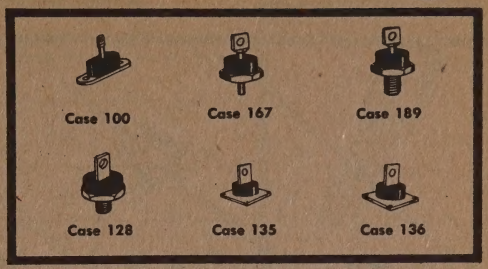
(#) Package Size: 0.120" Max. Diameter by 0.260" Max. Length.

Motorola Selector Guide

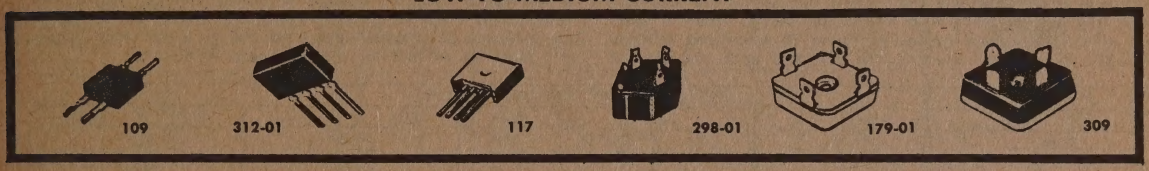
HIGH CURRENT MULTI-CELL RECTIFIER DIODES

Multi-Cell construction, with matched cells, for excellent thermal management and highest reliability. Normally available with cathode connected to case. Add "R" suffix to type number for reverse polarity.

	I_O, AVERAGE RECTIFIED FORWARD CURRENT				
	50A	100A		450A	700A
V_{RRM} (Volts)	Case 100	Case 167	Case 189	Case 128 Case 135	Case 136
300	MR1205FL	MR1215FL	MR1815SL	MR1245SL,FL	MR1265FL
600	MR1209FL	MR1219SL	MR1819SL	MR1249SL,FL	MR1269FL
I_{FSM} (Amp)	800	2000	2000	8000	1200
T_C @ Rated I_O (°C)	150	135	135	150	150
T_J(Max) (°C)	190	190	190	190	190



RECTIFIER BRIDGES AND CIRCUITS LOW-TO-MEDIUM CURRENT

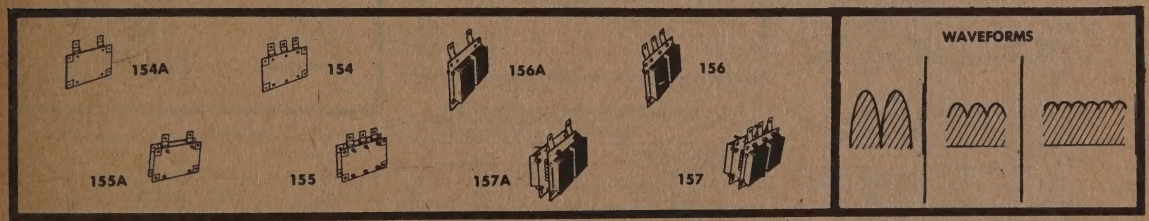


Single-phase rectifier bridges with a wide variety of packaging options. Standard devices are made with general-purpose rectifiers, but similar configurations can be made with special rectifier-cells, (i.e., fast recovery cells) on special order.

(1) Lead from Assembly **(2)** Discrete Diode assembly utilizing metal cased rectifiers.

	I_O, DC OUTPUT CURRENT									
	1.0A	1.0A	2.0A	4.0A	8.0A		12A		30A	35A
Case V_{RRM} Volts	109 (1)	312-01 (1)	312-01	117 (1)	298-01 (2)	117	298-01 (2)	179-01 (1)	179-02 (1)	309
50	MDA920A2	MDA100A	MDA200	MDA970-1	MDA800	MDA970-1	MDA1200	MDA980-1	MDA990-1	MDA3500 BYW60
100	MDA920A3	MDA101A	MDA201	MDA970-2	MDA801	MDA970-2	MDA1201	MDA980-2	MDA990-2	MDA3501 BYW61
200	MDA920A4	MDA102A	MDA202	MDA970-3	MDA802	MDA970-3	MDA1202	MDA980-3	MDA990-3	MDA3502 BYW62
400	MDA920A6	MDA104A	MDA204	MDA970-5	MDA804	MDA970-5	MDA1204	MDA980-5	MDA990-5	MDA3504 BYW64
600	MDA920A7	MDA106A	MDA206		MDA806		MDA1206	MDA980-6	MDA990-6	MDA3506 BYW66
800		MDA108A	MDA208							MDA3508 BYW68
1000		MDA110A	MDA210							MDA3510
I_{FSM} Amp	32	45	60	100	300	100	300	300	300	400
T_A @ Rated I_O (°C)	75	55	55	25						
T_C @ Rated I_O (°C)					100	55	100	55	55	55
T_J (Max) (°C)	175	150	175	150	175	150	175	175	175	175

HIGH-CURRENT MULTI-CELL RECTIFIER CIRCUITS

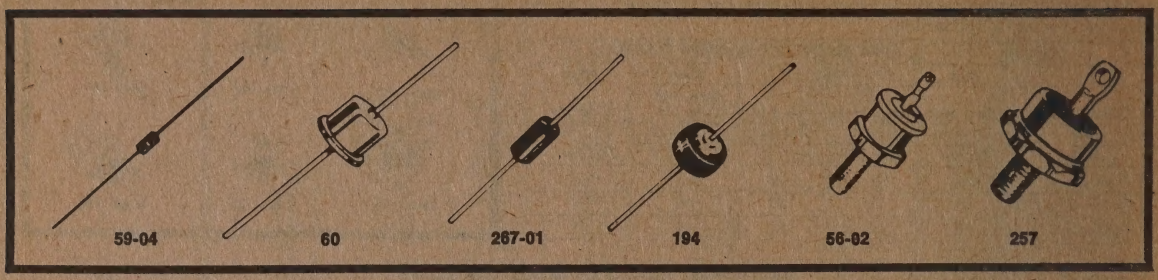


Multi-cell full-wave rectifier circuits and bridges with up to 650 A current carrying capacity.

	I_O, AVERAGE RECTIFIER FORWARD CURRENT (Forced Convection at 1500 LFM)							
	300 A				600 A		650 A	
Circuit	Single-Phase Full-Wave Center Tap	Single-Phase Full-Wave Bridge	Three-Phase Full-Wave Center Tap	Three-Phase Full-Wave Bridge	Single-Phase Full-Wave Center Tap	Single-Phase Full-Wave Bridge	Three-Phase Full-Wave Center Tap	Three-Phase Full-Wave Bridge
Waveforms	Fig. 1	Fig. 1	Fig. 2	Fig. 3	Fig. 1	Fig. 1	Fig. 2	Fig. 3
Case V_{RRM} (Volts)	154A	155A	154	155	156A	157A	156	157
300	MRA133	MRA133B	MRA333	MRA333B	MRA163	MRA163B	MRA363	MRA363B
I_{FSM} (Amps)	3000	3000	2000	2000	6000	6000	5000	5000
I_O Free Convection (Amps)	75	75	75	75	125	125	150	150
T_A @ Rated I_O (1500 FLM or Free Convection) (°C)	75	75	75	75	75	75	75	75
T_J (Max) (°C)	150	150	150	150	150	150	150	150

Motorola Selector Guide

FAST RECOVERY RECTIFIERS

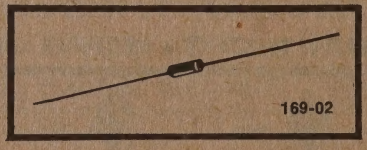


Available for designs requiring a power rectifier having maximum switching times ranging from 200 ns to 750 ns. These devices are offered in current ranges of 1.0 to 50 amps and voltages to 600 volts. Higher voltages are available upon request but a necessary trade-off against switching speeds results. Reverse polarity (anode to case) obtained by adding an "R" suffix. (#) Package Size: 0.120" Max. Diameter by 0.260" Max. length. (**) Must be derated for reverse power dissipation.

I_O, AVERAGE RECTIFIED FORWARD CURRENT.									
	1.0A		3.0A		5.0A	6.0A	12A	20A	30A
Case	59-04 Plastic		60 Metal	267-01 Plastic	194 Plastic	56-02 (DO-4) Metal		257 (DO-5) Metal	
V_{RRM} (Volts)									
50	1N4933‡	MR810	MR830	MR850	MR820	1N3879	1N3889	1N3899	1N3909
100	1N4934‡	MR811	MR831	MR851	MR821	1N3880,	1N3890, JAN,JTX	1N3900	1N3910, JAN,JTX
200	1N4935‡	MR812	MR832	MR852	MR822	1N3881	1N3891, JAN,JTX	1N3901	1N3911, JAN,JTX
400	1N4936‡	MR814	MR834	MR854	MR824	1N3883	1N3893, JAN,JTX	1N3903	1N3913, JAN,JTX
600	1N4937‡	MR816	MR836	MR856	MR826	MR1366	MR1376	MR1386	MR1396
800		MR817							
1000		MR818							
I_{FSM} (Amps)	30	30	100	100	300	150	200	250	300
T_A@Rated I_O (°C)	75	75		90**	55**				
T_C@Rated I_O (°C)			100			100	100	100	100
T_J(Max) (°C)	150	150	150	175	175	150	150	150	150
t_{rr} (μs)	0.2	0.75	0.2	0.2	0.2	0.2	0.2	0.2	0.2

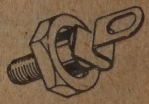
HIGH VOLTAGE DIODES AND STACKS

Low current, high voltage diodes and stacks in current ranges of 250 mA to 1.0 amps and in voltages from 1000 to 5000 volts.



AVALANCHE RECTIFIERS

LOW VOLTAGE RECTIFIERS



250 mA HIGH VOLTAGE DIODES

Case	169-02 Plastic
V_{RRM} (Volts)	
1000	MR250-1
2000	MR250-2
3000	MR250-3
4000	MR250-4
5000	MR250-5
I_{FSM} (Amps)	15
T_A @ Rated I_O (°C)	75
T_J (Max) (°C)	150

1.0 AMPERE TELEVISION DAMPER DIODE

Case	59-04 Plastic
V_{RRM} (Volts)	
1000	MR1-1000
1200	MR1-1200
1400	MR1-1400
1600	MR1-1600
I_{FSM} (Amps)	30
T_A @ Rated I_O (°C)	75**
T_J (Max) (°C)	175
t_{rr} (μs)	25

**Must be derated for reverse power dissipation.

. . . For low voltage applications to suppress reverse power transients.

Case	269-03
V_{RRM} (Volts)	
23	MR2525
23	MR2525R
BV (Volts)	24-32
I_{FSM} (Amps)	600
T_C @ Rated I_O (°C)	150
T_J (Max) (°C)	175

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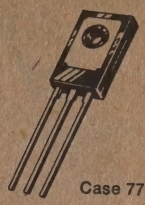
Motorola Selector Guide

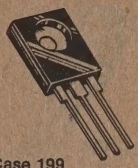
GENERAL-PURPOSE SILICON POWER TRANSISTORS

The device types are listed in increasing order of I_C continuous and V_{CEO} ratings. Other basic data is provided to enable the designer to have a wider field of choice—be it polarity, parameter, case style, process type, or complementary device types.

Device and Polarity NPN	PNP	I_C Amp Max	V_{CEO} Volts Max	h_{FE} Min/Max @	I_C Amp	$V_{CE(SAT)}$ Volts Max @	I_C Amp	f_T MHz Min	P_D Watts Max	Case
MJE3440		0.3	250	40/160	0.02	0.5	0.05	15	15	77
MJE3439			350	40/160	0.02	0.5	0.05	15	15	77
2N5655		0.5	250	30/250	0.1	1.0	0.1	10	20	77
MJE5655			250	30/250	0.1	1.0	0.1	10	30	199
2N5656			300	30/250	0.1	1.0	0.1	10	20	77
MJE5656			300	30/250	0.1	1.0	0.1	10	30	199
MJE340K			300	30/240	0.05				30	199
	MJE350		300	30/240	0.05				20	77
MJE340			300	30/240	0.05				20.8	77
MJE5657			350	30/250	0.1	1.0	0.1	10	30	199
2N5657			350	30/250	0.1	1.0	0.1	10	20	77
MJE29	MJE30	1.0	40	40/-	0.2	0.7	1.0	3.0	30	77
MJE29A	MJE30A		60	40/-	0.2	0.7	1.0	3.0	30	77
MJE29B	MJE30B		80	40/-	0.2	0.7	1.0	3.0	30	77
MJE29C	MJE30C		100	40/-	0.2	0.7	1.0	3.0	30	77
	MJ5415		200	30/150	0.05	2.5	0.05	15	10	79
2N3738	2N6424		225	40/200	0.1	2.5	0.25	10	20	80
2N3440			250	40/160	0.02	0.5	0.05	15	5.0	79
	MJ5416		300	30/120	0.05	2.5	0.05	15	10	79
2N3739	2N6425		300	40/200	0.1	2.5	0.25	10	20	80
2N3439			350	40/160	0.02	0.5	0.05	15	5.0	31
MJE47		1.5	250	30/250	0.3	1.0	1.0	5.0	50	199
MJE2160			300	30/240	0.5	3.5	0.5		50	199
MJE48			300	30/250	0.3	1.0	1.0	5.0	50	199
MJE49			350	30/250	0.3	1.0	1.0	5.0	50	199
2N6408	2N6406	2.0	60	50/250	0.1	2.0	2.0	50	12.5	77
2N6409	2N6407		80	50/250	0.1	2.0	2.0	50	12.5	77
2N3583	2N6420		175	40/200	0.5	5.0	1.0	10	35	80
2N3584	2N6421		250	8/80	1.0	0.75	1.0	10	35	80
2N3585	2N6422		300	8/80	1.0	0.75	1.0	10	35	80
2N4240	2N6423		300	10/100	0.75	1.0	0.75	15	35	80
MJE520		3.0	30	25/-	1.0				25	77
MJE31	MJE32		40	25/-	1.0	1.2	3.0	3.0	40	77
2N4921	2N4918		40	20/100	0.5	0.6	1.0	3.0	30	77
	2N3867		40	40/200	1.5	0.75	1.5	60	6.0	31
	2N3868		60	30/150	1.5	0.75	1.5	60	6.0	31
2N4922	2N4919		60	20/100	0.5	0.6	1.0	3.0	30	77
	MJ2253		60	20/100	0.25	0.3	0.5	3.0	25	80
MJE31A	MJE32A		60	25/-	1.0	1.2	3.0	3.0	40	77
MJE31B	MJE32B		80	25/-	1.0	1.2	3.0	3.0	40	77
	MJ2254		80	20/100	0.25	0.3	0.5	3.0	25	80
2N6416	2N6418		90	40/250	0.2	3.0	3.0	40	15	77
2N4923	2N4920		80	20/100	0.5	0.6	1.0	3.0	30	77
2N6417	2N6419		100	40/250	0.2	3.0	3.0	40	15	77
MJE31C	MJE32C		100	25/-	1.0	1.2	3.0	3.0	40	77
2N3902		3.5	400	30/90	1.0	0.8	1.0	2.8	100	11
2N6410	2N6411	4.0	25	45/180	2.0	0.8	2.0	50	15	77
2N6412	2N6414		40	40/250	0.2	2.5	4.0	50	15	77
2N5190	2N5193		40	25/100	1.5	0.6	1.5	2.0	40	77
MJE5190	MJE5193		40	25/100	1.5	0.6	1.5	2.0	60	199
2N6037	2N6034		40	750/15k	2.0	2.0	2.0	25	40	77
MJE3300	MJE3310		40	1000/-	1.0	1.5	1.5	20	15	77
2N3054A	2N6049		55	25/100	0.5	1.0	0.5	3.0	75	80
2N6413	2N6415		60	40/250	0.2	2.5	4.0	50	15	77
2N5191	2N5194		60	25/100	1.5	0.6	1.5	2.0	40	77
MJE5191	MJE5194		60	25/100	1.5	0.6	1.5	2.0	60	199
	2N3740		60	30/100	0.25	0.6	1.0	4.0	25	80
2N6294	2N6296		60	750/18k	2.0	2.0	2.0	4.0	50	80
2N6038	2N6035		60	750/15k	2.0	2.0	2.0	25	40	77
MJE3301	MJE3311		60	1000/-	1.0	1.5	1.5	20	15	77
MJE800	MJE700		60	750/-	1.5	2.5	1.5		40	77
MJE3302	MJE3312		80	1000/-	1.0	1.5	1.5	20	15	77
2N5192	2N5195		80	20/80	1.5	0.6	1.5	2.0	40	77
MJE5192	MJE5195		80	20/80	1.5	0.6	1.5	2.0	60	199
	2N3741		80	30/100	0.25	0.6	1.0	4.0	25	80
2N6295	2N6297		80	750/18k	2.0	2.0	2.0	4.0	50	80
2N6039	2N6036		80	750/15k	2.0	2.0	2.0	25	40	77

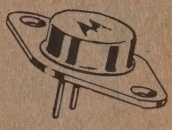


Case 77



Case 199

Case 79
TO-39



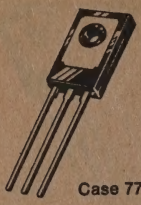
Case 80
TO-66

Case 31
TO-5

Case 11
TO-3

Motorola Selector Guide

GENERAL-PURPOSE SILICON POWER TRANSISTORS (Cont.)

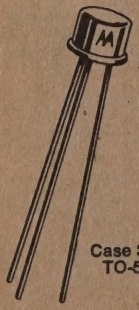


Case 77

Case 199

Case 79
TO-39

Case 80
TO-66



Case 31
TO-5

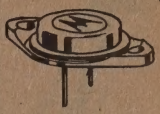
Case 11
TO-3

Device and Polarity NPN	PNP	I_C Amp Max	V_{CEO} Volts Max	h_{FE} Min/Max @	I_C Amp	$V_{CE(SAT)}$ Volts Max @	I_C Amp	f_T MHz Min	P_D Watts Max	Case
MJE41	MJE42	6.0	40	30/-	0.3	1.5	6.0	2.0	65	199
MJE41A	MJE42A		60	30/-	0.3	1.5	6.0	2.0	65	199
MJE41B	MJE42B		80	30/-	0.3	1.5	6.0	2.0	65	199
MJE41C	MJE42C		100	30/-	0.3	1.5	6.0	2.0	65	199
2N5758	2N6226		100	25/100	3.0	1.0	3.0	1.0	150	11
2N5759	2N6227		120	20/80	3.0	1.0	3.0	1.0	150	11
2N5760	2N6228		140	15/60	3.0	1.0	3.0	1.0	150	11
MJ3760			550			5.0	6.0	7.5	80	11
MJE5983	MJE5980	8.0	40	20/120	4.0	0.6	4.0	2.0	90	199
MJE5984	MJE5981		60	20/120	4.0	0.6	4.0	2.0	90	199
2N6300	2N6298		60	750/18k	4.0	2.0	4.0	4.0	75	80
2N6055	2N6053		60	750/18k	4.0	2.0	4.0	4.0	100	11
2N6043	2N6040		60	1k/20k	4.0	2.0	4.0	4.0	75	199
MJ1000	MJ900		60	1k/-	3.0	2.0	3.0		90	11
MJE5985	MJE5982		80	20/120	4.0	0.6	4.0	2.0	90	199
2N6301	2N6299		80	750/18k	4.0	2.0	4.0	4.0	75	80
2N6056	2N6054		80	750/18k	4.0	2.0	4.0	4.0	100	11
2N6044	2N6041		80	1k/20k	4.0	2.0	4.0	4.0	75	199
2N6045	2N6042		100	1k/20k	3.0	2.0	4.0	4.0	75	199
2N6306			250	15/75	3.0	0.8	3.0	5.0	125	11
2N6307			300	15/75	3.0	1.0	3.0	5.0	125	11
MJ7160			300	25/100	3.0	1.0	3.0	30	140	11
2N6544			300	7/35	5.0	1.5	5.0	6.0	125	11
2N6308			350	12/60	3.0	5.0	1.5	3.0	125	11
MJ7161			400	25/100	3.0	1.0	3.0	30	140	11
2N6545			400	7/35	5.0	1.5	5.0	6.0	125	11
MJ3761			550			5.0	8.0	7.5	80	11
2N5304		10	40	30/120	2.0	0.4	2.0	100	25	9
MJE33	MJE34		40	40/-	1.0	1.0	3.0	2.0	80	199
2N6383			40	1k/20k	5.0	2.0	5.0	20	100	11
2N6384			60	1k/20k	5.0	2.0	5.0	20	100	11
MJE3055	MJE2955		60	20/70	4.0	1.1	4.0	2.0	90	90
MJE3055K	MJE2955K		60	20/70	4.0	1.1	4.0	2.0	90	199
2N5877	2N5875		60	20/100	4.0	1.0	5.0	4.0	150	11
2N3715	2N3791		60	50/150	1.0	0.8	5.0	4.0	150	11
MJE33A	MJE34A		60	40/-	1.0	1.0	3.0	2.0	80	199
2N5878	2N5876		80	20/100	4.0	1.0	5.0	4.0	150	11
2N6385			80	1k/20k	5.0	2.0	5.0	20	100	11
2N3716	2N3792		80	50/150	1.0	0.8	5.0	4.0	150	11
MJE33B	MJE34B		80	40/-	1.0	1.0	3.0	2.0	80	199
MJE33C	MJE34C		100	40/-	1.0	1.0	3.0	2.0	80	199
2N5632	2N6229		100	25/100	5.0	1.0	7.5	1.0	150	11
2N5633	2N6230		120	20/80	5.0	1.0	7.5	1.0	150	11
2N5634	2N6231		140	15/60	5.0	1.0	7.5	1.0	150	11
MJ413			325	20/80	0.5	0.8	0.5	2.5	125	11
MJ423			325	30/90	1.0	0.8	1.0	2.5	125	11
2N6569		12	40	15/200	4.0	1.5	4.0	1.5	100	11
2N5989	2N5986		40	20/120	6.0	0.7	6.0	2.0	100	90
2N5990	2N5987		60	20/120	6.0	0.7	6.0	2.0	100	90
2N6057	2N6050		60	750/18k	6.0	2.0	6.0	4.0	150	11
2N5991	2N5988		80	20/120	6.0	0.7	6.0	2.0	100	90
2N6058	2N6051		80	750/18k	6.0	2.0	6.0	4.0	150	11
2N6059	2N6052		100	750/18k	6.0	2.0	6.0	4.0	150	11
2N3055		15	60	20/70	4.0	1.1	4.0	2.5	115	11
	MJ2955		60	20/70	4.0	1.1	4.0	4.0	150	11
2N5881	2N5879		60	20/100	6.0	1.0	7.0	4.0	160	11
2N6576			60	500/5k	10	4.0	15		120	11
2N5882	2N5880		80	20/100	6.0	1.0	7.0	4.0	160	11
2N6577			90	500/5k	10	4.0	15		120	11
2N6578			120	500/5k	10	4.0	15		120	11
2N6249			200	10/50	10	1.5	10	2.5	175	11
2N6250			275	8.0/50	10	1.5	10	2.5	175	11
MJ7260			300	25/100	5.0	1.0	5.0	30	175	11
2N6546			300	6/35	10	1.5	10	6.0	175	11
2N6251			350	6.0/50	10	1.5	10	2.5	175	11
MJ7261			400	25/100	5.0	1.0	5.0	30	175	11
2N6547			400	6/35	10	1.5	10	6.0	175	11
2N5629	2N6029	16	100	25/100	8.0	1.0	10	1.0	200	11
2N5630	2N6030		120	20/80	8.0	1.0	10	1.0	200	11
2N5631	2N6031		140	15/60	8.0	1.0	10	1.0	200	11
2N6282	2N6285	20	60	750/18k	10	2.0	10	4.0	160	11
2N5303	2N5745		80	15/60	10	1.0	10	2.0	200	12
2N6283	2N6286		80	750/18k	10	2.0	10	4.0	160	11
2N6284	2N6287		100	750/18k	10	2.0	10	4.0	160	11

Motorola Selector Guide

GENERAL-PURPOSE SILICON POWER TRANSISTORS (Cont.)

Device and Polarity NPN	PNP	I_C Amp Max	V_{CEO} Volts Max	h_{FE} Min/Max @	I_C Amp	$V_{CE(SAT)}$ Volts Max @	I_C Amp	f_T MHz Min	P_D Watts Max	Case
2N5885	2N5883	25	60	20/100	10	1.0	15	4.0	200	11
	2N6436		80	20/80	10	1.0	10	40	200	11
2N5886	2N5884		80	20/100	10	1.0	15	4.0	200	11
	2N6437		100	20/80	10	1.0	10	40	200	11
2N6338			100	30/120	10	1.0	10	40	200	11
	2N6438		120	20/80	10	1.0	10	40	200	11
2N6339			120	30/120	10	1.0	10	40	200	11
2N6340			140	30/120	10	1.0	10	40	200	11
2N6341			150	30/120	10	1.0	10	40	200	11
2N5301	2N4398	30	40	15/60	15	3.0	0.75	10	200	12
2N5302	2N4399		60	15/60	15	2.0	0.75	10	200	12
MJ802	MJ4502		90	25/100	7.5	0.8	7.5	2.0	200	12
2N5685	2N5683	50	60	15/60	25	1.0	25	2.0	300	197
2N5686	2N5684		80	15/60	25	1.0	25	2.0	300	197
	2N6377		80	30/120	20	1.2	20	30	250	197
	2N6378		100	30/120	20	1.2	20	30	250	197
2N6274			100	30/120	20	1.0	20	30	250	197
	2N6379		120	30/120	20	1.2	20	30	250	197
2N6275			120	30/120	20	1.0	20	30	250	197
2N6276			140	30/120	20	1.0	20	30	250	197
2N6277			150	30/120	20	1.0	20	30	250	197



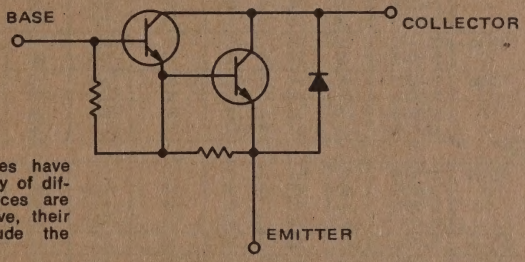
Case 11
TO-3

Case 12, 197

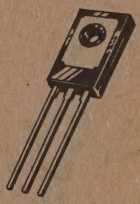
POWER DARLINGTON TRANSISTORS

- **Integrated Circuit Compatible**
- **High Input Impedance**
- **High Current Gain**
- **Reduced Component Count**
- **Space Saving**

Monolithic power Darlington devices have found wide design usage in a variety of different applications. Darlington devices are not only a very high gain alternative, their other significant advantages include the above list.

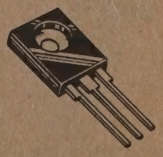


Device and Polarity NPN	PNP	I_C Amp Max	V_{CEO} Volts Max	h_{FE} Min/Max @	I_C Amp	$V_{CE(SAT)}$ Volts Max @	I_C Amp	f_T MHz Min	P_D Watts Max	Case
2N6037	2N6034	4.0	40	750/15k	2.0	2.0	2.0	25	40	77
2N6294	2N6296	4.0	60	750/18k	2.0	2.0	2.0	4.0	50	80
2N6038	2N6035	4.0	60	750/15k	2.0	2.0	2.0	25	40	77
MJE800	MJE700	4.0	60	750/-	1.5	2.5	1.5		40	77
2N6295	2N6297	4.0	80	750/18k	2.0	2.0	2.0	4.0	50	80
2N6039	2N6036	4.0	80	750/15k	2.0	2.0	2.0	25	40	77
MJE3300	MJE3310	4.0	40	1k/-	1.0	1.5	1.5	20	15	77
MJE3301	MJE3311	4.0	60	1k/-	1.0	1.5	1.5	20	15	77
MJE3302	MJE3312	4.0	80	1k/-	1.0	1.5	1.5	20	15	77
MJE1100	MJE1090	5.0	60	750/-	3.0	2.5	3.0	1.0	70	90
MJ1000	MJ900	8.0	60	1k/-	3.0	2.0	3.0		90	11
2N6300	2N6298	8.0	60	750/18k	4.0	2.0	4.0	4.0	75	80
2N6055	2N6053	8.0	60	750/18k	4.0	2.0	4.0	4.0	100	11
2N6043	2N6040	8.0	60	1k/20k	4.0	2.0	4.0	4.0	75	199
2N6301	2N6299	8.0	80	750/18k	4.0	2.0	4.0	4.0	75	80
2N6056	2N6054	8.0	80	750/18k	4.0	2.0	4.0	4.0	100	11
2N6044	2N6041	8.0	80	1k/20k	4.0	2.0	4.0	4.0	75	199
2N6045	2N6042	8.0	100	1k/20k	3.0	2.0	4.0	4.0	75	199
2N6057	2N6050	12	60	750/18k	6.0	2.0	6.0	4.0	150	11
2N6058	2N6051	12	80	750/18k	6.0	2.0	6.0	4.0	150	11
2N6059	2N6052	12	100	570/18k	6.0	2.0	6.0	4.0	150	11
2N6576		15	60	500/5k	10	2.8	10	4.0	120	11
2N6577		15	90	500/5k	10	2.8	10	4.0	120	11
2N6578		15	120	500/5k	10	2.8	10	4.0	120	11
2N6282	2N6285	20	60	750/18k	10	2.0	10	4.0	160	11
2N6283	2N6286	20	80	750/18k	10	2.0	10	4.0	160	11
2N6284	2N6287	20	100	750/18k	10	2.0	10	4.0	160	11



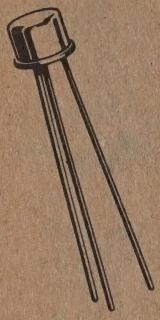
Case 77

Case 80
TO-66

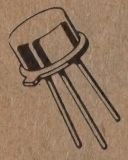


Case 199

Case 22-03
TO-18


Case 31-03
TO-5

Case 27-02
TO-52


Case 79-02
TO-39

Case 26
TO-46

SMALL-SIGNAL METAL TRANSISTORS

SWITCHING TRANSISTORS

Devices are listed in order of decreasing turn-on time (t_{ON}).

Package	Device Type	t_{ON} & t_{OFF} ns Max	t_{ON} & t_{OFF} ns @ I_C mA	I_C mA Max	BV_{CEO} Volts Min	h_{FE} @ I_C mA Min	h_{FE} @ I_C mA	$V_{CE(SAT)}$ Volts @ I_C mA Max	$V_{CE(SAT)}$ @ I_C mA & I_B mA	f_T MHz @ I_C mA Min	f_T MHz @ I_C mA
NPN											
TO-18	2N2845	40	40	150	30	—	30	150	0.4	150	15	250	50
	2N2540	40	40	150	30	—	100	150	0.45	150	15	250	20
	2N2539	40	40	150	30	—	50	150	0.45	150	15	250	20
TO-5	2N3507S	45	90	1500	50	3000	30	1500	1.0	1500	150	60	100
	2N3506S	45	90	1500	40	3000	40	1500	1.0	1500	150	60	100
TO-52	2N3444S	50	70	500	50	—	20	500	0.6	500	50	175	50
	2N3253S	50	70	500	40	—	25	500	0.6	500	50	175	50
	2N3252S	45	70	500	30	—	30	500	0.5	500	50	200	50
TO-39	2N3725	35	60	500	50	2000	35	500	0.52	500	50	300	50
	2N3724	35	60	500	30	2000	35	500	0.42	500	50	300	50
	2N3735	48	60	1000	75	1500	20	1000	0.5	500	50	250	50
	2N3734	48	60	1000	50	1500	30	1000	0.5	500	50	250	50
	MM5189	40	70	—	40	2000	20	1000	1.0	1000	100	350 (typ)	50
	2N5859	35	60	1000	40	2000	15	1000	0.4	500	50	250	50
	MM3734	35	60	1000	30	1500	25	1000	0.5	500	50	200	50
	MM5262	30	60	1000	50	2000	25	1000	0.8	1000	100	350 (typ)	50
	2N5861	25	60	500	50	2000	25	500	0.5	500	50	200	50
TO-18	2N4014	35	60	500	50	1000	35	500	0.52	500	50	300	50
	2N4013	35	60	500	30	1000	35	500	0.42	500	50	300	50
TO-18	2N3011	15	20	30	12	200	25	30	0.25	30	3.0	400	20
	2N3227	12	18	100	20	500	30	100	0.25	10	1.0	500	10
	2N2369	12	18	100	15	500	20	100	0.25	10	1.0	500	10
	2N2369A	12	18	10	15	200	40	10	0.2	10	1.0	500	10
	2N2368	12	15	10	15	—	20	10	0.25	10	1.0	400	10
TO-46	2N2319	60	50	20	15	200	40	20	0.35	20	1.0	300	10
	2N2206	40	75	10	12	200	40	10	220	10	1.0	200	10
	2N3508	12	18	10	20	500	40	10	0.25	10	1.0	500	10
	2N3509	12	18	10	20	500	100	10	0.25	10	1.0	500	10
TO-46	2N3647	20	25	150	10	500	25	150	0.4	150	15	350	15
	2N3648	16	18	150	15	500	30	150	0.4	150	15	450	15
TO-46	2N3737	48	60	1000	50	1500	20	1000	0.5	500	50	250	50
	2N3736	48	60	1000	30	1500	30	1000	0.5	500	50	250	50
	MM3737	45	65	1000	50	1500	20	1000	0.5	500	50	200	50
	MM3736	45	65	1000	30	1500	30	1000	0.5	500	50	200	50
PNP											
TO-18	2N3249	90	100	10	12	—	100	10	0.125	10	1.0	300	20
	2N869A	50	80	30	18	200	40	30	0.2	30	3.0	400	10
	2N2894	60	90	30	12	200	40	30	0.2	30	3.0	400	30
	2N3012	60	75	30	12	200	30	30	0.2	30	3.0	400	30
TO-18	2N3546	40	30	50	12	—	25	50	0.25	50	5.0	700	10
TO-39	2N4890S	100	270	150	40	500	50	150	1.4	150	15	100	50
	MM4036	75	175	150	65	1000	40	150	0.65	150	15	60	50
	MM4037	75	175	150	40	1000	50	150	1.4	150	15	60	50
	2N4405	40	210	500	80	1000	25	500	0.5	500	50	200	50
	2N4404	40	210	500	80	1000	15	500	0.5	500	50	200	50
TO-39	MM4031	100	240 (typ)	500	80	1000	25	500	0.5	500	50	100	50
	MM4033	100	240 (typ)	500	80	1000	70	500	0.5	500	50	150	50
	MM4032	100	240 (typ)	500	60	1000	70	500	0.5	500	50	150	50
	MM4030	100	240 (typ)	500	60	1000	25	500	0.5	500	50	100	50
	2N4407	75	225	1000	80	2000	15	1000	0.7	1000	100	150	50
	2N4406	75	225	1000	80	2000	10	1000	0.7	1000	100	150	50
	MM4007	—	—	—	100	1000	50	150	0.1 (typ)	150	15	50	50
	MM4006	—	—	—	80	1000	50	150	0.1 (typ)	150	15	50	50
	MM4005	—	—	—	60	1000	50	150	0.1 (typ)	150	15	50	50
TO-39	2N3763S	43	115	1000	60	1500	20	1000	0.9	1000	100	150	50
	2N3762S	43	115	1000	40	1500	30	1000	0.9	1000	100	180	50
TO-39	2N3245S	55	165	500	50	1000	30	500	0.6	500	50	150	50
	2N3244S	50	185	500	40	1000	50	500	0.5	500	50	175	50
	2N3468S	40	90	500	50	1000	25	500	0.6	500	50	150	50
	2N3467S	40	90	500	40	100	40	500	0.5	500	50	175	50
	MM3726	35	60	1000	50	1500	15	1000	1.2	1000	100	200	50
TO-18	2N4209	15	20	10	15	200	50	10	0.18	10	1.0	850	10
	2N4208	15	20	10	12	200	30	10	0.15	10	1.0	700	10
	MM4258	15	20	10	12	80	30	10	0.15	10	1.0	700	10
	MM4257	15	15	10	6.0	80	30	10	0.15	10	1.0	500	10
TO-39	2N3636S	400	600	50	175	1000	50	50	0.5	50	5.0	150	30
	2N3635S	400	600	50	140	1000	100	50	0.5	50	5.0	200	30
	2N3634S	400	600	50	140	1000	50	50	0.5	50	5.0	150	30
	2N4929S	—	—	—	150	500	25	10	0.5	10	1.0	100	20
	MM4001	—	—	—	150	500	20	10	0.6	10	1.0	—	—

HIGH-GAIN LOW-NOISE TRANSISTORS

Devices are listed in decreasing order of NF.

Package	Family	Device Type	NF Wideband Typ* Max dB	BV_{CEO} Volts Min	I_C mA Max	h_{FE} Min	h_{FE} Max	I_C @ μA mA*	f_T MHz Min	f_T @ I_C mA
NPN DARLINGTON										
OT-18	914	MM6427	—	40	300	5000	—	10*	125	100

Motorola Selector Guide

SMALL-SIGNAL METAL TRANSISTORS (Cont.)

HIGH-GAIN LOW-NOISE TRANSISTORS

Package	Device Type	NF Wideband Typ* Max dB	BV_{CEO} Volts Min	I_C mA Max	h_{FE} Min	h_{FE} Max	@ I_C µA mA*	f_T MHz @ Min	I_C mA
NPN									
TO-18	2N2483	8.0*	60	50	40	120	10	12	0.05
	2N2484	8.0*	60	50	100	500	10	15	0.05
	2N929	4.0	45	30	40	120	10	30	0.5
	2N930A	3.0	45	30	100	300	10	45	0.5
	2N930	3.0	45	30	100	300	10	30	0.5
PNP									
TO-18	2N3798	3.5	60	50	150	450	500	30	0.5
	2N3799	2.5	60	50	300	900	500	30	0.5

HIGH-VOLTAGE AMPLIFIERS

These are standard Motorola devices that have high Collector-Emitter Breakdown Voltage.

Package	Device Type	BV_{CEO} Volts Min	I_C mA Max	h_{FE} @ Min	I_C mA	$V_{CE(sat)}$ Volts @ Max	I_C mA	& I_B mA	f_T MHz @ Min	I_C mA
NPN										
TO-39	MM3009	180	400	40	10	—	—	—	50	20
	MM3008	120	400	40	10	—	—	—	50	20
TO-39	MM2259	175	300	35	10	0.4	25	2.5	150	20
	2N3501S	150	300	100	150	0.4	150	15	150	20
	2N3500S	150	300	40	150	0.4	150	15	150	20
	2N3114S	150	200	30	30	1.0	50	5.0	40	30
	2N3712S	150	200	30	30	2.0	50	5.0	40	30
	MM3001	150	200	20	10	—	—	—	150	10
	MM2258	120	500	50	10	0.4	25	2.5	150	20
	2N3499S	100	500	100	150	0.6	300	30	150	20
	2N3498S	100	500	40	150	0.6	300	30	150	20
	2N4924S	100	200	40	150	0.4	50	5.0	100	20
	2N657S	100	—	30	200	4.0	200	40	—	—
	2N1990S	—	1000	20	30	0.5	2.0	0.2	—	—
TO-39	MM3007	100	2500	50	250	0.35	150	15	50	50
	MM3006	80	2500	50	200	0.35	150	15	50	50
	MM3005	60	2500	50	150	0.35	150	15	50	50
TO-39	2N5058S	300	150	35	30	1.0	30	3.0	30	10
	2N3742S	300	50	20	30	1.0	30	3.0	30	10
	2N5059S	250	150	30	30	1.0	30	3.0	30	10
	2N4927	250	50	20	30	2.0	30	3.0	30	10
	MM3003	250	50	20	10	—	—	—	150	10
	2N4926	200	50	20	30	2.0	30	3.0	30	10
	MM3002	200	50	20	10	—	—	—	150	10
PNP										
TO-39	2N3495S	120	100	40	10	0.35	10	1.0	150	20
	2N4928S	100	100	25	10	0.5	10	1.0	100	20
	MM4000	100	100	20	10	0.6	10	1.0	—	—
	2N3494S	80	100	40	10	0.3	10	1.0	200	20
TO-18	2N3497	120	100	40	10	0.35	10	1.0	150	20
	2N3496	80	100	40	10	0.3	10	1.0	200	20
TO-39	MM4010	100	500	75	10	0.2 (typ)	10	1.0	150 (typ)	20
	MM5007	100	2000	50	250	0.5	150	15	30	50
	MM4009	80	500	75	10	0.2 (typ)	10	1.0	150 (typ)	20
	MM5006	80	2000	50	200	0.5	150	15	30	50
	MM5005	60	2000	50	150	0.5	150	15	30	50
TO-39	2N4405	80	1000	100	150	0.2	150	15	200	50
	2N4404	80	1000	40	150	0.2	150	15	200	50
	MM4036	65	1000	20	150	0.65	150	15	60	50
	MM4037	40	1000	50	150	1.4	150	15	60	50
	2N4890S	40	500	50	150	1.4	150	15	100	50
TO-39	2N3743S	300	50	25	30	8.0	30	3.0	30	10
	2N4931S	250	500	20	20	5.0	10	1.0	20	20
	MM4003	250	500	20	10	5.0	10	1.0	—	—
	2N4930S	200	500	20	20	5.0	10	1.0	20	20
	MM4002	200	500	20	10	5.0	10	1.0	—	—
TO-39	2N3637S	175	1000	100	50	0.5	50	5.0	200	30
	2N3636S	175	1000	50	50	0.5	50	5.0	150	30
	2N4929S	150	500	25	10	0.5	10	1.0	100	20
	MM4001	150	500	20	10	0.6	10	1.0	—	—
	2N3635S	140	1000	100	50	0.5	50	5.0	200	30
	2N3634S	140	1000	50	50	0.5	50	5.0	150	30

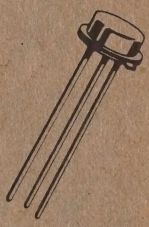
HIGH-FREQUENCY AMPLIFIERS/OSCILLATORS

The transistors shown are designed for use as both oscillators and amplifiers at UHF and VHF frequencies.

Package	Device Type	BV_{CEO} Volts Min	h_{FE} Min	@ I_C mA	G_{pe} dB Min	NF dB Max	@ f MHz	F_T MHz @ Min	I_C mA	C_{ob} pF Max
NPN										
TO-72	2N917	15	20	3.0	9.0	6.0	60	500	4.0	1.7
	2N918	15	20	3.0	15	6.0	60	600	4.0	1.7
TO-38	2N3544	25	25	10	—	—	—	600	10	2.5
	MM1941	20	25	10	7.0	—	—	600	10	2.5

Case 22-03
TO-18

Case 79-02
TO-39



TO-38

Case 20-3
TO-72

SMALL-SIGNAL METAL TRANSISTORS

HIGH-FREQUENCY AMPLIFIERS/OSCILLATORS (Cont.)

Package	Device Type	BV_{CEO} Volts Min	hFE Min	@ I_C mA	G_{pe} dB Min	NF dB Max	@ f MHz	f_T MHz Min	@ I_C mA	C_{ob} pF Max
PNP										
TO-18	2N3307	35	40	2.0	17	4.5	200	300	2.0	1.3
	2N3308	25	25	2.0	17	6.0	200	300	2.0	1.6
TO-72	2N4261	15	30	10	—	—	—	1600	10	2.5
	2N4260	15	30	10	—	—	—	2000	10	2.5

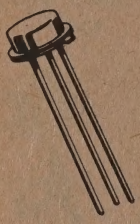
GENERAL-PURPOSE AMPLIFIERS

These transistors are designed for high speed switching circuits, DC to VHF amplifier applications and complementary circuitry. Devices are listed in decreasing order of BV_{CEO}.

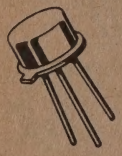
Package	Device Type	BV_{CEO} Volts Min	f_T MHz Min	@ I_C mA	I_C mA Max	hFE Min	hFE Max	@ I_C mA
NPN								
TO-39	2N2959S	60	250	20	600	100	300	150
	2N2951S	60	200	10	250	20	150	10
	2N1711S	80	70	50	—	100	300	150
	2N1613S	50	60	50	500	40	120	150
	2N2219AS	40	300	20	800	100	300	150
	2N2218AS	40	250	20	800	40	120	150
	2N697S	40	50	50	—	40	120	150
	2N2789S	35	250	20	800	100	300	150
	2N3299S	30	250	50	500	40	120	150
	2N3300S	30	250	50	500	100	300	150
	2N2218S	30	250	20	800	40	120	150
	2N2219S	30	250	20	800	100	300	150
TO-46	2N5582	40	300	20	800	100	300	150
	2N5581	40	250	20	800	40	120	150
	2N4450	30	250	50	500	100	300	150
TO-18	2N956	50	70	50	—	40	120	150
	2N843	45	40	10	800	45	150	10
	2N2222A	40	300	20	800	100	300	150
	2N2221A	40	250	20	800	40	120	150
	2N718	40	50	50	—	40	120	150
	2N717	40	40	50	500	20	60	150
	2N3301	30	250	50	500	40	120	150
	2N3302	30	250	50	500	100	300	150
	2N2221	30	250	20	800	40	120	150
	2N2222	30	250	20	800	100	300	150
TO-39	2N3019S	80	100	50	1000	100	300	150
	2N3020S	80	80	50	1000	40	120	150
	2N699	80	50	50	—	40	120	150
	2N1893S	80	50	50	500	40	120	150
	2N2102S	65	60	50	1000	40	120	150
	2N3053AS	60	100	50	700	50	250	150
	2N1890S	60	60	50	500	100	300	150
	2N656S	60	—	—	—	30	90	200
	MM3053	50	100	50	1000	40	300	150
	2N2193AS	50	50	50	1000	40	120	150
	2N2270S	45	100	50	1000	50	200	150
	2N3110S	40	600	10	1000	40	120	150
	2N3053S	40	100	50	700	50	250	150
	2N2297S	35	60	50	1000	40	120	150
TO-18	2N915	50	250	10	—	50	200	10
	2N3946	40	300	10	200	50	150	10
	2N3947	40	300	10	200	100	300	10
	2N916	25	300	10	—	50	200	10
TO-52	MM3904	40	300	10	200	100	300	10
	MM3903	40	250	10	200	50	150	10
PNP								
TO-18	2N3251A	60	300	10	200	100	300	10
	2N3250A	60	250	10	200	50	150	10
	2N3251	40	300	10	200	100	300	10
	2N3250	40	250	10	200	50	150	10
TO-46	2N3485A	60	200	50	600	40	120	150
	2N3486A	60	200	50	600	100	300	150
	2N3673	50	200	50	600	75	225	150
	2N3486	40	200	50	600	100	300	150
TO-18	2N2906A	60	200	50	600	40	120	150
	2N2907A	60	200	50	600	100	300	150
	2N3073	60	130	50	500	30	130	50
	2N3135	50	200	50	600	40	120	150
	2N2906	40	200	50	600	40	120	150
	2N2907	40	200	50	600	100	300	150
TO-39	2N2904AS	60	200	50	600	40	120	150

Case 22-03
TO-18

Case 20-3
TO-72



Case 26
TO-46



Case 79-02
TO-39

Case 27-02
TO-52

Motorola Selector Guide

SMALL-SIGNAL METAL TRANSISTORS

GENERAL-PURPOSE AMPLIFIERS (Cont.)

Package	Device Type	BV_{CEO} Volts Min	f_T MHz Min	@ I_C mA	I_C mA Max	h_{FE} Min	h_{FE} Max	@ I_C mA
TO-39	2N2905AS	60	200	50	600	100	300	150
	MM4008	60	325 (typ)	20	500	75	—	10
	2N3133S	50	200	50	600	40	120	150
	2N2904S	40	200	50	600	40	120	150
	2N2905S	40	200	50	600	100	300	150
	2N1132AS	40	60	50	600	30	90	150
	2N1131AS	40	50	50	600	30	90	150
	2N2800S	35	120	50	800	30	90	150
	2N1132S	35	60	50	600	30	90	150
	2N1131S	35	50	50	600	30	90	150
	2N1991S	20	40	50	600	15	60	150
TO-52	MM3906	40	250	10	200	100	300	10
	MM3905	40	200	10	200	50	150	10

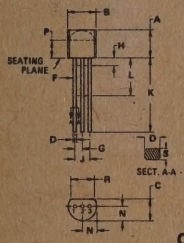
Case 27-02
TO-52

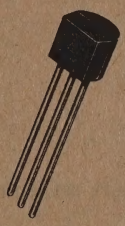
PLASTIC ENCAPSUALTED SMALL-SIGNAL TRANSISTORS

This Selector Guide section is designed to help you select the right silicon plastic transistor for your applications. A wide range of device types in three basic package configurations are listed in this Selector Guide Section.

The TO-92 is the most popular, high-volume plastic package and will meet most of your high-performance, low-cost requirements.
The Uniwatt/Duowatt package is designed for applications requiring greater power dissipation than available with the TO-92 package.

TO-92



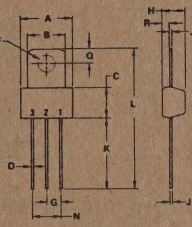


Case 29-02

DIM	MILLIMETERS MIN	MAX	INCHES MIN	MAX	DIM	MILLIMETERS MIN	MAX	INCHES MIN	MAX
A	4.32	5.33	0.170	0.210	J	2.41	2.67	0.095	0.105
B	4.44	5.21	0.175	0.205	K	12.70	—	0.500	—
C	3.18	4.19	0.125	0.165	L	6.35	—	0.250	—
D	0.41	0.56	0.016	0.022	N	2.03	2.92	0.080	0.115
F	0.41	0.48	0.016	0.019	P	2.92	—	0.115	—
G	1.14	1.40	0.045	0.055	R	3.53	—	0.135	—
H	—	2.54	—	0.100	S	0.36	0.41	0.014	0.016

All JEDEC dimensions and notes apply.

UNIWATT



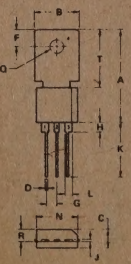
Case 152-02

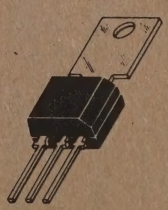
DIM	MILLIMETERS MIN	MAX	INCHES MIN	MAX	DIM	MILLIMETERS MIN	MAX	INCHES MIN	MAX
A	9.14	9.53	0.360	0.375	J	0.36	0.41	0.014	0.016
B	6.60	7.24	0.260	0.285	K	12.07	12.70	0.475	0.500
C	5.41	5.66	0.213	0.223	L	25.02	25.53	0.985	1.005
D	0.38	0.53	0.015	0.021	N	5.08 BSC		0.200 BSC	
F	3.18	3.33	0.125	0.131	Q	2.39	2.69	0.094	0.106
G	2.54 BSC		0.100 BSC		R	1.14	1.40	0.045	0.055
H	3.94	4.19	0.155	0.165	—	—	—	—	—

NOTE: 1. LEADS WITHIN 0.15mm (0.006) TOTAL OF TRUE POSITION AT CASE, AT MAXIMUM MATERIAL CONDITION

DUOWATT

DIM	MILLIMETERS MIN	MAX	INCHES MIN	MAX	DIM	MILLIMETERS MIN	MAX	INCHES MIN	MAX
A	21.84	22.35	0.860	0.880	J	0.48	0.66	0.019	0.026
B	9.91	10.41	0.390	0.410	K	12.70	—	0.500	—
C	4.19	4.44	0.165	0.175	L	1.78	2.03	0.070	0.080
D	0.61	0.71	0.024	0.028	N	9.91	10.16	0.390	0.400
F	3.68	3.94	0.145	0.155	Q	3.56	3.81	0.140	0.150
G	2.41	2.67	0.095	0.105	R	2.41	2.67	0.095	0.105
H	1.70	1.96	0.067	0.077	T	13.21	13.97	0.520	0.550





Case 306-02

PLASTIC ENCAPSULATED SMALL-SIGNAL TRANSISTORS (Cont.)

GENERAL PURPOSE AMPLIFIERS AND SWITCHES

Silicon transistors designed for use in complementary amplifier circuits. The transistors come in TO-92 packages.

The following devices are the most popular consumer amplifier transistors:

Device and Polarity NPN	Device and Polarity PNP	BV_{CEO} Volts Min	f_T @ I_C=10 mA MHz Min Typ*	I_C mA Max	h_{FE} Min	h_{FE} Max	@ I_C mA
MPS8098	MPS8598	60	200	500	100	300	10
2N3903	2N3905	40	270*	200	50	150	10
2N3904	2N3906	40	250	200	100	300	10
MPS3903	MPS3905	40	150	200	50	150	10
MPS3904	MPS3906	40	200	200	100	300	10
2N4123	2N4125	30	250	200	50	150	2.0
2N4124	2N4126	25	300	200	120	360	2.0
MPS6515	MPS6519	25	100	—	250	500	2.0

The following devices are the most popular consumer low-noise transistors:

Device and Polarity NPN	Device and Polarity PNP	BV_{CEO} Volts Min	f_T @ I_C=500 µA MHz Min	I_C mA Max	h_{FE} Min	h_{FE} Max	@ I_C µA	NF dB Typ
MPS-A18		45	100	200	500	1500	10	4.0
2N5088	2N5086	30	40	50	150	500	100	3.0
2N5089	2N5087	25	40	50	250	800	100	2.0

The following are the most popular industrial high-voltage and high current transistors:

Device and Polarity NPN	Device and Polarity PNP	BV_{CEO} Volts Min	f_T MHz Typ* Min	@ I_C mA	I_C mA Max	h_{FE} @ I_C=10 mA Min	h_{FE} @ I_C=10 mA Max
2N5551	2N5401	160	100	10	600	80	250
2N5550	2N5400	140	100	10	—	40	180
MPS-A06	MPS-A56	80	100	100	500	50	—
MPS-A05	MPS-A55	60	100	100	500	50	—
2N4400	2N4402	40	200	20	—	40	—
2N4401	2N4403	40	250	20	—	40	—
MPS6531	MPS6534	40	390*	50	—	60	120

RF/UHF/VHF AMPLIFIERS AND CATV TRANSISTORS

The transistors listed below are the high performance, high frequency standard transistors available in the TO-92 plastic package. The transistors are listed in order of decreasing breakdown voltage (BV_{CEO}).

Device Type	BV_{CEO} Volts Min	h_{FE} Min	@ V_C mA	G_{pe} G_{pb} dB Typ* Min	NF dB Typ* Max	@ f MHz	V_{AGC} I_{AGC}# Typ* Min	@ Gain Reduction dB	f_T MHz Min	@ I_C mA	C_{cb} C_{ce} pF Max
NPN											
MPS-H04	80	30	1.5	—	2.0	1.0	—	—	80	1.5	1.6
MPS-H05	80	30	1.5	—	2.0	1.0	—	—	80	1.5	1.6
MPS-H34	45	15	20	—	—	—	—	—	500	15	0.32
MPS-H37	40	25	5.0	—	—	—	—	—	300	5.0	100
MPS-H07	30	20	3.0	18#	3.2	100	5.0*	30	400	3.0	0.3#
MPS-H08	30	20	3.0	14#	3.5	200	5.0*	30	500	3.0	0.3#
MPS-H20	30	25	4.0	—	—	—	—	—	400	4.0	0.65
MPS-H24	30	30	8.0	—	—	—	—	—	400	8.0	0.36
MPS-H32	30	27	4.0	22.5	3.3*	45	5.5#	30	300	4.0	0.22
MPS-H10	25	60	4.0	—	—	—	—	—	650	4.0	0.7
MPS-H11	25	60	4.0	—	—	—	—	—	650	4.0	0.7
MPS-H19	25	45	4.0	—	—	—	—	—	300	4.0	0.65
MPS-H02	20	20	4.0	20	3.3	200	4.0	30	375	4.0	0.5
MPS-H30	20	20	4.0	22.5	6.0	45	4.4	30	300	4.0	0.65
MPS-H31	20	20	4.0	22.5	6.0	45	5.2	30	300	4.0	0.65
MPS-H17	15	25	5.0	24*	6.0	200	—	—	800	5.0	0.9
PNP											
MPS-H54	80	30	1.5	—	2.0	1.0	—	—	80	1.5	1.6
MPS-H55	80	30	1.5	—	2.0	1.0	—	—	80	1.5	1.6
MPS-H83	30	20	2.5	10#	6.5	850	4.5*	30	600	2.5	0.3#
MPS-H85	30	20	2.5	14#	6.5	200	—	—	350	2.5	0.2#
MPS6543	25	25	4.0	—	—	—	—	—	750	4.0	—
MPS6546	25	20	2.0	—	—	—	—	—	600	2.0	0.45#
MPS6547	25	20	2.0	20	—	100	—	—	600	2.0	0.35#
MPS6568	20	20	4.0	20	3.3	200	4.0	30	375	4.0	0.5
MPS6569	20	20	4.0	20	6.0	45	4.4	30	300	4.0	0.5
MPS6570	20	20	4.0	20	6.0	4.5	5.2	30	300	4.0	0.5
MPS6507	20	25	2.0	—	—	—	—	—	700	10	—
MPS6511	20	25	10	30	—	4.5	—	—	—	—	—
MPS6541	20	25	4.0	—	—	—	—	—	—	—	—

PLASTIC ENCAPSULATED SMALL-SIGNAL TRANSISTORS (Cont.)

HIGH-SPEED SATURATED SWITCHING TRANSISTORS

The transistors listed in this table are specially optimized for high-speed saturated switches. They are heavily gold doped and processed to provide very short switching times and low output capacitance (below 6 pF).

Device Type	ton & toff ns Max	@ IC mA	BVCEO Volts Min	hEF @ IC mA Min	VCE(sat) Volts @ IC & IB Max	mA	mA	fT @ IC MHz mA Min	mA
NPN									
MPS706,A	40	75	10	15	20	10	0.6	10	1.0	200	10
2N4264	25	35	10	15	40	10	0.22	10	1.0	300	10
2N4265	25	35	10	12	100	10	0.22	10	1.0	300	10
MPS835	20	35	10	—	20	10	0.3	10	1.0	300	10
MPS3646	18	28	300	15	30	30	0.2	30	3.0	350	30
MPS834	16	30	10	—	25	10	0.25	10	1.0	350	10
MPS2369	12	18	10	15	40	10	0.25	10	1.0	500	10
PNP									
MPS3640	25	35	50	12	30	10	0.2	10	1.0	500	10
MPS3639	25	25	50	6.0	30	10	0.16	10	1.0	—	—

GENERAL-PURPOSE TRANSISTORS

These general-purpose transistors are designed for small-signal amplification from DC to low radio frequencies. They are also useful as oscillators and general-purpose switches. In order of decreasing breakdown voltages (BV_{CEO}).

Device and Polarity NPN	PNP	BVCEO Volts Min	fT @ MHz Min	IC mA	IC mA Max	hFE Min	@ Max	IC mA
MPS8099	MPS8599	80	150	10	200	100	300	1.0
MPS-A06	MPS-A56	80	100	10	500	50	—	100
MPS8098	MPS8598	60	150	10	200	100	300	1.0
MPS-A05	MPS-A55	60	100	10	500	50	—	100
2N3904	2N3906	40	300	10	200	100	300	10
2N4401	2N4403	40	250	20	600	100	300	150
2N3903	2N3905	40	250	10	200	50	150	10
2N4400	2N4402	40	200	20	600	50	150	150
MPS-A20	MPS-A70	40	125	5.0	100	40	400	5000
MPS6531	MPS6534	40	—	50	600	100	300	150
MPS2222	MPS2907	30	250	20	600	100	300	150
2N4123	2N4125	30	250	10	200	50	150	2.0
MPS3704	MPS3702	30	100	50	600	100	300	50
2N4124	2N4126	25	300	10	300	120	360	2.0
MPS-D06	MPS-D56	25	100	10	50	50	—	10
MPS-D05	MPD-D55	25	100	50	500	80	—	100
2N5225	2N5226	25	50	20	200	30	600	50
MPS6514	MPS6518	25	200	10	200	50	300	10
2N5220	2N5221	15	100	20	500	30	600	50

LOW-NOISE AMPLIFIER TRANSISTORS

The small-signal transistors listed in this table are for use at low frequencies, audio being from 10 Hz to 15.7 kHz.

Device Type	NF @ dB Typ	f kHz* Hz	BVCEO Volts Min	hEF @ IC Min mA	fT @ IC MHz Min mA
NPN					
2N4123	6.0	Audio	30	50 2.0	250 10
2N3903	6.0	Audio	40	50 10	250 10
2N4124	5.0	Audio	25	120 2.0	300 10
2N3904	5.0	Audio	40	100 10	300 10
MPS6565	4.0	Audio	45	40 10	— —
MPS6566	4.0	Audio	45	100 10	— —
2N5209	3.0	Audio	50	150 10	30 500
2N5088	3.0	Audio	30	100 300	50 500
MPS6520	3.0	Audio	25	200 2.0	390 2.0
MPS6521	3.0	Audio	25	300 2.0	390 2.0
2N5210	2.0	Audio	5.0	250 10	30 500
MPS8097	2.0	100	40	250 0.1	200 10
2N5089	2.0	Audio	25	400 10	50 500
MPS-A18	1.5	Audio	45	500 10	100 1.0
MPS-A09	1.4	1.0*	50	100 0.1	30 0.5
MPS6571	1.2	100	20	250 100	50 500
PNP					
2N4125	5.0	Audio	30	50 2.0	200 10
2N3905	5.0	Audio	40	50 10	200 10
2N3906	4.0	Audio	40	100 10	250 10
2N4126	4.0	Audio	25	120 2.0	250 10
2N5086	3.0	Audio	50	100 150	40 500
MPS6522	3.0	Audio	25	200 2.0	340 2.0
MPS6523	3.0	Audio	25	300 2.0	340 2.0
2N5087	2.0	Audio	50	250 10	40 500

Motorola Selector Guide

PLASTIC ENCAPSULATED SMALL-SIGNAL TRANSISTORS (Cont.)

HIGH-VOLTAGE TRANSISTORS

These high-voltage transistors are designed for driving neon bulbs and Nixie® indicator tubes, for direct line operation, and for other applications requiring high-voltage capability at relatively low collector current.

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Device Type	BV_{CEO} Volts Min	I_C Amp Max	h_{FE} @ Min	I_C mA	$V_{CE(sat)}$ Volts @ Max	I_C mA	& I_B mA	f_T MHz @ Min	I_C mA
NPN									
2N6517	350	0.5	40	30	0.30	10	1.0	40	10
2N6516	300	0.5	45	30	0.30	10	1.0	40	10
MPS-A42	300	0.5	40	10	0.5	20	2.0	50	10
2N6515	250	0.5	50	30	0.30	10	1.0	40	10
MPS-A43	200	0.5	40	10	0.4	20	2.0	50	10
MPS-D01	200	0.1	20	30	—	—	—	40	10
2N5551	160	0.6	80	10	0.15	10	1.0	100	10
2N5550	140	0.6	60	10	0.15	10	1.0	100	10
MPS-D02	140	0.05	20	30	—	—	—	40	10
MPS-D03	100	0.05	50	10	0.2	10	1.0	60	10
MPS-L01	100	0.05	20	30	—	—	—	40	10
PNP									
2N6520	350	0.5	30	30	0.30	10	1.0	40	10
2N6519	300	0.5	45	30	0.30	10	1.0	40	10
MPS-A92	300	0.5	40	10	0.8	20	2.0	50	10
2N6518	250	0.5	50	30	0.30	10	1.0	40	10
MPS-A93	200	0.5	40	10	0.7	20	2.0	50	10
MPS-D51	200	0.1	20	30	—	—	—	40	10
2N5401	150	0.6	60	10	0.2	10	1.0	100	10
MPS-D52	140	0.05	20	30	—	—	—	40	10
2N5400	120	0.6	40	10	0.2	10	1.0	100	10
MPS-D53	100	0.05	20	30	—	—	—	40	10
MPS-L51	100	0.6	40	50	0.25	10	1.0	60	10

MEDIUM-POWER (UNIWATT AND DUOWATT) TRANSISTORS

For applications requiring higher power dissipation than that of the standard Unibloc package. The Uniwatt and Duowatt plastic packages are slightly larger than the TO-92 case. They are rated for P_D without a heat sink.

Uniwatt Transistors (P_D = 1.0 Watt @ T_A = 25°C)

Device Type	I_C Adc Max	BV_{CEO} Volts Min	h_{FE} @ Min	I_C mA	$V_{CE(sat)}$ Volts @ Max	I_C mA	& I_B mA	f_T MHz @ Min	I_C mA
NPN									
MPS-U10	0.5	300	40	10	0.75	30	30	60	10
MPS-U02	0.8	40	50	150	0.4	150	15	15	20
MPS-U03	1.0	120	40	10	0.5	200	20	100	50
MPS-U04	1.0	180	40	10	0.5	200	20	100	50
MPS-U01	2.0	30	60	100	0.5	1000	100	50	50
MPS-U01A	2.0	40	60	100	0.5	1000	100	50	50
MPS-U45	2.0	40	15k	500	1.5	1.0	2.0	100	200
MPS-U05	2.0	60	60	250	0.4	200	10	50	200
MPS-U06	2.0	80	60	250	0.4	250	10	50	200
MPS-U07	2.0	180	30	250	0.4	250	10	50	200
PNP									
MPS-U60	0.5	300	30	10	0.75	20	2.0	60	10
MPS-U52	0.8	40	50	150	0.4	150	15	150	20
MPS-U51	2.0	30	60	100	0.7	1.0	0.1	50	50
MPS-U51A	2.0	40	60	100	0.7	1.0	0.1	50	50
MPS-U95	2.0	40	15k	500	1.5	1000	2.0	500	200
MPS-U55	2.0	60	50	250	0.5	250	10	50	200
MPS-U56	2.0	80	50	250	0.5	250	10	50	200
MPS-U57	2.0	100	30	250	0.5	250	10	50	200

Duowatt Transistors (P_D = 2.0 Watt @ T_A = 25°C)

Device Type	I_C Adc Max	BV_{CEO} Volts Min	h_{FE} @ Min	I_C mA	$V_{CE(sat)}$ Volts @ Max	I_C mA	& I_B mA	f_T MHz @ Min	I_C mA
NPN									
2N6557	0.5	250	40	30	0.6	30	3.0	45	10
2N6558	0.5	300	40	30	0.6	30	3.0	45	10
2N5669	0.5	350	40	30	0.6	30	3.0	45	10
2N6551	1.0	60	80	50	0.5	250	10	75	100
2N6552	1.0	80	80	50	0.5	250	10	75	100
2N6553	1.0	100	80	50	0.5	250	10	75	100
2N6548	2.0	40	25k	200	1.5	1.0	2.0	75	100
2N6549	2.0	40	15k	200	1.5	1.0	2.0	75	100
PNP									
2N6554	1.0	60	80	50	0.5	250	10	75	100
2N6555	1.0	80	80	50	0.5	250	10	75	100
2N6556	1.0	100	80	50	0.5	250	10	75	100

Motorola Selector Guide

FIELD-EFFECT TRANSISTORS

Motorola offers a line of field-effect transistors that encompasses the latest technology and covers the full range of FET applications. Included is a wide variety of junction FETs and MOSFETs, with N- or P-channel polarity with both single and dual gates. These FETs include devices developed for operation across the frequency range from dc to UHF in switching and amplifying applications. Package options from low cost plastic to metal TO-72 packages are available.

GENERAL-PURPOSE DEVICES

Transistors listed below represent good, all-around amplifiers in the audio frequency range, and provide satisfactory medium-speed switching capabilities. MOSFETs listed are characterized primarily as switches but can be used as satisfactory general-purpose amplifiers.

JFETs — N-CHANNEL

Package	Preferred Types	Features	Y_{fs} mmhos Min/Max	I_{DSS} mA Min/Max	$V_{(BR)GSS}$ $V_{(BR)DSS}$* Volts Min	$V_{GS(off)}$ $V_{GS(TH)}$* Volts Min/Max	NF dB $nV/\sqrt{Hz}$*
TO-92	**Standard Family Limits**		0.5/6.5	0.5/24	to -50	-0.2/-8.0	to 2.5
	2N5457	Good overall performance.	1.0/5.0	1.0/5.0	-25	-0.5/-6.0	—
	2N5458	Low Cost.	1.5/5.5	2.0/9.0	-25	-1.0/-7.0	—
	2N5459		2.0/6.0	4.0/16	-25	-2.0/-8.0	—
TO-72	2N4220	Somewhat improved specifi-	1.0/4.0	0.5/3.0	-30	-/-4.0	2.5
	2N4221	cations; slightly higher cost.	2.0/5.0	2.0/6.0	-30	-/-6.0	2.5
	2N4222		2.5/6.0	5.0/15	-30	-/-8.0	2.5
	2N3823		3.5/6.5	4.0/20	-30	-/-8.0	2.5
	2N3824		—	—	-50	—	—

JFETs — P-CHANNEL

TO-92	**Standard Family Limits**		0.8/8.0	0.3/30	to 60	0.2/9.0	115*
	2N5460	Good performance, low cost.	1.0/4.0	1.0/5.0	40	0.75/6.0	115*
	2N5461		1.5/5.0	2.0/9.0	40	1.0/7.5	115*
	2N5462		2.0/6.0	4.0/16	40	1.8/9.0	115*

MOSFET — N-CHANNEL (Enhancement)

TO-72	2N4351	Complement to 2N4352.	1.0/—	10/—	25*	0.5/5.0*	—

MOSFET — P-CHANNEL (Enhancement)

TO-72	2N4352	Relatively low-cost.	1.0/-	-10/-	-25*	-1.0/-5.0*	—

GENERAL-PURPOSE AMPLIFIERS

The following transistors are designed for amplification in the audio-frequency range. The devices characterized represent the best values and should receive primary consideration.

JFET — N-CHANNEL

TO-92	**Standard Family Limits**		0.5/6.5	0.5/24	to -50	-0.2/-0.8	to 75*
	2N5457	Lowest Cost Family.	1.0/5.0	1.0/5.0	-25	-0.5/-6.0	—
	2N5458	General purpose application.	1.5/5.5	2.0/9.0	-25	-1.0/-7.0	—
	2N5459		2.0/6.0	4.0/16	-25	-2.0/-8.0	—
TO-72	2N4220A	Similar to above series, but	1.0/4.0	0.5/3.0	-30	-/-4.0	2.5
	2N4221A	slightly improved specifica-	2.0/5.0	2.0/6.0	-30	-/-6.0	2.5
	2N4222A	tions. Somewhat higher cost.	2.5/6.0	5.0/15	-30	-/-8.0	2.5
	2N5556	Very low noise.	1.5/6.5	0.5/2.5	-30	-0.2/-4.0	20*
	2N5557		1.5/6.5	2.0/5.0	-30	-0.8/-5.0	20*
	2N5558		1.5/6.5	4.0/10	-30	-1.5/-6.0	20*
TO-92	**Standard Family Limits**		-1.0/2.0	0.05/9.0	to -50	-0.2/-12	75*
	2N5716	For low-power applications,	0.2/1.0	0.05/0.25	-40	-0.2/-3.0	75*
	2N5717	as in battery operation. Good	0.4/1.6	0.2/1.0	-40	-0.5/5.0	75*
	2N5718	performance at low cost.	0.5/2.0	0.8/4.0	-40	-1.0/-8.0	75*
TO-18	2N3367	Similar to above series, but	0.1/1.0	0.5/0.25	-40	-/-2.5	75*
	2N3366	higher cost due to metal	0.25/1.0	0.2/1.0	-40	-/-7.0	75*
	2N3365	package.	0.4/2.0	0.8/4.0	-40	-/-12	75*

JFET — P-CHANNEL

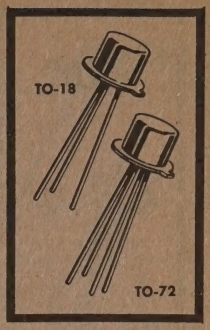
TO-92	**Standard Family Limits**		0.8/8.0	0.3/30	to 60	0.2/9.0	to 3.0
	2N5460	Good performance. Low cost.	1.0/4.0	1.0/5.0	40	0.75/6.0	2.5
	2N5461		1.5/5.0	2.0/9.0	40	1.0/7.5	2.5
	2N5462		2.0/6.0	4.0/16	40	1.8/9.0	2.5
TO-72	2N3330	Tighter specs., higher cost.	1.5/3.0	2.0/6.0	20	-/6.0	3.0
TO-92	**Standard Family Limits**		0.06/0.7	0.02/2.0	45	0.5/9.0	110*
	2N5797	For low-power applications,	0.06/0.225	0.02/0.1	40	0.5/4.0	115*
	2N5798	as in battery operated equip-	0.1/0.4	0.08/0.4	40	0.8/6.0	115*
	2N5799	ment. Good performance at	0.16/0.5	0.25/1.0	40	1.2/8.0	115*
	2N5800	low cost.	0.25/0.7	0.7/2.0	40	2.0/9.0	115*
TO-72	2N5474	Similar to above series,	0.16/0.4	0.2/0.5	40	1.2/7.0	115*
	2N5475	higher cost due to metal	0.2/0.5	0.4/1.0	40	1.5/8.0	115*
	2N5476	package	0.26/0.65	0.8/2.0	40	2.0/9.0	115*

MOSFET — N-CHANNEL (Depletion-Enhancement)

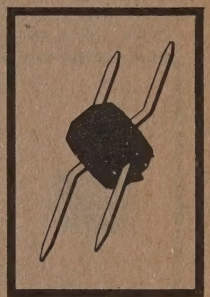
TO-18	**Standard Family Limits**		0.7/4.0	0.5/1.5	to 25*	-/-8.0*	to 3.8
	MFE824	Especially suited for smoke detector applications.	1.0/-	1.0/15	20*	-/-6.0*	—
TO-72	MFE3001	I_{GSS} = ±1.0 pAdc Max	0.7/3.5	0.5/6.0	20*	-/-8.0*	—
	2N3796		0.9/1.8	0.5/3.0	25	-/-4.0*	3.8 Typ
	2N3797		1.5/3.0	2.0/6.0	20	-/-7.0*	3.8 Typ

MOSFET — P-CHANNEL (Enhancement)

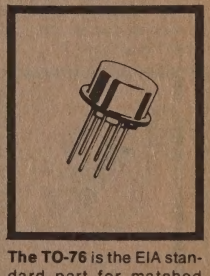
TO-18	MFE823	I_{GSS} = ±1.0 pAdc Max	1.0/-	-/-20	-25*	-2.0/-6.0*	—



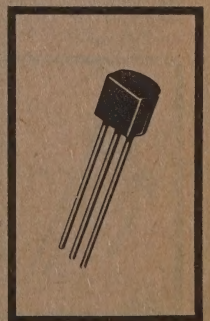
The TO-18 and TO-72 are designed for applications requiring hermeticity as well as greater power dissipation than available with the TO-92 package.



The Micro-H Case 262 four leaded plastic stripline package.

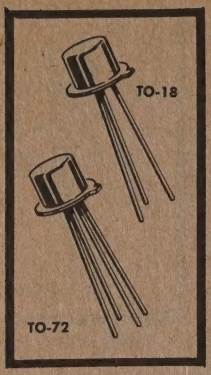


The TO-76 is the EIA standard part for matched dual transistors.

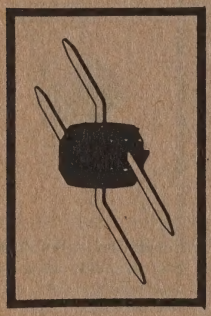


The TO-92 is the most popular, high-volume plastic package and will meet most of your high-performance, low-cost requirements.

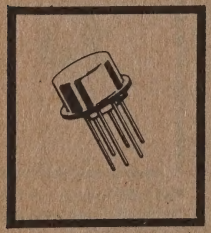
FIELD-EFFECT TRANSISTORS (Cont.)



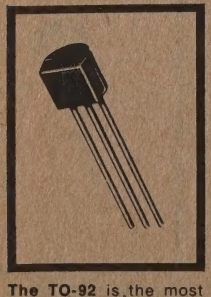
The TO-18 and TO-72 are designed for applications requiring hermeticity as well as greater power dissipation than available with the TO-92 package.



The Micro-H Case 262 four leaded plastic stripline package



The TO-76 is the EIA standard part for matched dual transistors.



The TO-92 is the most popular, high-volume plastic package and will meet most of your high-performance, low-cost requirements.

CHOPPERS AND SWITCHES

FETs have no offset voltages and low "on" resistance. As a result they are especially well suited for chopper/switch applications. The following characterized devices represent the best values.

JFETs — N-CHANNEL

Package	Preferred Types	Features	$r_{ds(on)}$ Ohms Max	$I_{D(off)}$ / I_{DSS}* nA Max	C_{rss} pF Max	$V_{(BR)GSS}$ / $V_{(BR)DSS}$* V Min	$V_{GS(off)}$ / $V_{GS(TH)}$* V Min/Max
TO-92	**Standard Family Limits**		25 to 100	0.25 to 1	3.5 to 8.0	to −40	−0.5/−10
	2N5638	Good Performance, low-cost.	30	1.0	4.0	−30	—
	2N5639		60	1.0	4.0	−30	—
	2N5640		100	1.0	4.0	−30	—
TO-18	2N4856	Somewhat improved specifi-	25	0.25	8.0	−40	−4.0/−10
	2N4857	cations. Metal Package.	40	0.25	8.0	−40	−2.0/−6.0
	2N4858	Higher cost.	60	0.25	8.0	−40	−0.8/−4.0

JFETs — P-CHANNEL

TO-92	**Standard Family Limits**		100 to 250	10	5.0	30	1.0/12
	MPF970	Good Performance, low-cost.	100	10	5.0	30	5.0/12
	MPF971		250	10	5.0	30	1.0/7.0
TO-72	**Standard Family Limits**		150 to 300	1.2	3.5 to 5.0	25	1.0/9.5
	2N3993	Higher costs than above	150	1.2	4.5	25	4.0/9.5
	2N3994	plastic series.	300	1.2	5.0	25	1.0/5.5
	2N3994A		300	1.2	3.5	25	1.0/5.5

MOSFET — N-CHANNEL (Enhancement)

TO-72	**Standard Family Limits**		100 to 300	10*	1.3	25*	0.5/5.0*
	2N4351	Relatively low cost. Complementary with 2N4352 P-Channel device.	300	10*	1.3	25*	1.0/5.0*
	MFE3002	Somewhat higher cost.	100	10*	1.0	15*	—/3.0*

MOSFET — P-CHANNEL (Enhancement)

TO-72	**Standard Family Limits**		200 to 600	0.25 to 10*	to 1.3	to −50*	−1.0/−5.0*
	2N4352	Relatively Low cost.	600	−10*	1.3	25*	−1.0/−5.0*
	MFE3003	Slightly Higher cost.	200	−10*	1.0	15*	—/−4.0*

RF AMPLIFIERS AND MIXERS

In general, amplifier transistors have a small-signal power gain (G_{ps}) specification and a noise figure, while mixer devices are characterized by a conversion gain (G_c) specification and may not have an assigned noise figure. A comparison of specifications indicates that MOSFETs, in general, have a considerably lower reverse transfer capacitance (C_{rss}) than JFETs. This makes them suitable for operation over wide frequency ranges, as required for many TV applications. Moreover, all MOSFETs listed are dual-gate devices that often simplify circuit designs. The JFET lines are often preferred for communications circuits where only narrow bandwidths are required.

JFET — N-CHANNEL

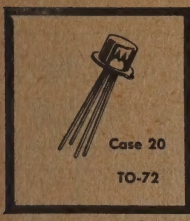
Package	Preferred Types	Features	Test Frequency MHz	G_{ps} / G_c* dB Min/Max	Y_{fs} mmhos Min/Max	C_{rss} pF Min/Max	NF dB Max	$V_{(BR)DSS}$ / $V_{(BR)GSS}$* V Min
TO-92	**Standard Family Limits**		to 200	10/20	2.0/7.5	—/3.0	4.0	to 25
	MPF102	Very low cost.	100	—	2.0/7.5	—/3.0	—	25*
	Standard Family Limits		to 400	10/30	3.0/8.0	1.0/3.0	—	to 30
	2N5484	Low noise figure.	100	16/25	3.0/6.0	—/3.0	3.0	25*
	MPF256	Improved performance.	400	12/—	6.0/—	1.2 Typ	4.0	25*
	2N5485	Somewhat higher cost.	400	10/20	3.5/7.0	—/1.0	4.0	25*
	2N5486		400	10/20	4.0/8.0	—/1.0	4.0	
TO-72	2N4416	Best value in metal	400	10/—	4.5/7.5	—/0.8	4.0	30*
	2N4416A	As above, but higher breakdown voltage and tighter $V_{GS(off)}$						

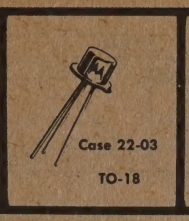
MOSFET — N-CHANNEL

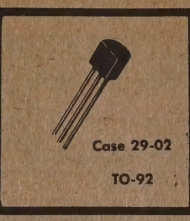
	AMPLIFIERS							
TO-72	**Standard Family Limits**		to 500	10/28	8.0/20	—/−0.05	6.0	to 25
	MFE130	VHF amplifiers	105	17/—	8.0/20	—/0.05	5.0	25
	MFE131	listed in order of	200	17/—	8.0/20	—/0.05	5.0	25
	3N209	increasing test fre-	500	10/20	10/20	—/0.05	6.0	25
		quency. Cost variations are relatively small.						
	Standard Family Limits		to 900	10/—	8.0/20	—/0.025	8.0	25
	MFE590	VHF/UHF ampli-	900	10.5/—	8.0/20	—/0.025	8.0	25
	MFE591	fiers characterized to	900	10.5/—	10/20	—/0.02	6.0	25
		900 MHz. Moderate cost						
	MIXERS							
TO-72	**Standard Family Limits**		to 500	10/28	8.0/20	—/0.05	6.0	to 25
	MFE132	Good performance.	200	12/—*	8.0/20	—/0.05	—	25
	3N233	Improved specifica-	200	21/28*	17/40	—/0.05	—	25
		tions.						

Motorola Selector Guide

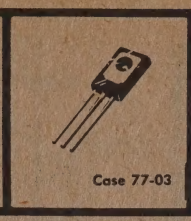
MULTIPLE TRANSISTORS

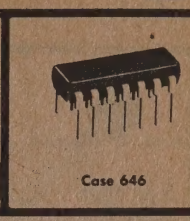

Case 20
TO-72


Case 22-03
TO-18


Case 29-02
TO-92

Case 34A


Case 77-03


Case 646

POWER AND SMALL-SIGNAL DARLINGTON AMPLIFIER TRANSISTORS

Darlington amplifiers are cascade transistors used in applications requiring very high-current gain and input impedance. The plastic transistors have monolithic construction and the metal package transistors are two chip construction.

Device Type			BV_{CES}† $V_{CEO(sus)}$# BV_{CEO}	I_C	h_{FE} @ I_C			$V_{CE(sat)}$ @ I_C		P_D	f_T	NF
NPN	PNP	Case	Volts Min	mA* Amp Max	Min	Max	mA* Amp	Volts Max	mA* Amp	Watts	MHz Min	dB Typ
MPS-A12	—	29-02	20†	500*	20,000	—	10*	1.0	10*	0.625	0.035	—
MPS-D04	MPS-D54	29-02	25†	300*	1000	—	10*	1.0	0.1	0.625	100	—
MPS-A13	—	29-02	30†	500*	5000	—	10*	1.5	0.1	0.625	125	2.0
MPS-A14	—	29-02	30†	500*	10,000	—	10*	1.5	0.1	0.625	125	2.0
—	MPS-A65	29-02	30†	300*	50,000	—	10*	1.5	0.1	0.625	100	2.0
—	MPS-A66	29-02	30†	300*	75,000	—	10*	1.5	0.1	0.625	100	2.0
2N2785	—	20	40	200*	1200	—	10*	1.0	15*	0.5	10	—
MM6427	—	22-03	40	300*	5000	—	10*	1.5	0.1	0.375	—	—
MPQ6426	—	646	40	500*	5000	—	10*	1.5	0.1	0.75	—	—
—	2N6521	34A	40	1.0	10,000	25,000	150*	—	—	—	175	6.0
2N6427	—	29-02	40	500*	10,000	200,000	10*	1.2	50*	0.625	—	3.0
—	2N6522	34A	40	1.0	20,000	50,000	150*	—	—	—	175	6.0
2N6426	—	29-02	40	500*	20,000	200,000	10*	1.2	50*	0.625	—	3.0
2N6037	2N6034	77-03	40	4.0	750	15,000	2.0	2.0	2.0	1.5	—	—
2N998	—	20	60#	500*	1600	8,000	10*	—	—	0.5	—	6.0
2N2723	—	20	60	40*	2000	10,000	10*	1.0	10*	0.5	100	10
MJE800	MJE700	77-03	60	4.0	750	—	1.5	2.5	1.5	40	—	—
2N6038	2N6035	77-03	60	4.0	750	15,000	2.0	2.0	2.0	1.5	25	—
2N6294	2N6296	77-03	60	4.0	750	18,000	2.0	2.0	2.0	50	4.0	—
MJE802	MJE702	77-03	80	4.0	750	—	1.5	2.5	1.5	40	—	—
2N6039	2N6036	77-03	80	4.0	750	15,000	2.0	2.0	2.0	1.5	2.5	—
2N6295	2N6297	77-03	80	4.0	750	18,000	2.0	2.0	2.0	50	4.0	—

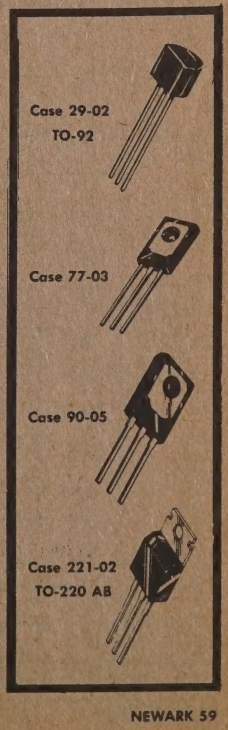
THYRISTOR DEVICES

THYRISTORS IN PLASTIC PACKAGES

Excellent reliability and low cost plastic-packaged thyristors are for high-volume, low and medium current applications. High-impact plastic provides mechanical ruggedness while oxide or glass surface passivation protects each die against impurity and moisture penetration.

SCR'S

		ON-STATE (RMS) CURRENT								
		0.8 AMP	4.0 AMP					8.0 AMP	12 AMP	16 AMP
		Case 29-02 TO-92 Style 10	Case 77-03 Style 2			Case 90-05 Style 1		Case 90-05 Style 1	Case 221-02 TO-220 AB Style 1	
V_{DRM} V_{RRM} Blocking Voltage (DC or peak)	15 V	MCR101	—	—	—	—	—	—	—	—
	25 V	—	—	—	—	—	—	MCR3000-1	—	—
	30 V	MCR102 2N5060	2N6236	MCR106-1	MCR107-1	MCR406-1	MCR407-1	—	—	—
	50 V	—	2N6237	—	—	—	—	2N4441 MCR3000-2	2N6394	2N6400
	60 V	MCR103 2N5061	—	MCR106-2	MCR107-2	MCR406-2	MCR407-2	—	—	—
	100 V	MCR104 2N5062	2N6238	MCR106-3	MCR107-3	MCR406-3	MCR407-3	MCR3000-3	2N6395	2N6401
	150 V	MCR115 2N5063	—	—	—	—	—	—	—	—
	200 V	MCR120 2N5064	2N6239	MCR106-4	MCR107-4	MCR406-4	MCR407-4	2N4442 MCR3000-4	2N6396	2N6402
	300 V	—	—	MCR106-5	MCR107-5	—	—	MCR3000-5	MCR220-5	MCR221-5
	400 V	—	2N6240	MCR106-6	MCR107-6	—	—	2N4443 MCR3000-6	2N6397	2N6403
	500 V	—	—	MCR106-7	MCR107-7	—	—	MCR3000-7	MCR220-7	MCR221-7
	600 V	—	2N6241	MCR106-8	MCR107-8	—	—	2N4444 MCR3000-8	2N6398	2N6404
	700 V	—	—	MCR106-9	—	—	—	MCR3000-9	MCR220-9	MCR221-9
	800 V	—	—	MCR106-10	—	—	—	MCR3000-10	2N6399	2N6405
I_{TSM}(Amp)		6.0	25	25	25	30	20	80	100	160
I_{GT} @ 25°C (mA) Max		0.2	0.2	0.2	20	0.2	0.5	30	30	30
V_{GT} @ 25°C (V) Max		0.8	0.8	1.0	1.5	0.8	1.0	1.5	1.5	1.5
I_H @ 25°C (mA) Max		5.0	3.0	5.0	20	3.0	5.0	40	40	40


Case 29-02
TO-92

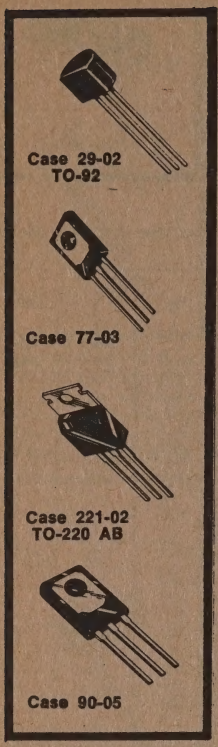
Case 77-03

Case 90-05

Case 221-02
TO-220 AB

THYRISTOR DEVICES (Cont.)

TRIACS



		ON-STATE (RMS) CURRENT								
		0.45 AMP	4.0 AMP			8.0 AMP	10 AMP		12 AMP	
		Case 29-02 TO-92 Style 12	Case 77-03 Style 5			Case 221-02 TO-220 AB Style 2	Case 90-05 Style 4		Case 221-02 TO-220 AB Style 2	
VDRM Blocking Voltage (DC or Peak) Volts	25 V	—	2N6068	2N6068A	2N6068B	—	MAC11-1	MAC10-1	—	—
	30 V	MAC92-1 MAC92A-1*	—	—	—	—	—	—	—	—
	50 V	—	2N6069	2N6069A	2N6069B	MAC220-2 MAC221-2	MAC11-2	MAC10-2	—	—
	60 V	MAC92-2 MAC92A-2*	—	—	—	—	—	—	—	—
	100 V	MAC92-3 MAC92A-3*	2N6070	2N6070A	2N6070B	MAC220-3 MAC221-3	MAC11-3	MAC10-3	—	—
	200 V	MAC92-4 MAC92A-4*	2N6071	2N6071A	2N6071B	2N6342 2N6346	2N6154 MAC11-4	2N6151 MAC10-4	2N6342A	2N6346A
	300 V	MAC92-5 MAC92A-5*	2N6072	2N6072A	2N6072B	MAC220-5 MAC221-5	MAC11-5	MAC10-5	—	—
	400 V	MAC92-6 MAC92A-6*	2N6073	2N6073A	2N6073B	2N6343 2N6347	2N6155 MAC11-6	2N6152 MAC10-6	2N6343A	2N6347A
	500 V	—	2N6074	2N6074A	2N6074B	MAC220-7 MAC221-7	MAC11-7	MAC10-7	—	—
	600 V	—	2N6075	2N6075A	2N6075B	2N6344 2N6348	2N6156 MAC11-8	2N6153 MAC10-8	2N6344A	2N6348A
	700 V	—	—	—	—	MAC220-9 MAC221-9	—	—	—	—
	800 V	—	—	—	—	2N6345 2N6349	—	—	2N6345A	2N6349A
IGT @ 25°C (mA)										
MT2(+),G(+)		5.0	30	5.0	3.0	50	50	50	50	50
MT2(+),G(—)		15*	—	5.0	3.0	75#	—	75	—	75
MT2(—),G(—)		5.0	30	5.0	3.0	50	50	50	50	50
MT2(—),G(+)		15*	—	10	5.0	75#	—	75	—	75
VGT @ 25°C (V)			@ —40°C	@ —40°C	@ —40°C					
MT2(+),G(+)		2.0	2.5	2.5	2.5	2.5	2.0	2.0	2.0	2.0
MT2(+),G(—)		2.0*	—	2.5	2.5	2.5#	—	2.5	—	2.5
MT2(—),G(—)		2.0	2.5	2.5	2.5	2.5	2.0	2.0	2.0	2.0
MT2(—),G(+)		2.0*	—	2.5	2.5	2.5#	—	2.5	—	2.5
ITSM (Amp)		6.0	30	30	30	100	100	100	120	120

IGT and VGT are Maximum. *Denotes A Version. #Denotes 2N6346 thru 2N6349 and MAC221 Series only.

SCR'S IN METAL PACKAGES

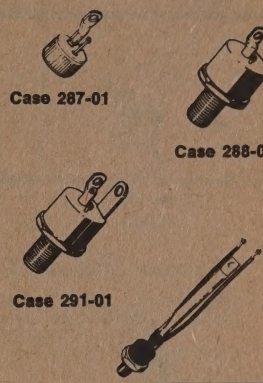
For current handling requirements up to 80 Amperes, with up to 800-Volt blocking potential. Pulse modulator SCRs provide pulse current capacity to 1000 Amperes for radar and similar applications.

		ON-STATE (RMS) CURRENT										
		1.6 AMP				8.0 AMP	16 AMP	20 AMP		25 AMP		
		Case 79-02 TO-39 Style 3				Case 86 Style 1	Case 263-03 Style 1	Case 310-01 Style 1	Case 263-03 Style 1	Case 54 Style 2	Case 61 TO-41 Style 1	Case 263-03 Style 1
VDRM VRRM Blocking Voltage (DC or Peak) Volts	25 V	—	2N2322	2N4212	MCR1906-1	2N4167 MCR2305-1	2N1842 2N1842A	MCR3818-1	MCR3918-1	MCR649AP-1	2N2573	2N681
	50 V	2N1595	2N2323	2N4213	MCR1906-2	2N4168 MCR2305-2	2N1843 2N1843A	2N5164	2N5168	MCR649AP-2	2N2574	2N682
	100 V	2N1596	2N2324	2N4214	MCR1906-3	2N4169 MCR2305-3	2N1844 2N1844A	MCR3818-3	MCR3918-3	MCR649AP-3	2N2575	2N683
	150 V	—	2N2325	2N4215	—	—	2N1845 2N1845A	—	—	—	—	2N684
	200 V	2N1597	2N2326	2N4216	MCR1906-4	2N4170 MCR2305-4	2N1846 2N1846A	2N5165	2N5169	MCR649AP-4	2N2576	2N685
	250 V	—	2N2327	2N4217	—	—	2N1847 2N1847A	—	—	—	—	2N686
	300 V	2N1598	2N2328	2N4218	—	2N4171 MCR2305-5	2N1848 2N1848A	MCR3818-5	MCR3918-5	MCR649AP-5	2N2577	2N687
	400 V	2N1599	2N2329	2N4219	—	2N4172 MCR2305-6	2N1849 2N1849A	2N5166	2N5170	MCR649AP-6	2N2578	2N688
	500 V	—	—	—	—	2N4173	2N1850 2N1850A	MCR3818-7	MCR3918-7	MCR649AP-7	2N2579	2N689
	600 V	—	—	—	—	2N4174 MCR2305-8	—	2N5167	2N5171	MCR649AP-8	MCR649-8	2N690
	700 V	—	—	—	—	—	—	—	—	MCR649AP-9	MCR649-9	2N691
	800 V	—	—	—	—	MCR2305-10	—	MCR3818-10	MCR3918-10	MCR649AP-10	MCR649-10	2N692
ITSM (Amp)		15	15	15	15	100	125	240		260	260	200
IGT @ 25°C (mA) Max		10	0.2	0.1	1.0	30	80	40		40	40	25
VGT @ 25° C (V) Max		3.0	0.8	0.8	1.0	1.5	2.0	1.5		3.5	3.5	3.0
IH @ 25°C (mA) Max		5.0 Typ	2.0	3.0	5.0	30	—	50		20 Typ	20 Typ	20 Typ

THYRISTOR DEVICES (Cont.)

HIGH CURRENT SCR'S IN METAL PACKAGES

		ON-STATE RMS CURRENT 80 AMP			
		Case 287-01 Style 1	Case 288-01 Style 1	Case 291-01 Style 1	Case 285-01 Style 1
V_{DRM} V_{RRM} Blocking Voltage (Volts)	50 V	MCR80-5	MCR81-5	MCR82-5	MCR83-5
	100 V	MCR80-10	MCR81-10	MCR82-10	MCR83-10
	200 V	MCR80-20	MCR81-20	MCR82-20	MCR83-20
	300 V	MCR80-30	MCR81-30	MCR82-30	MCR83-30
	400 V	MCR80-40	MCR81-40	MCR82-40	MCR83-40
	500 V	MCR80-50	MCR81-50	MCR82-50	MCR83-50
	600 V	MCR80-60	MCR81-60	MCR82-60	MCR83-60
	700 V	MCR80-70	MCR81-70	MCR82-70	MCR83-70
	800 V	MCR80-80	MCR81-80	MCR82-80	MCR83-80
I_{TSM} (Amp)		1000	1000	1000	1000
I_{GT} @ 25°C (mA) Max		70	70	70	70
V_{GT} @ 25°C (V) Max		3.0	3.0	3.0	3.0
I_H @ 25°C (mA) Max		70	70	70	70
t_{gt} (μs) Typ		70	70	70	70
dv/dt (V/μs) Typ		100	100	100	100



TRIAC'S IN METAL PACKAGES

Hermetically sealed for highest reliability in control applications options simplifies mechanical design.
to 40 Amperes and voltage to 800 Volts. Wide variety of package

	ON-STATE (RMS) CURRENT												
	10 Amp	15 Amp			25 Amp				30 Amp			40 Amp	
V_{DRM} Blocking Voltage (DC or Peak)	Case 175-02 Style 3	Case 174-03 Style 3	Case 175-02 Style 3	Case 235-02 Style 2	Case 174-03 Style 3		Case 175-02 Style 3		Case 174-03 Style 3	Case 175-02 Style 3	Case 311-01 Style 1	Case 263-03 Style 1	Case 311-01 Style 1
25 V	—	—	—	—	MAC35-1	MAC37-1	MAC36-1	MAC38-1	—	—	—	—	—
50 V	—	—	—	—	MAC35-2	MAC37-2	MAC36-2	MAC38-2	—	—	—	—	—
100 V	—	—	—	—	MAC35-3	MAC37-3	MAC36-3	MAC38-3	—	—	—	—	—
200 V	2N5569	2N5571	2N5573	2N6145	MAC35-4	MAC37-4	MAC36-4	MAC38-4	2N6157	2N6160	2N6163	2N5444 MAC5444	MAC40688 MAC4688
300 V	—	—	—	—	MAC35-5	MAC37-5	MAC36-5	MAC38-5	—	—	—	—	—
400 V	2N5570	2N5572	2N5574	2N6146	MAC35-6	MAC37-6	MAC36-6	MAC38-6	2N6158	2N6161	2N6164	2N5445 MAC5445	MAC40689 MAC4689
500 V	—	—	—	—	MAC35-7	MAC37-7	MAC36-7	MAC38-7	—	—	—	—	—
600 V	MAC40796	MAC40797	MAC40798	2N6147	MAC35-8	MAC37-8	MAC36-8	MAC38-8	2N6159	2N6162	2N6165	2N5446 MAC5446	MAC40690 MAC4690
800 V	—	—	—	—	MAC35-10	MAC37-10	MAC36-10	MAC38-10	—	—	—	MAC6410-80	MAC6420-80
I_{GT}@25°C(mA)													
MT2(+),G(+)	25	50	50	50	75	75	75	75	60	60	60	70	70
MT2(+),G(—)	40	80	80	80	100	—	100	—	70	70	70	70	70
MT2(—),G(—)	25	50	50	50	75	75	75	75	70	70	70	70	70
MT2(—),G(+)	40	80	80	80	100	—	100	—	100	100	100	100	100
V_{GT}@25°C (V)													
MT2(+),G(+)	2.5	2.5	2.5	2.5	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0
MT2(+),G(—)	2.5	2.5	2.5	2.5	3.0	—	3.0	—	2.1	2.1	2.1	2.0	2.0
MT2(—),G(—)	2.5	2.5	2.5	2.5	3.0	3.0	3.0	3.0	2.1	2.1	2.1	2.0	2.0
MT2(—),G(+)	2.5	2.5	2.5	2.5	3.0	—	3.0	—	2.5	2.5	2.5	2.5	2.5
I_{TSM} (Amp)	100	100	100	100	225	225	225	225	250	250	250	300-2N5444S. 300-MAC4068 S. 200-MAC S. 200-Rest	

Motorola Selector Guide

THYRISTOR DEVICES (Cont.)

PULSE MODULATOR SCR'S

Case 263-03
TO-64

Case 63-03

		ON-STATE PULSE CURRENT		
		100 AMP		1000 AMP
		Case 63-03 Style 1 TO-64		Case 26 3-03 Style 1
V_{DRM} V_{RRM} Blocking Voltage (Volts)	25 V	—	MCR846-1	—
	50 V	—	MCR846-2	—
	100 V	—	MCR846-3	—
	200 V	—	MCR846-4	—
	300 V	2N4199 2N4199JAN	MCR729-5	MCR1718-5
	400 V	2N4200 2N4200JAN	MCR729-6	MCR1718-6
	500 V	2N4201 2N4201JAN	MCR729-7	MCR1718-7
	600 V	2N4202 2N4202JAN	MCR729-8	MCR1718-8
	700 V	2N4203 2N4203JAN	MCR729-9	—
	800 V	2N4204 2N4204JAN	MCR729-10	—
I_{GT} @ 25°C (mA) Max		50	50	50
V_{GT} @ 25°C (V) Max		1.5	1.5	1.5
I_H @ 25°C (mA) Min Typ*		3.0	25*	15*
t_{gt} (μs) Max Typ*		0.4*	0.5* 0.4†	—
t_{off} (μs) Max Typ*		20	6* 15*†	20*
dv/dt (V/μs) Max Typ*		250	50	100*

†Applies to MCR729 Series only.

TRIGGER DEVICES

Trigger devices come under a variety of different classifications, with somewhat differing characteristics—

Unijunction Transistors
Unidirectional Switches
Bidirectional Switches
Bilateral Triggers
4-Layer Diodes

the principal function of all of these is to act as trigger devices for SCR and Triac circuits. Motorola makes them all, and with sufficient breadth of specifications to meet any circuit requirement.

The variety of different trigger devices available complicates device selection. No specific type of trigger has a clear-cut advantage over all others. Hence, trigger selection is often very subjective, based on the designer's experience and familiarity. Nevertheless, some basic comparisons can be drawn that might simplify the job of trigger selection for designers who have not already formed specific preferences.

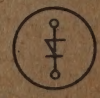
UJT

PUT

SBS

SUS

DIAC

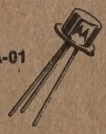


4-LAYER

UNIJUNCTION TRANSISTORS—(UJT)

Highly stable devices for general-purpose trigger applications and as pulse generators (oscillators) and timing circuits. Useful at frequencies ranging (generally) from 1Hz to 1MHz. Available in low-cost plastic package (TO-92) and in hermetically sealed metal packages (Case 22A).

Plastic
Case 29-02
(TO-92)

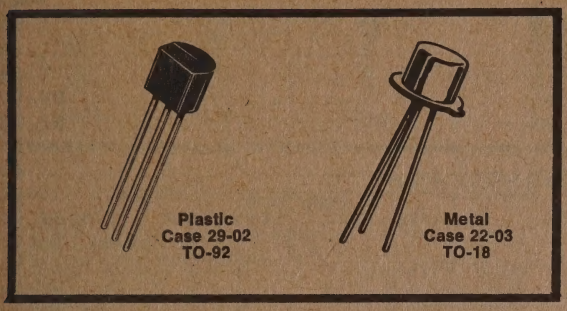


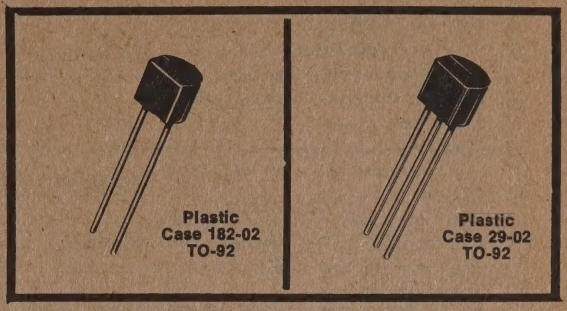
Metal
Case 22A-01

Device Type	Case	μ Min	μ Max	I_v μA Max	I_{v20} μA Max	I_μ mA Min
MU10		0.50	0.85	5.0	1.0	1.0
2N4870		0.56	0.75	5.0	1.0	2.0
2N4871		0.70	0.85	5.0	1.0	4.0
MU2646	29-02	0.56	0.75	5.0	12	4.0
MU4891		0.55	0.82	5.0	0.01	2.0
MU4892		0.51	0.69	2.0		
MU4893		0.55	0.82	2.0		
MU4894		0.74	0.86	1.0		
MU20		0.56	0.85	2.0	0.2	1.0
2N2646		0.56	0.75	5.0	12	4.0
2N2647		0.68	0.82	2.0	0.2	8.0
2N3980		0.68	0.82	2.0	0.01	1.0
2N4851	22A-01	0.56	0.75	2.0	0.1	2.0
2N4852		0.70	0.85	2.0	0.1	4.0
2N4853		0.70	0.85	0.4	0.05	6.0
2N4948*		0.55	0.82	2.0	0.01	2.0
2N4949*		0.74	0.86	1.0	0.01	2.0
2N5431*		0.72	0.80	0.4	0.01	2.0

*Also available as JAN and JANTX devices.

Contact NEWARK for all of your semiconductor needs. New types are stocked as soon as they are released. Call or write for information and quantity pricing.





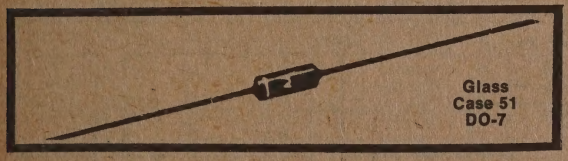
PROGRAMMABLE UNIJUNCTION TRANSISTORS—PUT

Similar to UJTs, except that I_V, I_P and intrinsic stand off voltage are programmable (adjustable) by means of external voltage divider. This stabilizes circuit performance for variations in device parameters. General operating frequency range is from 0.01 Hz to 10 kHz, making them suitable for long-duration timer circuits. Two-package availability provides cost option.

Device Type	Case	I_P R_G = 10 kΩ μA Max	I_P R_G = 1.0 MΩ μA Max	I_{GAO} @40 V nA Max	I_V R_G = 10 kΩ μA Min	I_V R_G = 1.0 MΩ μA Max
2N6027		5.0	2.0	10	70	50
2N6028		1.0	0.15	10	25	25
MPU6027		5.0	2.0	10	70	50
MPU6028	29-02	1.0	0.15	10	25	25
MPU131		5.0	2.0	5.0	70	50
MPU132		2.0	0.3	5.0	50	50
MPU133		1.0	0.15	5.0	50	25
2N6116*		5.0	2.0	5.0	70	50
2N6117*	22-03	2.0	0.3	5.0	50	50
2N6118*		1.0	0.15	5.0	50	25

*Also available as JAN and JANTX devices

4-LAYER DIODES



Small, axial-lead devices with stable, repeatable characteristics required for critical SCR trigger and pulse generator applications. I_F=150 mAdc Max.

Device Type	V_S Volts Min	V_S Volts Max	I_S μA Max	I_H mA Max
1N5159	9.0	11	50	20
1N5160	10	12	50	20
1N5779	11	13	50	20
1N5780	12	14	50	20
1N5781	13	15	50	20
1N5782	8.0	10	100	50
1N5783	9.0	11	100	50
1N5784	10	12	100	50
1N5785	11	13	100	50
1N5786	12	14	100	50
1N5787	13	15	100	50
1N5788	8.0	10	100	2.0
1N5789	9.0	11	100	2.0
1N5790	10	12	100	2.0
1N5791	11	13	100	2.0
1N5792	12	14	100	2.0
1N5793	13	15	100	2.0

BILATERAL TRIGGERS—DIACs

Specifically designed as low-cost bidirectional triggers in line-operated Triac control circuits such as light dimmers, motor controls and temperature controls.

Device Type	V_S Volts Nom Min	V_S Volts Nom Max	I_S μA Max
1N5758/MPT20	20±4.0		100
1N5759	24±4.0		100
1N5760/MPT28	28±4.0		100
1N5761/MPT32	32±4.0		100
1N5762	36±4.0		100
1N5758A	20±2.0		25
1N5759A	24±2.0		25
1N5760A	28±2.0		25
1N5761A	32±2.0		25
1N5762A	36±2.0		25

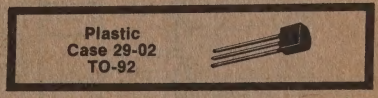
SILICON BIDIRECTIONAL SWITCH—SBS

Applications similar to Diac, but has gate electrode that permits synchronization.

Device Type	V_S Volts Min	V_S Volts Max	I_S μA Max	I_H mA Max
MBS4991	6.0	10	500	1.5
MBS4992	7.5	9.0	120	0.5

SILICON UNIDIRECTIONAL SWITCH—SUS

Similar to 4-layer Diodes, but has gate electrode that permits synchronization.



Device Type	V_μ Volts Min	V_μ Volts Max	I_S μA Max	I_H mA Max
MUS4987	6.0	10	500	1.5
MUS4988	7.5	9.0	150	0.5

NEWARK can supply all of your electronic needs, whether it's in breadboard or OEM quantities. If it is not listed, or you just need more information, call or write.

Texas Instruments Selection Guide

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TEXAS INSTRUMENTS MICROPROCESSOR TMS 9900

The TMS 9900 microprocessor is a single-chip 16-bit central processing unit (CPU) produced using N-channel silicon-gate MOS technology. The instruction set of the TMS 9900 includes the capabilities offered by full minicomputers. The unique memory-to-memory architecture features multiple register files, resident in memory, which allow faster response to interrupts and increased programming flexibility. The separate bus structure simplifies the system design effort. Texas Instruments provides a compatible set of MOS and TTL memory and logic function circuits to be used with a TMS 9900 system. The system is fully supported by software and a complete prototyping system.

KEY FEATURES

- 16-Bit Instruction Word
- Full Minicomputer Instruction Set Capability Including Multiply and Divide
- Advanced Memory-to-Memory Architecture
- 3-MHz Speed
- Up to 65,536 Bytes of Memory
- Programmed and DMA I/O Capability
- 16 Prioritized Interrupts
- 16 General Registers
- Separate Memory, I/O, and Interrupt-Bus Structures
- N-Channel Silicon-Gate Technology

TMS 9900 PROTOTYPING SYSTEM

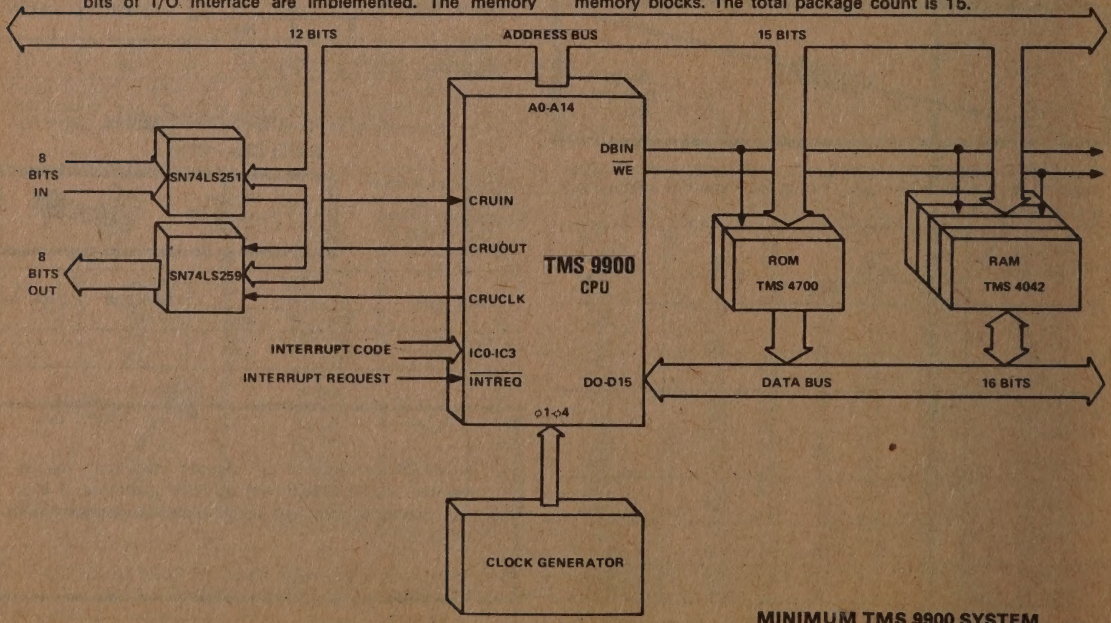
The TMS 9900 prototyping system enables the user to generate and debug software and to debug I/O controller interfaces. The prototyping system consists of:

- 990/4 computer with TMS 9900 microprocessor
- 1024 bytes of ROM containing the bootstrap loader for loading prototyping system software, the front-panel and maintenance utility, and the CPU self-testing feature
- 16,896 bytes of RAM with provisions for expansion up to 57,334 bytes of RAM
- Programmable-write-protect feature for RAM
- Interface for Texas Instruments Model 733 ASR* Electronic Data Terminal with provisions for up to five additional interface modules

*Requires remote device control and 1200 baud EIA interface option on 733 ASR.

SYSTEM DESIGN EXAMPLE

Illustrated is a typical minimum TMS 9900 system. Eight bits of I/O interface are implemented. The memory system contains 1024 x 16 ROM and 256 x 16 RAM memory blocks. The total package count is 15.



MINIMUM TMS 9900 SYSTEM

Texas Instruments Selection Guide

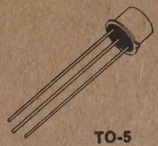
TO-46

TO-18

TO-92

AAA

TO-39


TO-5

N-P-N LOW-LEVEL AMPLIFIERS

hFE @ IC	hFE MIN-MAX	V(BR)CEO MIN	NOISE FIGURE F@f *F (NOISE BW) MAX	DEVICE TYPE	CASE
10 μA	30-	30 V		2N4138	TO-46
10 μA	30-	30 V		2N2432	TO-18
10 μA	30-	45 V		2N2432A	TO-18
10 μA	40-120	45 V	4 dB (15.7 kHz)*	2N929	TO-18
10 μA	40-120	60 V	4 dB @ 1 kHz	2N2483	TO-18
10 μA	100-300	45 V	3 dB (15.7 kHz)*	2N930	TO-18
10 μA	100-500	60 V	3 dB @ 1 kHz	2N2484	TO-18
10 μA	120-360	45 V		2N2586	TO-18
10 μA	250-500	60 V	15 dB @ 10 Hz	2N3117	TO-18
10 μA	400-800	60 V	15 dB @ 10 Hz	2N4104	TO-18
100 μA	100-300	50 V	3 dB (15.7 kHz)*	2N5209	TO-92
100 μA	100-300	50 V	3 dB (15.7 kHz)*	A5T5209	AAA
100 μA	100-400	30 V	5 dB (15.7 kHz)*	A8T3707	TO-92
100 μA	100-400	30 V	5 dB (15.7 kHz)*	2N3707	TO-92
100 μA	100-400	30 V	5 dB (15.7 kHz)*	A5T3707	AAA
100 μA	200-600	50 V	2 dB (15.7 kHz)*	2N5210	TO-92
100 μA	200-600	50 V	2 dB (15.7 kHz)*	A5T5210	AAA
100 μA	250-700	40 V	2 dB @ 1 kHz	TIS94	TO-92
100 μA	250-700	40 V	2 dB @ 1 kHz	TIS97	AAA
1 mA	45-165	30 V		A8T3709	TO-92
1 mA	45-165	30 V		2N3709	TO-92
1 mA	45-165	30 V		A5T3709	AAA
1 mA	45-660	30 V		A8T3708	TO-92
1 mA	45-660	30 V		2N3708	TO-92
1 mA	45-660	30 V		A5T3708	AAA
1 mA	90-330	30 V		A8T3710	TO-92
1 mA	90-330	30 V		2N3710	TO-92
1 mA	90-330	30 V		A5T3710	AAA
1 mA	100-300	60 V		TIS95	TO-92
1 mA	100-300	60 V		TIS98	AAA
1 mA	150-600	25 V		A5T3565	AAA
1 mA	180-660	30 V		A8T3711	TO-92
1 mA	180-660	30 V		2N3711	TO-92
1 mA	180-660	30 V		A5T3711	AAA
2 mA	35-500	15 V		2N5219	TO-92
2 mA	35-500	15 V		A5T5219	AAA
2 mA	50-800	20 V		2N5223	TO-92
2 mA	50-800	20 V		A5T5223	AAA
2 mA	150-300	25 V		A5T3392	AAA
2 mA	150-300	25 V		A7T3392	TO-92
2 mA	150-300	25 V		A8T3392	TO-92
2 mA	250-500	25 V		A5T3391	AAA
2 mA	250-500	25 V	5 dB (15.7 kHz)*	A5T3391A	AAA
2 mA	250-500	25 V		A7T3391	TO-92
2 mA	250-500	25 V	5 dB (15.7 kHz)*	A7T3391A	TO-92
2 mA	250-500	25 V		A8T3391	TO-92
2 mA	250-500	25 V	5 dB (15.7 kHz)*	A8T3391A	TO-92
100 mA	55-300	65 V		TIS96	TO-92
100 mA	55-300	65 V		TIS99	AAA

P-N-P LOW-LEVEL AMPLIFIERS

hFE @ IC	hFE MIN-MAX	V(BR)CEO MIN	NOISE FIGURE F@f *F (NOISE BW) MAX	DEVICE TYPE	CASE
10 μA	40-120	45 V	4 dB (15.7 kHz)*	A5T2604	AAA
10 μA	40-120	45 V	4 dB (15.7 kHz)*	2N2604	TO-46
10 μA	100-300	45 V	3 dB (15.7 kHz)*	A5T2605	AAA
10 μA	100-300	45 V	3 dB (15.7 kHz)*	2N2605	TO-46
10 μA	100-300	60 V	3 dB @ 1 kHz	2N3962	TO-18
10 μA	100-300	80 V	3 dB @ 1 kHz	2N3963	TO-18
10 μA	100-400	30 V	5 dB (15.7 kHz)*	2N4058	TO-92
10 μA	100-400	30 V	5 dB (15.7 kHz)*	A5T4058	AAA
10 μA	250-500	45 V	2 dB @ 1 kHz	2N3964	TO-18
10 μA	250-500	60 V	2 dB @ 1 kHz	2N3965	TO-18
100 μA	50-	40 V		A5T4248	AAA
100 μA	100-300	60 V	3 dB @ 1 kHz	A5T4249	AAA
100 μA	100-400	30 V	5 dB (15.7 kHz)*	A8T4058	TO-92
100 μA	150-500	50 V	3 dB @ 1 kHz	2N5086	TO-92
100 μA	150-500	50 V	3 dB @ 1 kHz	A5T5086	AAA
100 μA	250-700	40 V	2 dB @ 1 kHz	A5T4250	AAA
100 μA	250-800	50 V	2 dB @ 1 kHz	2N5087	TO-92
100 μA	250-800	50 V	2 dB @ 1 kHz	A5T5087	AAA
500 μA	150-450	60 V	3 dB @ 1 kHz	2N3798	TO-18
500 μA	300-900	60 V	1.5 dB @ 1 kHz	2N3799	TO-18
1 mA	25-	32 V		TIS38	TO-92
1 mA	25-	32 V		TIS138	AAA
1 mA	30-	35 V		2N2946	TO-46
1 mA	40-	20 V		2N2945	TO-46
1 mA	45-	32 V	2.5 dB typ @ 1 MHz	TIS37	TO-92
1 mA	45-	32 V	2.5 dB typ @ 1 MHz	TIS137	AAA
1 mA	45-165	30 V		A8T4060	TO-92
1 mA	45-165	30 V		2N4060	TO-92
1 mA	45-165	30 V		A5T4060	AAA
1 mA	45-660	30 V		A8T4059	TO-92
1 mA	45-660	30 V		2N4059	TO-92
1 mA	45-660	30 V		A5T4059	AAA
1 mA	50-	35 V		2N2946A	TO-46
1 mA	70-	20 V		2N2945A	TO-46
1 mA	80-	10 V		2N2944	TO-46
1 mA	90-330	30 V		A8T4061	TO-92
1 mA	90-330	30 V		2N4061	TO-92
1 mA	90-330	30 V		A5T4061	AAA
1 mA	100-	10 V		2N2944A	TO-46
1 mA	180-660	30 V		A8T4062	TO-92
1 mA	180-660	30 V		2N4062	TO-92
1 mA	180-660	30 V		A5T4062	AAA
2 mA	50-700	30 V		A5T5227	AAA
2 mA	50-700	30 V		2N5227	TO-92
12 mA	30-400	24 V		A8T404	TO-92
12 mA	30-400	35 V		A8T404A	TO-92
12 mA	30-400	24 V		A5T404	AAA
12 mA	30-400	35 V		A5T404A	AAA

P-N-P HIGH-VOLTAGE AMPLIFIERS

V(BR)CEO MIN	hFE @ IC	hFE MIN-MAX	DEVICE TYPE	CASE
80 V	1 mA	40-	2N3494	TO-5
80 V	1 mA	40-	A5T3496	AAA
80 V	1 mA	40-	2N3496	TO-18
120 V	1 mA	40-	2N3495	TO-5
120 V	1 mA	40-	A5T3497	AAA
120 V	1 mA	40-	2N3497	TO-18
120 V	10 mA	40-180	A5T5400	AAA
120 V	10 mA	40-180	2N5400	TO-92
140 V	50 mA	50-150	2N3634	TO-39
140 V	50 mA	100-300	2N3635	TO-39
150 V	10 mA	60-240	A5T5401	AAA
150 V	10 mA	60-240	2N5401	TO-92
175 V	50 mA	50-150	2N3636	TO-39
175 V	50 mA	100-300	2N3637	TO-39

N-P-N HIGH-VOLTAGE AMPLIFIERS

V(BR)CEO MIN	hFE @ IC	hFE MIN-MAX	DEVICE TYPE	CASE
140 V	1 mA	60-	2N5550	TO-92
140 V	1 mA	60-	A5T5550	AAA
150 V	30 mA	30-120	2N3114	TO-39
150 V	25 mA	30-	TIS101	AAA
160 V	1 mA	80-	2N5551	TO-92
160 V	1 mA	80-	A5T5551	AAA
180 V	25 mA	30-	TIA100	AAA
250 V	30 mA	30-150	A5T5059	AAA
250 V	30 mA	30-150	2N5059	TO-39
300 V	30 mA	35-150	A5T5058	AAA
300 V	30 mA	35-150	2N5058	TO-39

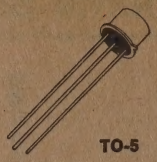
Texas Instruments Selection Guide

AAA

TO-92

TO-72

TO-18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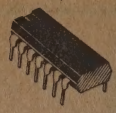

TO-116

TO-39

N-P-N HIGH-FREQUENCY AMPLIFIERS

fT	V(BR)CEO	CAPACITANCE		DEVICE	CASE
MIN	MIN	PARAMETER	MAX	TYPE	
500 MHz	12 V	Ccb	1.3 pF	TIS64A	AAA
300 MHz	45 V	Ccb	1 pF	TIS105	AAA
350 MHz	30 V	Cres	0.4 pF	TIS84	AAA
350 MHz	30 V	Cres	0.4 pF	TIS108	AAA
500 MHz	12 V	Ccb	1.3 pF	TIS63A	AAA
450 MHz	30 V	Cce	0.3 pF	TIS125	AAA
450 MHz	15 V	Ccb	1.3 pF	2N5222	TO-92
450 MHz	15 V	Ccb	1.3 pF	A6T5222	AAA
500 MHz	12 V	Ccb	1.3 pF	TIS62A	AAA
500 MHz	30 V	Cres	0.45 pF	TIS86	AAA
500 MHz	45 V	Cres	0.45 pF	TIS87	AAA
500 MHz	15 V	Cobo	1.7 pF	2N917	TO-72
600 MHz	15 V	Cobo	1.7 pF	2N918	TO-72
600 MHz	18 V	Ccb	0.45 pF	2N4252	TO-72
600 MHz	18 V	Ccb	0.45 pF	2N4253	TO-72
600 MHz	18 V	Ccb	0.65 pF	2N4996	AAA
600 MHz	18 V	Ccb	0.65 pF	2N4997	AAA
600 MHz	40 V	Ccb	0.36 pF	TIS126	AAA
800 MHz	25 V	Ccb	0.8 pF	TIS129	AAA
1000 MHz	13 V	Ccb	0.85 pF	A5T3572	AAA
1000 MHz	13 V	Ccb	0.85 pF	2N3572	TO-72
1200 MHz	15 V	Ccb	0.85 pF	A5T3571	AAA
1200 MHz	15 V	Ccb	0.85 pF	2N3571	TO-72
1500 MHz	15 V	Ccb	0.75 pF	2N3570	TO-72

P-N-P HIGH-FREQUENCY AMPLIFIERS

fT	V(BR)CEO	CAPACITANCE		DEVICE	CASE
MIN	MIN	PARAMETER	MAX	TYPE	
50 MHz	32 V	Ccb	1.7 pF	TIS38	TO-92
50 MHz	32 V	Ccb	1.7 pF	TIS138	AAA
80 MHz	32 V	Ccb	1.7 pF	TIS37	TO-92
80 MHz	32 V	Ccb	1.7 pF	TIS137	AAA
650 MHz	45 V	Cce	0.3 pF	TIS128	AAA
1600 MHz	15 V	Ccb	2.5 pF	2N4260	TO-72
1600 MHz	15 V	Ccb	2.5 pF	A5T4260	AAA
2000 MHz	15 V	Ccb	2.5 pF	2N4261	TO-72
2000 MHz	15 V	Ccb	2.5 pF	A5T3261	AAA

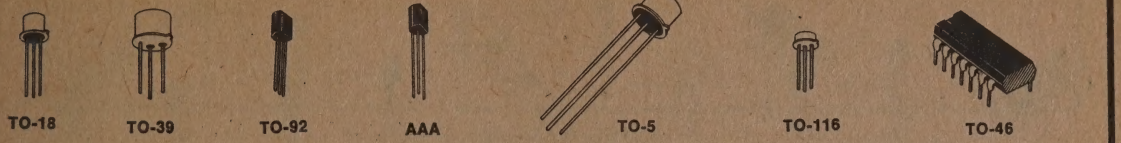
N-P-N GENERAL PURPOSE

V(BR)CEO	hFE		fT	DEVICE	CASE
MIN	@ IC	MIN-MAX	MIN	TYPE	
15 V	50 mA	30-600	100 MHz	2N5220	TO-92
15 V	50 mA	30-600	100 MHz	A5T5220	AAA
20 V	50 mA	30-600	100 MHz	A8T3706	TO-92
20 V	50 mA	30-600	100 MHz	2N3706	TO-92
20 V	50 mA	30-600	100 MHz	2N5451	AAA
25 V	1 mA	150-600	40 MHz	A5T3565	AAA
25 V	2 mA	120-360	300 MHz	A5T4124	AAA
25 V	2 mA	120-360	300 MHz	2N4124	TO-92
25 V	2 mA	150-300		A5T3392	AAA
25 V	2 mA	150-300		A7T3392	TO-92
25 V	2 mA	150-300		A8T3392	TO-92
25 V	2 mA	250-500		A5T3391	AAA
25 V	2 mA	250-500		A5T3391A	AAA
25 V	2 mA	250-500		A7T3391	TO-92
25 V	2 mA	250-500		A7T3391A	TO-92
25 V	2 mA	250-500		A8T3391	TO-92
25 V	2 mA	250-500		A8T3391A	TO-92
25 V	10 mA	100-500		A5T5172	AAA
25 V	10 mA	100-500		A7T5172	TO-92
25 V	10 mA	100-500		A8T5172	TO-92
25 V	50 mA	30-600	50 MHz	2N5225	TO-92
25 V	50 mA	30-600	50 MHz	A5T5225	AAA
30 V	2 mA	50-150	250 MHz	A5T4123	AAA
30 V	2 mA	50-150	250 MHz	2N4123	TO-92
30 V	10 mA	1000-	200 MHz	2N5526	TO-92
30 V	10 mA	5000-	200 MHz	2N5525	TO-92
30 V	50 mA	50-150	100 MHz	A8T3705	TO-92
30 V	50 mA	50-150	100 MHz	2N3705	TO-92
30 V	50 mA	50-150	100 MHz	2N5450	AAA
30 V	50 mA	100-300	100 MHz	A8T3704	TO-92
30 V	50 mA	100-300	100 MHz	2N3704	TO-92
30 V	50 mA	100-300	100 MHz	2N5449	AAA
30 V	150 mA	20-60	250 MHz	2N2217	TO-5
30 V	150 mA	20-60	250 MHz	2N2220	TO-18
30 V	150 mA	40-120	250 MHz	2N2218	TO-5
30 V	150 mA	40-120	250 MHz	2N2221	TO-18
30 V	150 mA	100-400	250 MHz	TIS109	AAA
30V†	150 mA	100-300	70 MHz	2N956	TO-18
30 V	150 mA	100-300	50 MHz	2N1420	TO-5
30 V	150 mA	100-300	50 MHz	2N1507	TO-5
30 V	150 mA	100-300	250 MHz	2N2219	TO-5
30 V	150 mA	100-300	250 MHz	Q2T2222	TO-116
30 V	150 mA	100-300	250 MHz	A5T2222	AAA
30 V	150 mA	100-300	250 MHz	2N2222	TO-18
40 V	100 μA	250-700	200 MHz	TIS94	TO-92
40 V	100 μA	250-700	200 MHz	TIS97	AAA

† V(BR)CEO approximated from V(BR)CER. §V(BR)CER

V(BR)CEO	hFE		fT	DEVICE	CASE
MIN	@ IC	MIN-MAX	MIN	TYPE	
40 V	10 mA	50-150	250 MHz	A5T3903	AAA
40 V	10 mA	50-150	250 MHz	2N3903	TO-92
40 V	10 mA	100-300	300 MHz	A5T3904	AAA
40 V	10 mA	100-300	300 MHz	2N3904	TO-92
40 V	50 mA	100-300		TIS90	TO-92
40 V	50 mA	100-300		TIS92	AAA
40 V	100 mA	7000-70,000		2N997	TO-18
40 V	150 mA	20-60	40 MHz	2N696	TO-5
40 V§	150 mA	20-60	40 MHz	2N717	TO-18
40 V	150 mA	20-60	40 MHz	2N730	TO-18
40 V	150 mA	20-60	50 MHz	2N2194	TO-39
40 V	150 mA	20-60	50 MHz	2N2194A	TO-39
40 V§	150 mA	40-120	50 MHz	2N697	TO-5
40 V§	150 mA	40-120	50 MHz	2N718	TO-18
40 V†	150 mA	40-120	60 MHz	2N718A	TO-18
40 V	150 mA	40-120	50 MHz	2N731	TO-18
40 V†	150 mA	40-120	60 MHz	2N1613	TO-5
40 V	150 mA	40-120	250 MHz	2N2218A	TO-5
40 V	150 mA	40-120	250 MHz	2N2221A	TO-18
40 V	150 mA	50-150	200 MHz	TIS110	AAA
40 V	150 mA	50-250	100 MHz	2N3053	TO-39
40 V	150 mA	100-300	250 MHz	TIS111	AAA
40 V†	150 mA	100-300	70 MHz	2N1711	TO-5
40 V	150 mA	100-300	50 MHz	A5T2192	AAA
40 V	150 mA	100-300	50 MHz	2N2192	TO-39
40 V	150 mA	100-300	50 MHz	2N2192A	TO-39
40 V	150 mA	100-300	300 MHz	2N2219A	TO-5
40 V	150 mA	100-300	300 MHz	2N2222A	TO-18
45 V	150 mA	50-200	100 MHz	2N2270	TO-39
50 V	10 mA	60-400	60 MHz	2N4409	TO-92
50 V	10 mA	60-400	60 MHz	A5T4409	AAA
50 V	150 mA	40-120	50 MHz	A5T2193	AAA
50 V	150 mA	40-120	50 MHz	2N2193	TO-39
50 V	150 mA	40-120	50 MHz	2N2193A	TO-39
60 V	1 mA	100-300	200 MHz	TIS95	TO-92
60 V	1 mA	100-300	200 MHz	TIS98	AAA
60 V	5 mA	60-200	60 MHz	2N1566	TO-39
60 V	10 mA	15-	40 MHz	2N1975	TO-39
60 V	10 mA	15-	40 MHz	2N912	TO-18
50 V	10 mA	35-	50 MHz	2N911	TO-18
60 V	10 mA	35-	50 MHz	2N1974	TO-39
60 V	10 mA	75-	60 MHz	2N910	TO-18
60 V	10 mA	75-	60 MHz	2N1973	TO-39
60 V	10 mA	1600-8000		2N998	TO-72
60 V	100 mA	7000-70,000		2N999	TO-72
60 V	150 mA	20-60	40 MHz	2N698	TO-39

Texas Instruments Selection Guide



N-P-N GENERAL PURPOSE (Continued)

V(BR)CEO	hFE		fT	DEVICE	
MIN	@ IC	MIN-MAX	MIN	TYPE	CASE
60 V†	150 mA	20-60	40 MHz	2N719	TO-18
60 V	150 mA	20-60	40 MHz	2N719A	TO-18
60 V†	150 mA	40-120	50 MHz	2N699	TO-39
60 V†	150 mA	40-120	50 MHz	2N720	TO-18
60 V	150 mA	40-120	50 MHz	2N870	TO-18
60 V	150 mA	40-120	50 MHz	2N1889	TO-39
60 V	150 mA	100-300	60 MHz	2N871	TO-18
60 V	150 mA	100-300	60 MHz	2N1890	TO-39
65 V	150 mA	40-120	60 MHz	2N2102	TO-39
65 V	150 mA	40-120	60 MHz	2N2102A	TO-39
65 V	100 mA	55-300	200 MHz	TIS96	TO-92
65 V	100 mA	55-300	200 MHz	TIS99	AAA
80 V	10 mA	60-400	60 MHz	2N4410	TO-92
80 V	10 mA	60-400	60 MHz	A5T4410	AAA
80 V	150 mA	40-120	50 MHz	2N720A	TO-18
80 V	150 mA	40-120	50 MHz	2N1893	TO-39
80 V	150 mA	40-120	50 MHz	A5T2243	AAA
80 V	150 mA	40-120	50 MHz	2N2243	TO-39
80 V	150 mA	40-120	50 MHz	2N2243A	TO-39
80 V	150 mA	50-150	50 MHz	2N3036	TO-39

P-N-P GENERAL PURPOSE

V(BR)CEO	hFE		fT	DEVICE	
MIN	@ IC	MIN-MAX	MIN	TYPE	CASE
15 V	50 mA	30-600	100 MHz	A5T5221	AAA
15 V	50 mA	30-600	100 MHz	2N5221	TO-92
25 V	2 mA	120-360	250 MHz	2N4126	TO-92
25 V	2 mA	120-360	250 MHz	A5T4126	AAA
25 V	50 mA	30-	100 MHz	A5T3638	AAA
25 V	50 mA	30-600	50 MHz	2N5226	TO-92
25 V	50 mA	30-600	50 MHz	A5T5226	AAA
25 V	50 mA	60-300	100 MHz	2N3702	TO-92
25 V	50 mA	60-300	100 MHz	A8T3702	TO-92
25 V	50 mA	60-300	100 MHz	2N5447	AAA
25 V	50 mA	100-	150 MHz	A5T3638A	AAA
30 V	2 mA	50-150	200 MHz	A5T4125	AAA
30 V	2 mA	50-150	200 MHz	2N4125	TO-92
30 V	50 mA	30-150	100 MHz	2N3703	TO-92
30 V	50 mA	30-150	100 MHz	A8T3703	TO-92
30 V	50 mA	30-150	100 MHz	2N5448	AAA
35 V	150 mA	20-45	50 MHz	2N721	TO-18
35 V	150 mA	20-45	50 MHz	2N1131	TO-39
35 V	150 mA	30-90	60 MHz	2N722	TO-18
35 V	150 mA	30-90	60 MHz	2N1132	TO-39
35 V	150 mA	75-200	60 MHz	2N2303	TO-5
40 V	10 mA	50-150	250 MHz	2N3250	TO-18
40 V	10 mA	50-150	200 MHz	A5T3905	AAA
40 V	10 mA	50-150	200 MHz	2N3905	TO-92
40 V	10 mA	100-300	300 MHz	2N3251	TO-18
40 V	10 mA	100-300	250 MHz	A5T3906	AAA
40 V	10 mA	100-300	250 MHz	2N3906	TO-92
40 V	50 mA	100-300		TIS91	TO-92
40 V	50 mA	100-300		TIS93	AAA
40 V	150 mA	40-120	200 MHz	2N2904	TO-5
40 V	150 mA	40-120	200 MHz	2N2906	TO-18
40 V	150 mA	40-120	200 MHz	2N3485	TO-46
40 V	150 mA	50-150	150 MHz	A5T4402	AAA
40 V	150 mA	50-150	150 MHz	2N4402	TO-92
40 V	150 mA	100-300	200 MHz	TIS112	AAA
40 V	150 mA	100-300	200 MHz	Q2T2905	TO-116
40 V	150 mA	100-300	200 MHz	2N2905	TO-5
40 V	100 mA	100-300	200 MHz	A5T2907	AAA
40 V	150 mA	100-300	200 MHz	2N2907	TO-18
40 V	150 mA	100-300	200 MHz	2N3486	TO-46
40 V	150 mA	100-300	200 MHz	A5T4403	AAA
40 V	150 mA	100-300	200 MHz	2N4403	TO-92
45 V	150 mA	100-300	200 MHz	2N3502	TO-5
45 V	150 mA	100-300	200 MHz	A5T3504	AAA
45 V	150 mA	100-300	200 MHz	2N3504	TO-18
45 V	150 mA	100-300	200 MHz	A5T3644	AAA
60 V	10 mA	50-150	250 MHz	2N3250A	TO-18
60 V	10 mA	100-300	300 MHz	2N3251A	TO-18
60 V	100 mA	40-120	100 MHz	A8T4026	TO-92
60 V	100 mA	40-120	100 MHz	A5T4026	AAA
60 V	100 mA	40-120	100 MHz	2N4026	TO-18
60 V	100 mA	40-120	100 MHz	2N4030	TO-39
60 V	100 mA	100-300	150 MHz	A8T4028	TO-92
60 V	100 mA	100-300	150 MHz	A5T4028	AAA
60 V	100 mA	100-300	150 MHz	2N4028	TO-18
60 V	100 mA	100-300	150 MHz	2N4032	TO-39
60 V	150 mA	40-120	200 MHz	2N2904A	TO-5
60 V	150 mA	40-120	200 MHz	2N2906A	TO-18
60 V	150 mA	40-120	200 MHz	2N3485A	TO-46
60 V	150 mA	100-300	200 MHz	2N2905A	TO-5
60 V	150 mA	100-300	200 MHz	2N2907A	TO-18
60 V	150 mA	100-300	200 MHz	2N3486A	TO-46
60 V	150 mA	100-300	200 MHz	2N3503	TO-5
60 V	150 mA	100-300	200 MHz	A5T3505	AAA
60 V	150 mA	100-300	200 MHz	2N3505	TO-18
60 V	150 mA	100-300	200 MHz	A5T3645	AAA
80 V	100 mA	40-120	100 MHz	A8T4027	TO-92
80 V	100 mA	40-120	100 MHz	A5T4027	AAA
80 V	100 mA	40-120	100 MHz	2N4027	TO-18
80 V	100 mA	40-120	100 MHz	2N4031	TO-39
80 V	100 mA	100-300	150 MHz	A8T4029	TO-92
80 V	100 mA	100-300	150 MHz	A5T4029	AAA
80 V	100 mA	100-300	150 MHz	2N4029	TO-18

N-P-N SWITCHES

SWITCHING TIMES					
t_{on} MAX	t_{off} MAX	$V_{CE(sat)}$ @ I_C mA	V(BR)CEO MIN	DEVICE TYPE	CASE
70 ns	225 ns	0.2 V/10	40 V	A5T3903	AAA
70 ns	225 ns	0.2 V/10	40 V	2N3903	TO-92
70 ns	225 ns	0.2 V/10	40 V	A5T3904	AAA
70 ns	250 ns	0.2 V/10	40 V	2N3904	TO-92
22 typ ns	32 typ ns	0.3 V/50	30 V	2N4123	TO-92
22 typ ns	32 typ ns	0.3 V/50	30 V	A5T4123	AAA
22 typ ns	32 typ ns	0.3 V/50	25 V	2N4124	TO-92
22 typ ns	32 typ ns	0.3 V/50	25 V	A5T4124	AAA
20 typ ns	113 typ ns	0.4 V/150	40 V	TIS110	AAA
20 typ ns	113 typ ns	0.4 V/150	40 V	TIS111	AAA
35 ns	285 ns	0.3 V/150	40 V	2N2218A	TO-5
35 ns	285 ns	0.3 V/150	40 V	2N2219A	TO-5
35 ns	285 ns	0.3 V/150	40 V	2N2221A	TO-18
35 ns	285 ns	0.3 V/150	40 V	2N2222A	TO-18
40 ns	40 ns	0.45 V/150	30 V	2N2537	TO-5
40 ns	40 ns	0.45 V/150	30 V	2N2538	TO-5
40 ns	40 ns	0.45 V/150	30 V	2N2539	TO-18
40 ns	40 ns	0.45 V/150	30 V	2N2540	TO-18
20 typ ns	113 typ ns	0.4 V/150	30 V	TIS109	AAA
20 typ ns	113 typ ns	0.4 V/150	30 V	2N2217	TO-5
20 typ ns	113 typ ns	0.4 V/150	30 V	2N2218	TO-5
20 typ ns	113 typ ns	0.4 V/150	30 V	2N2219	TO-5
20 typ ns	113 typ ns	0.4 V/150	30 V	2N2220	TO-18
20 typ ns	113 typ ns	0.4 V/150	30 V	2N2221	TO-18

†V(BR)CEO approximated from V(BR)CER.

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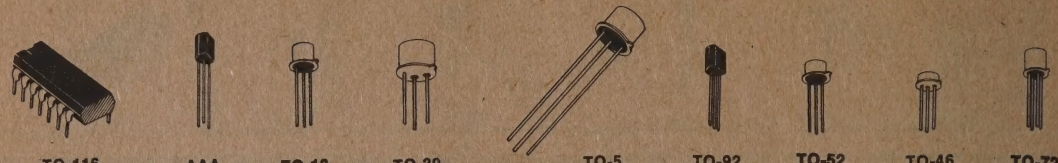

N-P-N SWITCHES (Con't.)

SWITCHING TIMES ton MAX	SWITCHING TIMES toff MAX	VCE(sat) @ IC mA	V(BR)CEO MIN	DEVICE TYPE	CASE
20 typ ns	113 typ ns	0.4 V/150	30 V	Q2T2222	TO-116
20 typ ns	113 typ ns	0.4 V/150	30 V	A5T2222	AAA
20 typ ns	113 typ ns	0.4 V/150	30 V	2N2222	TO-18
35 ns	60 ns	0.65 V/500	30 V	TIS133	AAA
35 ns	60 ns	0.72 V/500	30 V	TIS134	AAA
35 ns	60 ns	0.65 V/500	50 V	TIS135	AAA
35 ns	60 ns	0.72 V/500	40 V	TIS136	AAA
35 ns	60 ns	0.42 V/500	30 V	2N3724	TO-39
35 ns	65 ns	0.52 V/500	40 V	Q2T3725	TO-116
35 ns	60 ns	0.52 V/500	50 V	2N3725	TO-39
35 ns	60 ns	0.42 V/500	30 V	2N4013	TO-18
35 ns	60 ns	0.52 V/500	50 V	2N4014	TO-18
40 ns	60 ns	1 V/500	30 V	2N3015	TO-5
45 ns	70 ns	0.5 V/500	30 V	2N3252	TO-39
50 ns	70 ns	0.6 V/500	40 V	2N3253	TO-39
50 ns	70 ns	0.5 V/500	50 V	2N3444	TO-39
30 ns	50 ns	0.75 V/1 A	30 V	2N3724A	TO-39
30 ns	50 ns	0.9 V/1 A	50 V	2N3725A	TO-39
48 ns	60 ns	0.9 V/1 A	30 V	2N3734	TO-39
48 ns	60 ns	0.9 V/1 A	50 V	2N3735	TO-39
50 ns	105 ns	1 V/1 A	30 V	2N3554	TO-39

P-N-P SWITCHES

SWITCHING TIMES ton MAX	SWITCHING TIMES toff MAX	VCE(sat) @ IC mA	V(BR)CEO MIN	DEVICE TYPE	CASE
30 ns	50 ns	0.15 V/10	15 V	2N3576	TO-18
70 ns	225 ns	0.25 V/10	40 V	2N3250	TO-18
70 ns	225 ns	0.25 V/10	60 V	2N3250A	TO-18
70 ns	250 ns	0.25 V/10	40 V	2N3251	TO-18
70 ns	250 ns	0.25 V/10	60 V	2N3251A	TO-18
70 ns	260 ns	0.25 V/10	40 V	A5T3905	AAA
70 ns	260 ns	0.25 V/10	40 V	2N3905	TO-92
70 ns	300 ns	0.25 V/10	40 V	A5T3906	AAA
70 ns	300 ns	0.25 V/10	40 V	2N3906	TO-92
26 typ ns	82 typ ns	0.4 V/50	30 V	A5T4125	AAA
26 typ ns	82 typ ns	0.4 V/50	30 V	2N4125	TO-92
26 typ ns	82 typ ns	0.4 V/50	25 V	A5T4126	AAA
26 typ ns	82 typ ns	0.4 V/50	25 V	2N4126	TO-92
25 ns	65 ns	0.18 V/30	20 V	2N3829	TO-52
60 ns	75 ns	0.2 V/30	12 V	2N3012	TO-18
60 ns	90 ns	0.2 V/30	12 V	2N2894	TO-18
35 ns	255 ns	0.4 V/150	40 V	A5T4402	AAA
35 ns	255 ns	0.4 V/150	40 V	2N4402	TO-92
35 ns	255 ns	0.4 V/150	40 V	A5T4403	AAA
35 ns	255 ns	0.4 V/150	40 V	2N4403	TO-92
45 ns	140 ns	0.4 V/150	40 V	TIS112	AAA
45 ns	100 ns	0.4 V/150	40 V	2N2904	TO-5
45 ns	100 ns	0.4 V/150	60 V	2N2904A	TO-5
45 ns	100 ns	0.4 V/150	40 V	Q2T2905	TO-116
45 ns	100 ns	0.4 V/150	40 V	2N2905	TO-5
45 ns	100 ns	0.4 V/150	60 V	2N2905A	TO-5
45 ns	100 ns	0.4 V/150	40 V	2N2906	TO-18
45 ns	100 ns	0.4 V/150	60 V	2N2906A	TO-18
45 ns	100 ns	0.4 V/150	40 V	A5T2907	AAA
45 ns	100 ns	0.4 V/150	40 V	2N2907	TO-18
45 ns	100 ns	0.4 V/150	60 V	2N2907A	TO-18
50 ns	110 ns	0.4 V/150	40 V	2N3485	TO-46
50 ns	110 ns	0.4 V/150	60 V	2N3485A	TO-46
50 ns	110 ns	0.4 V/150	40 V	2N3486	TO-46
50 ns	110 ns	0.4 V/150	60 V	2N3486A	TO-46
19 typ ns	80 typ ns	1.5 V/150	35 V	2N721	TO-18
19 typ ns	80 typ ns	1.5 V/150	35 V	2N722	TO-18
40 ns	100 ns	1 V/300	45 V	2N3502	TO-5
40 ns	100 ns	1 V/300	60 V	2N3503	TO-5
40 ns	100 ns	1 V/300	45 V	A5T3504	AAA
40 ns	100 ns	1 V/300	60 V	A5T3505	AAA
40 ns	100 ns	1 V/300	45 V	2N3504	TO-18
40 ns	100 ns	1 V/300	60 V	2N3505	TO-18
40 ns	100 ns	1 V/300	45 V	A5T3644	AAA
40 ns	100 ns	1 V/300	60 V	A5T3645	AAA
75 ns	170 ns	1 V/300	25 V	A5T3638	AAA
75 ns	170 ns	1 V/300	25 V	A5T3638A	AAA
40 ns	90 ns	0.5 V/500	40 V	2N3467	TO-39
40 ns	90 ns	0.6 V/500	50 V	2N3468	TO-39
55 ns	165 ns	0.6 V/500	50 V	2N3245	TO-39
50 ns	185 ns	0.5 V/500	40 V	Q2T3244	TO-116
50 ns	185 ns	0.5 V/500	40 V	2N3244	TO-39
100 ns	400 ns	0.5 V/500	60 V	A5T4026	AAA
100 ns	400 ns	0.5 V/500	60 V	2N4026	TO-18
100 ns	400 ns	0.5 V/500	60 V	A5T4028	AAA
100 ns	400 ns	0.5 V/500	60 V	2N4028	TO-18
100 ns	400 ns	0.5 V/500	60 V	2N4030	TO-39
100 ns	400 ns	0.5 V/500	60 V	2N4032	TO-39
100 ns	400 ns	0.5 V/500	80 V	A5T4027	AAA
100 ns	400 ns	0.5 V/500	80 V	2N4027	TO-18
100 ns	400 ns	0.5 V/500	80 V	A5T4029	AAA
100 ns	400 ns	0.5 V/500	80 V	2N4029	TO-18
100 ns	400 ns	0.5 V/500	80 V	2N4031	TO-39
100 ns	400 ns	0.5 V/500	80 V	2N4033	TO-39

N-P-N CHOPPERS

OFFSET VOLTAGE VEC(ofs) VE1E2(ofs)§ @ IB MAX	ON-STATE RESIST rec(on) re1e2§	hFE(inv) MIN	V(BR)EBO MIN	DEVICE TYPE	POLARITY	CASE
§50 µV @ 1 mA	§40 Ω		18 V	3N74	NPN	TO-72
§100 µV @ 1 mA	§40 Ω		18 V	3N75	NPN	TO-72
§50 µV @ 1 mA	§50 Ω		12 V	3N77	NPN	TO-72
§200 µV @ 1 mA	§50 Ω		18 V	3N76	NPN	TO-72
§100 µV @ 1 mA	§50 Ω		12 V	3N78	NPN	TO-72
§200 µV @ 1 mA	§60 Ω		12 V	3N79	NPN	TO-72
0.7 mV @ 1 mA	15 Ω	3	18 V	2N2432A	NPN	TO-18
1 mV @ 1 mA	20 Ω	2	15 V	2N2432	NPN	TO-18
1 mV @ 1 mA	20 Ω	2	15 V	2N4138	NPN	TO-46

§V (BR)CER

P-N-P CHOPPERS

OFFSET VOLTAGE VEC(ofs) VE1E2(ofs)§ @ IB MAX	ON-STATE RESIST rec(on) re1e2§	hFE(inv) MIN	V(BR)EBO MIN	DEVICE TYPE	POLARITY	CASE
§30 µV @ 1 mA	§50 Ω		50 V	3N108	PNP	TO-72
§30 µV @ 1 mA	§50 Ω		30 V	3N110	PNP	TO-72
§150 µV @ 1 mA	§50 Ω		50 V	3N109	PNP	TO-72
§150 µV @ 1 mA	§50 Ω		30 V	3N111	PNP	TO-72
0.6 mV @ 1 mA	4 Ω	50	15 V	2N2944A	PNP	TO-46
0.6 mV @ 1 mA	20 Ω	6	15 V	2N2944	PNP	TO-46
1 mV @ 1 mA	6 Ω	30	25 V	2N2945A	PNP	TO-46
1 mV @ 1 mA	35 Ω	4	25 V	2N2945	PNP	TO-46
2 mV @ 1 mA	8 Ω	20	40 V	2N2946A	PNP	TO-46
2 mV @ 1 mA	45 Ω	3	40 V	2N2946	PNP	TO-46

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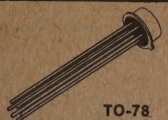
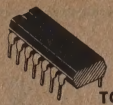

TO-78

TO-71

TO-92

AAA


TO-116

TO-18

N-P-N MATCHED DUALS

hFE @ Ic	hFE MIN-MAX	hFE1/hFE2 MIN	ΔVBE MAX	ΔVBE/ΔT MAX	DEVICE TYPE	POLARITY	CASE
10 μA	50-300	0.9	5 mV	10 μV/°C	2N2639	NPN	TO-78
10 μA	50-300	0.8	10 mV	20 μV/°C	2N2640	NPN	TO-78
10 μA	60-240	0.9	1.5 mV	5 μV/°C	2N2915A	NPN	TO-78
10 μA	60-240	0.9	1.5 mV	5 μV/°C	2N2919A	NPN	TO-78
10 μA	60-240	0.9	3 mV	10 μV/°C	2N2919	NPN	TO-78
10 μA	60-240	0.9	3 mV	10 μV/°C	2N2974	NPN	TO-71
10 μA	60-240	0.9	3 mV	10 μV/°C	2N2915	NPN	TO-78
10 μA	60-240	0.9	3 mV	10 μV/°C	2N2978	NPN	TO-71
10 μA	60-240	0.8	5 mV	20 μV/°C	2N2917	NPN	TO-78
10 μA	60-240	0.8	5 mV	20 μV/°C	2N2976	NPN	TO-71
10 μA	100-300	0.9	5 mV	10 μV/°C	2N2642	NPN	TO-78
10 μA	100-300	0.8	10 mV	20 μV/°C	2N2643	NPN	TO-78
10 μA	150-600	0.9	1.5 mV	5 μV/°C	2N2920A	NPN	TO-78

hFE @ Ic	hFE MIN-MAX	hFE1/hFE2 MIN	VBE MAX	ΔVBE/ΔT MAX	DEVICE TYPE	POLARITY	CASE
10 μA	150-600	0.9	1.5 mV	5 μV/°C	2N2916A	NPN	TO-78
10 μA	150-600	0.9	3 mV	10 μV/°C	2N2916	NPN	TO-78
10 μA	150-600	0.9	3 mV	5 μV/°C	2N3680	NPN	TO-78
10 μA	150-600	0.9	3 mV	10 μV/°C	2N2920	NPN	TO-78
10 μA	150-600	0.9	3 mV	10 μV/°C	2N2975	NPN	TO-71
10 μA	150-600	0.9	3 mV	10 μV/°C	2N2979	NPN	TO-71
10 μA	150-600	0.8	5 mV	20 μV/°C	2N2918	NPN	TO-78
10 μA	150-600	0.8	5 mV	20 μV/°C	2N2977	NPN	TO-71
100 μA	25-150	0.9	5 mV	25 μV/°C	2N2223A	NPN	TO-78
100 μA	25-150	0.8	15 mV	25 μV/°C	2N2223	NPN	TO-78
100 μA	30-90	0.9	5 mV	10 μV/°C	2N2060	NPN	TO-78
1 mA	150-600	0.9	3 mV	10 μV/°C	2N2453	NPN	TO-78

P-N-P MATCHED DUALS

hFE @ Ic	hFE MIN-MAX	hFE1/hFE2 MIN	ΔVBE MAX	ΔVBE/ΔT MAX	DEVICE TYPE	POLARITY	CASE
10 μA	40-300	0.9	5 mV	10 μV/°C	2N3347	PNP	TO-78
10 μA	40-300	0.8	10 mV	20 μV/°C	2N3348	PNP	TO-78
10 μA	40-300	0.6	20 mV	40 μV/°C	2N3349	PNP	TO-78
10 μA	100-300	0.9	5 mV	10 μV/°C	2N3350	PNP	TO-78
10 μA	100-300	0.8	10 mV	20 μV/°C	2N3351	PNP	TO-78
10 μA	100-300	0.6	20 mV	40 μV/°C	2N3352	PNP	TO-78

hFE @ Ic	hFE MIN-MAX	hFE1/hFE2 MIN	ΔVBE MAX	ΔVBE/ΔT MAX	DEVICE TYPE	POLARITY	CASE
100 μA	40-120	0.9	5 mV	10 μV/°C	2N2805	PNP	TO-78
100 μA	40-120	0.8	10 mV	20 μV/°C	2N2806	PNP	TO-78
100 μA	150-450	0.9	3 mV	10 μV/°C	2N3810	PNP	TO-78
100 μA	150-450	0.8	5 mV	20 μV/°C	2N3808	PNP	TO-78
100 μA	300-900	0.9	3 mV	10 μV/°C	2N3811	PNP	TO-78
100 μA	300-900	0.8	5 mV	20 μV/°C	2N3809	PNP	TO-78

N-P-N UNMATCHED DUALS

hFE @ Ic	hFE MIN-MAX	V(BR)CEO MIN	NOISE FIGURE F@f *F (Noise BW) MAX	DEVICE TYPE	POLARITY	CASE
10 μA	50-300	45 V	4 dB (15.7 kHz)*	2N2641	NPN	TO-78
10 μA	60-240	45 V	4 dB @ 1 kHz	2N2913	NPN	TO-78
10 μA	60-240	45 V	4 dB @ 1 kHz	2N2972	NPN	TO-71
10 μA	100-300	45 V	4 dB (15.7 kHz)*	2N2644	NPN	TO-78
10 μA	150-600	45 V	3 dB @ 1 kHz	2N2914	NPN	TO-78
10 μA	150-600	45 V	3 dB @ 1 kHz	2N2973	NPN	TO-71
3 mA	20-	15 V	6 dB @ 60 MHz	D2T918	NPN	TO-78
50 mA	100-300	40 V		TIS90M	NPN	TO-92

hFE @ Ic	hFE MIN-MAX	V(BR)CEO MIN	NOISE FIGURE F@f *F (Noise BW) MAX	DEVICE TYPE	POLARITY	CASE
50 mA	100-300	40 V		TIS92M	NPN	AAA
150 mA	40-120	30 V		D2T2218	NPN	TO-78
150 mA	40-120	40 V		D2T2218A	NPN	TO-78
150 mA	40-120	40 V	8 dB @ 1 kHz	2N4855	N/P	TO-78
150 mA	100-300	30 V		D2T2219	NPN	TO-78
150 mA	100-300	40 V		D2T2219A	NPN	TO-78
150 mA	100-300	40 V	8 dB @ 1 kHz	2N4854	N/P	TO-78

P-N-P UNMATCHED DUALS

hFE @ Ic	hFE MIN-MAX	V(BR)CEO MIN	NOISE FIGURE F@f *F (Noise BW) MAX	DEVICE TYPE	POLARITY	CASE
100 μA	20-120	20 V	4 dB (15.7 kHz)*	2N2804	PNP	TO-78
100 μA	40-120	20 V	4 dB (15.7 kHz)*	2N2807	PNP	TO-78
1 mA	150-450	60 V	3 dB @ 1 kHz	2N3806	PNP	TO-78
1 mA	300-900	60 V	1.5 dB @ 1 kHz	2N3707	PNP	TO-78
50 mA	100-300	40 V		TIS91M	PNP	TO-92
50 mA	100-300	40 V		TIS93M	PNP	AAA

hFE @ Ic	hFE MIN-MAX	V(BR)CEO MIN	NOISE FIGURE F@f *F (Noise BW) MAX	DEVICE TYPE	POLARITY	CASE
150 mA	40-120	40 V		D2T2904	PNP	TO-78
150 mA	40-120	40 V	8 dB @ 1 kHz	2N4855	N/P	TO-78
150 mA	40-120	60 V		D2T2904A	PNP	TO-78
150 mA	100-300	40 V		D2T2905	PNP	TO-78
150 mA	100-300	40 V	8 dB @ 1 kHz	2N4854	N/P	TO-78
150 mA	100-300	60 V		D2T2905A	PNP	TO-78

N-P-N AND P-N-P QUADS

POLARITY	V(BR)CEO MIN	hFE @ Ic	hFE MIN-MAX	DEVICE TYPE	CASE
N-P-N	30 V	150 mA	100-300	Q2T2222	TO-116
N-P-N	40 V	100 mA	60-200	Q2T3725	TO-116

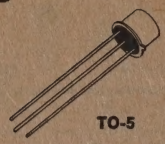
POLARITY	V(BR)CEO MIN	hFE @ Ic	hFE MIN-MAX	DEVICE TYPE	CASE
P-N-P	40 V	150 mA	100-300	Q2T2905	TO-116
P-N-P	40 V	500 mA	50-150	Q2T3244	TO-116

JFET N-CHANNEL LOW-FREQUENCY, LOW-NOISE AMPLIFIERS

NOISE FIGURE F@f MAX	IDSS MIN-MAX	V(BR)GSS MIN	DEVICE TYPE	CHANNEL POLARITY	CASE
1.5 dB @ 10 Hz	5 mA-20 mA	20 V	2N6451	N	TO-72
1.5 dB @ 10 Hz	15 mA-50 mA	20 V	2N6453	N	TO-72
2.5 dB @ 100 Hz	0.8 mA-1.6 mA	40 V	2N5359	N	TO-72
2.5 dB @ 10 Hz	5 mA-20 mA	25 V	2N6452	N	TO-72
2.5 dB @ 100 Hz	9 mA-18 mA	40 V	2N5364	N	TO-72
2.5 dB @ 10 Hz	15 mA-50 mA	25 V	2N6454	N	TO-72
5 db @ 10 Hz	0.5 mA-2.5 mA	50 V	A5T3821	N	AAA
5 dB @ 10 Hz	0.5 mA-2.5 mA	50 V	2N3821	N	TO-72
5 dB @ 10 Hz	2 mA-10 mA	50 V	2N3822	N	TO-72
5 dB @ 10 Hz	2 mA-10 mA	50 V	A5T3822	N	AAA
4 dB @ 20 Hz	0.2 mA-1 mA	50 V	2N3460	N	TO-18
4 dB @ 20 Hz	0.8 mA-4 mA	50 V	2N3459	N	TO-18

NOISE FIGURE F@f MAX	IDSS MIN-MAX	V(BR)GSS MIN	DEVICE TYPE	CHANNEL POLARITY	CASE
6 dB @ 20 Hz	3 mA-15 mA	50 V	2N3458	N	TO-18
2.5 dB @ 100 Hz	0.5 mA-1mA	40 V	2N5358	N	TO-72
2.5 dB @ 100 Hz	1.5 mA-3 mA	40 V	2N5360	N	TO-72
2.5 dB @ 100 Hz	2.5 mA-5 mA	40 V	2N5361	N	TO-72
2.5 dB @ 100 Hz	4 mA-8 mA	40 V	2N5262	N	TO-72
2.5 dB @ 100 Hz	7 mA-14 mA	40 V	2N5363	N	TO-72
2 dB @ 1000 Hz	2.5 mA-5 mA	30 V	2N5953	N	AAA
2 dB @ 1000 Hz	4 mA-8 mA	30 V	2N5952	N	AAA
2 dB @ 1000 Hz	7 mA-13 mA	30 V	2N5951	N	AAA
2 dB @ 1000 Hz	10 mA-15 mA	30 V	2N5950	N	AAA
2 dB @ 1000 Hz	12 mA-18 mA	30 V	2N5949	N	AAA

Texas Instruments Selection Guide


TO-5

TO-72

TO-92

AAA

TO-18

TO-39

JFET P-CHANNEL LOW-FREQUENCY, LOW-NOISE AMPLIFIERS

NOISE FIGURE F@f MAX	IDSS MIN-MAX	V(BR)GSS (V(BR)DGO) MIN	DEVICE TYPE	CHANNEL POLARITY	CASE
5 dB @ 10 Hz	1 mA-6 mA	(20 V)	2N2500	P	TO-5
5 dB @ 10 Hz	1 mA-6 mA	20 V	2N3332	P	TO-72
2.5 dB @ 100 Hz	1 mA-5 mA	40 V	2N5460	P	TO-92
2.5 dB @ 100 Hz	1 mA-5 mA	40 V	A5T5460	P	AAA
2.5 dB @ 100 Hz	2 mA-9 mA	40 V	2N5461	P	TO-92
2.5 dB @ 100 Hz	2 mA-9 mA	40 V	A5T5461	P	AAA
2.5 dB @ 100 Hz	4 mA-16 mA	40 V	2N5462	P	TO-92
2.5 dB @ 100 Hz	4 mA-16 mA	40 V	A5T5462	P	AAA
3 dB @ 1000 Hz	0.9 mA-4.5 mA	30 V	2N2608	P	TO-18
3 dB @ 1000 Hz	1 mA-3 mA	(20 V)	2N2497	P	TO-5
3 dB @ 1000 Hz	1 mA-3 mA	20 V	2N3329	P	TO-72
3 dB @ 1000 Hz	2 mA-8 mA	(20 V)	2N2498	P	TO-5
3 dB @ 1000 Hz	2 mA-6 mA	20 V	2N3330	P	TO-72
3 dB @ 1000 Hz	2 mA-10 mA	30 V	2N2609	P	TO-18
4 dB @ 1000 Hz	5 mA-15 mA	(20 V)	2N2499	P	TO-5
4 dB @ 1000 Hz	5 mA-15 mA	20 V	2N3331	P	TO-72

JFET N-CHANNEL GENERAL PURPOSE AMPLIFIERS

IDSS MIN-MAX mA	|yfs| @ f MIN-MAX	V(BR)GSS MIN	DEVICE TYPE	CASE
0.5-1	1-3 mmho @ 1 kHz	40 V	2N5358	TO-72
0.5-3	1-4 mmho @ 1 kHz	30 V	2N4420	TO-72
0.5-3	1-4 mmho @ 1 kHz	30 V	2N4220A	TO-72
0.8-1.6	1.2-3.6 mmho @ 1 kHz	40 V	2N5359	TO-72
1.5-3	1.4-4.2 mmho @ 1 kHz	40 V	2N5360	TO-72
2-6	2-5 mmho @ 1 kHz	30 V	2N4221	TO-72
2-6	2-5 mmho @ 1 kHz	30 V	2N4221A	TO-72
2-10	0.5-3 mmho @ 1 kHz	200 V	A5T6450	AAA
2-10	0.5-3 mmho @ 1 kHz	200 V	2N6450	TO-39
2-10	0.5-3 mmho @ 1 kHz	300 V	A5T6449	AAA
2-10	0.5-3 mmho @ 1 kHz	300 V	2N6449	TO-39
2-10	3-6.5 mmho @ 1 kHz	50 V	2N3822	TO-72
2-10	3-6.5 mmho @ 1 kHz	50 V	A5T3822	AAA
2-20	2-6.5 mmho @ 1 kHz	25 V	2N3819	TO-92
2.5-5	1.5-4.5 mmho @ 1 kHz	40 V	2N5361	TO-72
2.5-5	2-6.5 mmho @ 1 kHz	30 V	2N5953	AAA
2.5-8	4 typ mmho @ 1 kHz	25 V	TIS58	TO-92
4-8	2-5.5 mmho @ 1 kHz	40 V	2N5362	TO-72
4-8	2-6.5 mmho @ 1 kHz	30 V	2N5952	AAA
5-15	2.5-6 mmho @ 1 kHz	30 V	2N4222	TO-72
5-15	2.5-6 mmho @ 1 kHz	30 V	2N4222A	TO-72
6-25	4.8 typ mmho @ 1 kHz	25 V	TIS59	TO-92
7-13	3.5-6.5 mmho @ 1 kHz	30 V	2N5951	AAA
7-14	2.5-6 mmho @ 1 kHz	40 V	2N5363	TO-72
9-18	2.7-6.5 mmho @ 1 kHz	40 V	2N5364	TO-72
10-15	3.5-7.5 mmho @ 1 kHz	30 V	2N5950	AAA
12-18	3.5-7.5 mmho @ 1 kHz	30 V	2N5949	AAA
12-24		50 V	2N3824	TO-72
12-24		50 V	A5T3824	AAA

JFET P-CHANNEL GENERAL PURPOSE AMPLIFIERS

IDSS MIN-MAX mA	|yfs| @ f MIN-MAX	V(BR)GSS MIN	DEVICE TYPE	CASE
0.3-15	0.8-5 mmho @ 1 kHz	20 V	2N3820	TO-92
0.3-15	1-5 mmho @ 1 kHz	20 V	2N3909	TO-72
1-5	1-4 mmho @ 1 kHz	40 V	2N5460	TO-92
1-5	1-4 mmho @ 1 kHz	40 V	A5T5460	AAA
1-15	2.2-5 mmho @ 1 kHz	20 V	2N2386A	TO-5
1-15	2.2-5 mmho @ 1 kHz	20 V	2N3909A	TO-72
2-9	1.5-5 mmho @ 1 kHz	40 V	2N5461	TO-92
2-9	1.5-5 mmho @ 1 kHz	40 V	A5T5461	AAA
4-16	2-6 mmho @ 1 kHz	40 V	2N5462	TO-92
4-16	2-6 mmho @ 1 kHz	40 V	A5T5462	AAA

IGFET HIGH-FREQUENCY AMPLIFIERS (N-CHANNEL, DEPLETION-TYPE)

Crss MAX pF	|yfs| @ f MIN-MAX	NOISE FIGURE F@f MAX	DEVICE TYPE	CASE
0.03	7-17 mmho @ 1 kHz	4 dB @ 45 MHz	3N206	TO-72
0.03	7-15 mmho @ 1 kHz	6 dB @ 45 MHz	3N203	TO-72
0.03	8-20 mmho @ 1 kHz	4.5 dB @ 200 MHz	3N201	TO-72
0.03	8-20 mmho @ 1 kHz		3N202	TO-72
0.03	10-22 mmho @ 1 kHz	5 dB @ 450 MHz	3N204	TO-72
0.03	10-22 mmho @ 1 kHz		3N205	TO-72
0.05	15-35 mmho @ 1 kHz	4 dB @ 45 MHz	3N213	TO-72
0.05	17-40 mmho @ 1 kHz	3.5 dB @ 200 MHz	3N211	TO-72
0.05	17-40 mmho @ 1 kHz		3N212	TO-72
0.35	5-12 mmho @ 1 kHz	5 dB @ 200 MHz	3N128	TO-72

JFET HIGH-FREQUENCY AMPLIFIERS (N-CHANNEL)

Crss MAX pF	|yfs| @ f MIN	NOISE FIGURE F@f MAX	DEVICE TYPE	CASE
0.8	4 mmho @ 400 MHz	4 dB @ 400 MHz	2N4416	TO-72
0.8	4 mmho @ 400 MHz	4 dB @ 400 MHz	2N4416A	TO-72
1	2.5 mmho @ 400 MHz		2N5246	AAA
1	4 mmho @ 400 MHz	4 dB @ 400 MHz	2N5245	AAA
1	4 mmho @ 400 MHz		2N5247	AAA
1.2	5.5 mmho @ 450 MHz	3.5 dB @ 450 MHz	2N5397	TO-72
1.3	5 mmho @ 450 MHz		2N5398	TO-72
2	0.8 mmho @ 100 MHz	2.5 dB @ 100 Hz	2N5358	TO-72
2	0.9 mmho @ 100 MHz	2.5 dB @ 100 Hz	2N5359	TO-72
2	1.4 mmho @ 100 MHz	2.5 dB @ 100 Hz	2N5360	TO-72
2	1.7 mmho @ 100 MHz	2.5 dB @ 100 Hz	2N5361	TO-72
2	1.7 mmho @ 200 MHz		2N4224	TO-72
2	1.9 mmho @ 100 MHz	2.5 dB @ 100 Hz	2N5362	TO-72
2	2.1 mmho @ 100 MHz	2.5 dB @ 100 Hz	2N5363	TO-72
2	2.2 mmho @ 100 MHz	2.5 dB @ 100 Hz	2N5364	TO-72
2	2.7 mmho @ 200 MHz	5 dB @ 200 MHz	2N4223	TO-72
2	3 mmho @ 200 MHz		2N5248	TO-92
2	3.2 mmho @ 200 MHz	2.5 dB @ 100 MHz	2N3823	TO-72
2	3.2 mmho @ 200 MHz	2.5 dB @ 100 MHz	A5T3823	AAA

JFET N-CHANNEL SWITCHES AND CHOPPERS

rds(on) MAX	VGS(off) MIN-MAX	V(BR)GSS MIN	IDSS MIN-MAX	DEVICE TYPE	CASE
25 Ω	4-10 V	30 V	50- mA	TIS73	AAA
25 Ω	4-10 V	30 V	50- mA	2N4859	TO-18
25 Ω	4-10 V	30 V	50- mA	2N4859A	TO-18
25 Ω	4-10 V	40 V	50- mA	2N4856	TO-18
25 Ω	4-10 V	40 V	50- mA	2N4856A	TO-18
30 Ω	4-10 V	40 V	50-150 mA	2N3970	TO-18
30 Ω	4-10 V	40 V	50-150 mA	2N4391	TO-18
30 Ω	5-10 V	40 V	30- mA	2N4091	TO-18
40 Ω	2-6 V	30 V	20-100 mA	TIS74	AAA
40 Ω	2-6 V	30 V	20-100 mA	2N4860	TO-18
40 Ω	2-6 V	30 V	20-100 mA	2N4860A	TO-18
40 Ω	2-6 V	40 V	20-100 mA	2N4857A	TO-18
40 Ω	2-6 V	40 V	20-100 mA	2N4857	TO-18
50 Ω	2-7 V	40 V	15- mA	2N4092	TO-18
60 Ω	0.8-4 V	30 V	8- 80 mA	TIS75	AAA
60 Ω	0.8-4 V	30 V	8- 80 mA	2N4861	TO-18
60 Ω	0.8-4 V	30 V	8- 80 mA	2N4861A	TO-18
60 Ω	0.8-4 V	40 V	8- 80 mA	2N4858	TO-18
60 Ω	0.8-4 V	40 V	8- 80 mA	2N4858A	TO-18
60 Ω	2-5 V	40 V	25- 75 mA	2N3971	TO-18

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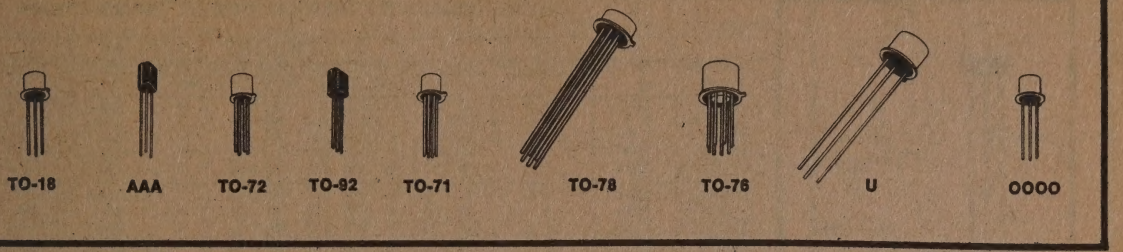

JFET N-CHANNEL SWITCHES AND CHOPPERS (con't)

$r_{ds(on)}$ MAX	$V_{GS(off)}$ MIN-MAX	$V_{(BR)GSS}$ MIN	I_{DSS} MIN-MAX	DEVICE TYPE	CASE
60 Ω	2-5 V	40 V	25-75 mA	2N4392	TO-18
80 Ω	1-5 V	40 V	8- mA	2N4093	TO-18
100 Ω	0.5-3 V	40 V	5-30 mA	2N3972	TO-18
100 Ω	0.5-3 V	40 V	5-30 mA	2N4393	TO-18
100 Ω	2-6 V	40 V	10-60 mA	2N5549	TO-18
200 Ω	3-7 V	30 V	12-18 mA	2N5949	AAA
210 Ω	2.5-6 V	30 V	10-15 mA	2N5950	AAA
220 Ω	4-6 V	30 V	2- mA	2N3966	TO-72
250 Ω	. . .	50 V	12-24 mA	2N3824	TO-72
250 Ω	. . .	50 V	12-24 mA	A5T3824	AAA

IGFET P-CHANNEL SWITCHES AND CHOPPERS

$r_{ds(on)}$ MAX	$V_{GS(th)}$ MIN-MAX	$V_{(BR)DSS}$ MIN	$I_{D(on)}$ MIN-MAX	DEVICE TYPE	ENH/ DEPL	CASE
60 typ Ω	1.5-5 V	25 V	40-120mA	3N160	E	TO-72
60 typ Ω	1.5-5 V	25 V	40-120mA	3N161	E	TO-72
250 Ω	2-5 V	40 V	5-30 mA	3N163	E	TO-72
300 Ω	2-5 V	30 V	3-30 mA	3N164	E	TO-72
300 Ω	1.5-3.2 V	50 V	5- mA	3N155A	E	TO-72
300 Ω	3-5 V	50 V	5- mA	3N156A	E	TO-72
600 Ω	1.5-3.2 V	50 V	5- mA	3N155	E	TO-72
600 Ω	3-5 V	50 V	5- mA	3N156	E	TO-72
1000 Ω	2-6 V	30 V	3-12mA	3N174	E	TO-72

JFET DUALS (N-CHANNEL)

I_{DSS} MIN-MAX	$\frac{I_{DSS1}}{I_{DSS2}}$ MIN	$\frac{\lvert y_{fs}\rvert 1}{\lvert y_{fs}\rvert 2}$ MIN	ΔV_{GS} MAX	DEVICE TYPE	CASE
0.5-8 mA	0.95	0.97	5 mV	2N5545	TO-71
0.5-8 mA	0.95	0.95	5 mV	2N5045	TO-71
0.5-8 mA	0.95	0.95	5 mV	TIS25	TO-78
0.5-8 mA	0.9	0.95	10 mV	2N5546	TO-71
0.5-8 mA	0.9	0.9	10 mV	TIS69	2 TO-92
0.5-8 mA	0.9	0.9	10 mV	2N5046	TO-71
0.5-8 mA	0.9	0.9	15 mV	2N5547	TO-71
0.5-8 mA	0.9	0.9	10 mV	TIS26	TO-78
0.5-8 mA	0.8	0.8	15 mV	2N5047	TO-71
0.5-8 mA	0.8	0.8	15 mV	TIS27	TO-78
0.5-8 mA	0.8	0.8	15 mV	TIS70	2 TO-92

JFET P-CHANNEL SWITCHES AND CHOPPERS

$r_{ds(on)}$ MAX	$V_{GS(off)}$ MIN-MAX	$V_{(BR)GSS}$ MIN	I_{DSS} MIN-MAX	DEVICE TYPE	CASE
300 Ω	1.5-5 V	25 V	2- mA	2N3994	TO-72
300 Ω	1.5-5 V	25 V	2- mA	2N3994A	TO-72
400 Ω	1.8-9 V	40 V	4-16 mA	2N5462	TO-92
400 Ω	1.8-9 V	40 V	4-16 mA	A5T5462	AAA
800 Ω	1-7.5 V	40 V	2-9 mA	2N5461	TO-92
800 Ω	1-7.5 V	40 V	2-9 mA	A5T5461	AAA

IGFET N-CHANNEL SWITCHES AND CHOPPERS

$r_{ds(on)}$ MAX	$V_{GS(th)}$ MIN-MAX	$V_{(BR)DSS}$ MIN	$I_{D(on)}$ MIN-MAX	DEVICE TYPE	ENH/ DEPL	CASE
20 Ω	. . .	20 V	50-mA	3N214	D	TO-72
35 Ω	. . .	20 V	50-mA	3N215	D	TO-72
50 Ω	. . .	20 V	50-mA	3N216	D	TO-72
70 Ω	. . .	20 V	50-mA	3N217	D	TO-72
200 Ω	0.5-1.5 V	25 V	10-mA	3N169	E	TO-72
200 Ω	1-2 V	25 V	10-mA	3N170	E	TO-72
200 Ω	1.5-3 V	25 V	10-mA	3N171	E	TO-72
300 Ω	. . .	20 V	5-mA	3N153	D	TO-72

IGFET DUALS (P-CHANNEL, ENHANCEMENT-TYPE)

$r_{ds(on)}$ MAX	$V_{GS(th)}$ MIN/MAX	$I_{D(on)}$ MIN	DEVICE TYPE	CASE
400 Ω	—3/—6 V	—1.5 mA	3N207	TO-76
400 Ω	—3/—6 V	—1.5 mA	3N208	TO-76

UNIJUNCTION, PROGRAMMABLE

I_P@R_G MAX	I_V@R_G MIN	DEVICE TYPE	CASE
1 μA @ 10 kΩ	25 μA @ 10 kΩ	A7T6028	TO-92
1 μA @ 10 kΩ	50 μA @ 10 kΩ	2N6118	TO-18
1 μA @ 10 kΩ	50 μA @ 10 kΩ	A5T6118	AAA
2 μA @ 10 kΩ	50 μA @ 10 kΩ	2N6117	TO-18
2 μA @ 10 kΩ	50 μA @ 10 kΩ	A5T6117	AAA
5 μA @ 10 kΩ	70 μA @ 10 kΩ	A7T6027	TO-92
5 μA @ 10 kΩ	70 μA @ 10 kΩ	2N6116	TO-18
5 μA @ 10 kΩ	70 μA @ 10 kΩ	A5T6116	AAA

UNIJUNCTION, CONVENTIONAL

η MIN-MAX	I_P MAX	I_V MIN	r_{BB} MIN-MAX	DEVICE TYPE	CASE
0.47-0.62	6 μA	8 mA	4.7-9.1 kΩ	2N1671B	U
0.47-0.62	25 μA	8 mA	4.7-9.1 kΩ	2N1671	U
0.47-0.62	25 μA	8 mA	4.7-9.1 kΩ	2N1671A	U
0.47-0.80	25 μA	8 mA	4-12 kΩ	2N2160	U
0.51-0.62	6 μA	8 mA	4.7-6.8 kΩ	2N489B	U
0.51-0.62	6 μA	8 mA	6.2-9.1 kΩ	2N490B	U
0.51-0.62	12 μA	8 mA	4.7-6.8 kΩ	2N489	U
0.51-0.62	12 μA	8 mA	4.7-6.8 kΩ	2N489A	U
0.51-0.62	12 μA	8 mA	6.2-9.1 kΩ	2N490	U
0.51-0.62	12 μA	8 mA	6.2-9.1 kΩ	2N490A	U
0.51-0.69	2 μA	4 mA	4-9.1 kΩ	2N4892	AAA
0.51-0.69	2 μA	4 mA	4-9.1 kΩ	2N4947	OOO
0.55-0.82	2 μA	2 mA	4-12 kΩ	2N4893	AAA
0.55-0.82	2 μA	2 mA	4-12 kΩ	2N4948	OOO
0.55-0.82	5 μA	2 mA	4-9.1 kΩ	TIS43	TO-92
0.55-0.82	5 μA	2 mA	4-9.1 kΩ	2N4891	AAA
0.56-0.68	6 μA	8 mA	4.7-6.8 kΩ	2N491B	U
0.56-0.68	6 μA	8 mA	6.2-9.1 kΩ	2N492B	U
0.56-0.68	12 μA	8 mA	4.7-6.8 kΩ	2N491	U
0.56-0.68	12 μA	8 mA	4.7-6.8 kΩ	2N491A	U
0.56-0.68	12 μA	8 mA	6.2-9.1 kΩ	2N492	U
0.56-0.68	12 μA	8 mA	6.2-9.1 kΩ	2N492A	U
0.56-0.75	5 μA	4 mA	4.7-9.1 kΩ	2N2646	OOO
0.56-0.75	2 μA	2 mA	4.7-9.1 kΩ	2N4851	OOO
0.62-0.75	6 μA	8 mA	4.7-6.8 kΩ	2N493B	U
0.62-0.75	12 μA	8 mA	4.7-6.8 kΩ	2N493	U
0.62-0.75	12 μA	8 mA	4.7-6.8 kΩ	2N493A	U
0.68-0.82	2 μA	8 mA	4.7-9.1 kΩ	2N2647	OOO
0.68-0.82	2 μA	1 mA	4-8 kΩ	2N3980	OOO
0.70-0.85	2 μA	4 mA	4.7-9.1 kΩ	2N4852	OOO
0.70-0.85	0.4 μA	6 mA	4.7-9.1 kΩ	2N4853	OOO
0.74-0.86	1 μA	2 mA	4-12 kΩ	2N4894	AAA
0.74-0.86	1 μA	2 mA	4-12 kΩ	2N4949	OOO

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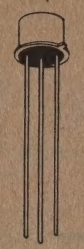
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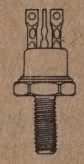
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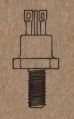
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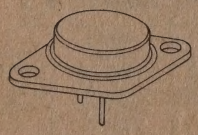
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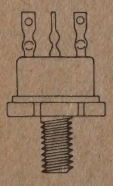
N(TO-61)

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HIGH-RELIABILITY SILICON POWER TRANSISTORS

DEVICE TYPE	POLARITY	I_C CONTINUOUS	V_{CEO}	h_{FE}		@ I_C	@ V_{CE}	$V_{CE(sat)}$ MAX	@ I_C	P_T T_C=25°C	P_T T_C=100°C	PACKAGE
		A	V	MIN	MAX	A	V	V	A	W	W	
2N497	NPN	0.5	60	12	36	0.2	10	5	0.2	4	2.3	I(TO-5)
2N497A	NPN	0.5	60	12	36	0.2	10	5	0.2	5	2.8	I(TO-5)
2N656	NPN	0.5	60	30	90	0.2	10	5	0.2	4	2.3	I(TO-5)
2N656A	NPN	0.5	60	30	90	0.2	10	5	0.2	5	2.8	I(TO-5)
2N498	NPN	0.5	100	12	36	0.2	10	5	0.2	4	2.3	I(TO-5)
2N498A	NPN	0.5	100	12	36	0.2	10	5	0.2	5	2.8	I(TO-5)
2N657	NPN	0.5	100	30	90	0.2	10	5	0.2	4	2.3	I(TO-5)
2N657A	NPN	0.5	100	30	90	0.2	10	5	0.2	5	2.8	I(TO-5)
2N1714	NPN	1	60	20	60	0.2	5	2	0.2		15	I(TO-5)
2N1716	NPN	1	60	40	120	0.2	5	2	0.2		15	I(TO-5)
2N2987	NPN	1	80	25	75	0.2	5	0.8	0.2		15	I(TO-5)
2N2989	NPN	1	80	60	120	0.2	5	0.8	0.2		15	I(TO-5)
2N4000	NPN	1	80	30	120	0.5	2	0.3	0.5		15	I(TO-5)
2N1715	NPN	1	100	20	60	0.2	5	2	0.2		15	I(TO-5)
2N1717	NPN	1	100	40	120	0.2	5	2	0.2		15	I(TO-5)
2N2988	NPN	1	100	25	75	0.2	5	0.8	0.2		15	I(TO-5)
2N2990	NPN	1	100	60	120	0.2	5	0.8	0.2		15	I(TO-5)
2N4001	NPN	1	100	30	120	0.5	2	0.3	0.5		15	I(TO-5)
2N3583	NPN	1	175	40	200	0.5	10	0.5	1	35	20	5B(TO-66)
TI486	NPN	1.5	60	20	80	0.2	5	2	0.2		15	I(TO-5)
TI487	NPN	1.5	60	20	80	0.2	5	2	0.2		15	S
TIP541†	NPN	2	45	40	200	1	4	0.3	1		4	PPP(TO-39)
2N5333	PNP	2	80	30	120	1	4	0.45	1		15	I(TO-5)
2N1047	NPN	2	80	12	36	0.5	10	7.5	0.5	40	23	F(TO-57)
2N1047A	NPN	2	80	12	36	0.5	10	7.5	0.5	40	23	F(TO-57)
2N1049	NPN	2	80	30	90	0.5	10	7.5	0.5	40	23	F(TO-57)
2N1049A	NPN	2	80	30	90	0.5	10	7.5	0.5	40	23	F(TO-57)
2N1049B	NPN	2	80	30	90	0.5	10	7.5	0.5	40	23	F(TO-57)
2N2150	NPN	2	80	20	60	1	5	1	1		30	DD(TO-111)
2N2151	NPN	2	80	40	120	1	5	1	1		30	DD(TO-111)
2N4300	NPN	2	80	30	120	1	2	0.3	1		15	I(TO-5)
2N4998	NPN	2	80	30	90	1	5	0.85	2	35	20	YYYY(TO-59)
2N5000	NPN	2	80	70	200	1	5	0.85	2	35	20	YYYY(TO-59)
2N5148	NPN	2	80	30	90	1	5	0.85	2	7	4	PPP(TO-39)
2N5150	NPN	2	80	70	200	1	5	0.85	2	7	4	PPP(TO-39)
2N4999	PNP	2	80	30	90	1	5	0.85	2	35	20	YYYY(TO-59)
2N5001	PNP	2	80	70	200	1	5	0.85	2	35	20	YYYY(TO-59)
2N5147	PNP	2	80	30	90	1	5	0.85	2	7	4	PPP(TO-39)
2N5149	PNP	2	80	70	200	1	5	0.85	2	7	4	PPP(TO-39)
2N5152	NPN	2	80	30	90	2.5	5	0.75	2.5	11.7	6.7	PPP(TO-39)
2N5154	NPN	2	80	70	200	2.5	5	0.75	2.5	11.7	6.7	PPP(TO-39)
2N1048	NPN	2	120	12	36	0.5	10	7.5	0.5	40	23	F(TO-57)
2N1048A	NPN	2	120	12	36	0.5	10	7.5	0.5	40	23	F(TO-57)
2N1048B	NPN	2	120	12	36	0.5	10	7.5	0.5	40	23	F(TO-57)
2N1050	NPN	2	120	30	90	0.5	10	7.5	0.5	40	23	F(TO-57)
TIP503	NPN	2	120	40	200	1	4	0.6	1		20	5B(TO-66)
TIP505	NPN	2	120	40	200	1	4	0.6	1		20	YYYY(TO-59)
TIP504	NPN	2	150	40	200	1	4	0.6	1		20	5B(TO-66)
TIP506	NPN	2	150	40	200	1	4	0.6	1		20	YYYY(TO-59)
TIP507	PNP	2	150	30	120	1	4	1.5	2		20	YYYY(TO-59)
TIP508	PNP	2	150	30	120	1	4	1.5	2		4	PPP(TO-39)
TIP521	PNP	2	200	20	100	1	4	2.5	2		20	YYYY(TO-59)
TIP522	PNP	2	200	20	100	1	4	2.5	2		4	PPP(TO-39)
2N3584	NPN	2	250	8	80	1	2	0.75	1	35	20	5B(TO-66)
2N3585	NPN	2	300	8	80	1	2	0.75	1	35	20	5B(TO-66)
2N4240	NPN	2	300	10	100	0.75	2	1	0.75	35	20	5B(TO-66)
2N3902	NPN	2.5	400	30	90	1	5	0.8	1	100§	67	K(TO-3)
2N3024	PNP	3	30	50	180	1	2	1	3	25	12.5	K(TO-3)
TIP501	NPN	3	40	25	180	1	1.5	0.75	1	6	3.4	PPP(TO-39)
2N3719	PNP	3	40	25	180	1	1.5	0.75	1	6	3.4	I(TO-5)
2N3022	PNP	3	45	20	60	1	2	1.5	3	25	12.5	K(TO-3)
2N3025	PNP	3	45	50	180	1	2	1	3	25	12.5	K(TO-3)
TIP502	NPN	3	60	25	180	1	1.5	0.75	1	6	3.4	PPP(TO-39)
2N3720	PNP	3	60	25	180	1	1.5	0.75	1	6	3.4	I(TO-5)
2N3418	NPN	3	60	10	60	1	2	0.25	1		15	I(TO-5)
2N3420	NPN	3	60	15	120	1	2	0.25	1		15	I(TO-5)
2N389	NPN	3	60#	12	60	1	15	5	1		85	D(TO-53)
2N389A	NPN	3	60#	12	60	1	15	5	1		85	D(TO-53)
2N3419	NPN	3	80	10	60	1	2	0.25	1		15	I(TO-5)
2N3421	NPN	3	80	15	120	1	2	0.25	1		15	I(TO-5)
2N424	NPN	3	80#	12	60	1	15	5	1		85	D(TO-53)
2N424A	NPN	3	80#	12	60	1	15	5	1		85	D(TO-53)
TIP529	NPN	3	300	25	125	1.5	4	2.5	3		67	N(TO-61)
TIP530	NPN	3	300	25	125	1.5	4	2.5	3		20	5B(TO-66)
2N5157	NPN	3.5	500	30	90	1	5	0.8	1	100§	67	K(TO-3)
2N5938	NPN	4	50	30	150	1	3	0.75	3		20	ZZZZ
TIP509	NPN	4	120	40	200	2	4	0.6	2		30	K(TO-3)

†Radiation tolerant #V_{CER} §T_C=75°C

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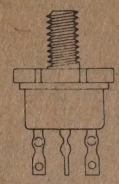
HIGH-RELIABILITY SILICON POWER TRANSISTORS (Cont.)

DEVICE TYPE	POLARITY	I_C CONT.	V_{CEO}	h_{FE} @ I_C V_{CE}				$V_{CE(sat)}$ MAX @ I_C		P_T T_C=25°C	P_T T_C=100°C	PACKAGE
		A	V	MIN	MAX	A	V	V	A	W	W	
TIP511	NPN	4	120	40	200	2	4	0.6	2		30	N(TO-61)
TIP510	NPN	4	150	40	200	2	4	0.6	2		30	K(TO-3)
TIP512	NPN	4	150	40	200	2	4	0.6	2		30	N(TO-61)
2N4913	NPN	5	40	25	100	2.5	2	0.75	2.5	87	50	K(TO-3)
2N4914	NPN	5	60	25	100	2.5	2	0.75	2.5	87	50	K(TO-3)
2N2880	NPN	5	70	40	120	1	2	0.25	1		30	DD(TO-111)
2N5385	PNP	5	80	20	80	2	4	0.6	2		30	DD(TO-111)
2N1722	NPN	5	80	20	90	2	15	1	2		50	D(TO-53)
2N1723	NPN	5	80	50	150	2	15	1	2		50	D(TO-53)
2N1724	NPN	5	80	20	90	2	15	1	2		50	N(TO-61)
2N1725	NPN	5	80	50	150	2	15	1	2		50	N(TO-61)
2N3996	NPN	5	80	40	120	1	2	0.25	1		30	BB(TO-111)
2N3997	NPN	5	80	80	240	1	2	0.25	1		30	BB(TO-111)
2N3998	NPN	5	80	40	120	1	2	0.25	1		30	DD(TO-111)
2N3999	NPN	5	80	80	240	1	2	0.25	1		30	DD(TO-111)
2N4915	NPN	5	80	25	100	2.5	2	0.75	2.5	87	50	K(TO-3)
2N5384	PNP	5	80	20	80	2	4	0.6	2		30	BB(TO-111)
2N5002	NPN	5	80	30	90	2.5	5	0.75	2.5	58	33.3	YYYY(TO-59)
2N5004	NPN	5	80	70	200	2.5	5	0.75	2.5	58	33.3	YYYY(TO-59)
2N5003	PNP	5	80	30	90	2.5	5	0.75	2.5	58	33.3	YYYY(TO-59)
2N5005	PNP	5	80	70	200	2.5	5	0.75	2.5	58	33.3	YYYY(TO-59)
2N5151	PNP	5	80	30	90	2.5	5	0.75	2.5	11.7	6.7	PPP(TO-39)
2N5153	PNP	5	80	70	200	2.5	5	0.75	2.5	11.7	6.7	PPP(TO-39)
2N1722A	NPN	5	120	30	90	2	15	0.6	2		50	D(TO-53)
2N1724A	NPN	5	120	30	90	2	15	0.6	2		50	N(TO-61)
TIP513	PNP	5	150	30	150	2.5	4	1	2.5		30	YYYY(TO-59)
TIP514	PNP	5	150	30	150	2.5	4	1	2.5		20	5B(TO-66)
TIP523	PNP	5	200	20	100	2.5	4	1.5	2.5		30	YYYY(TO-59)
TIP524	PNP	5	200	20	100	2.5	4	1.5	2.5		6	PPP(TO-39)
TIP525	NPN	5	200	30	150	2.5	4	1.2	2.5		60	K(TO-3)
TIP526	NPN	5	200	30	150	2.5	4	1.2	2.5		60	N(TO-61)
TIP544	PNP	6	100	25	100	3	2	1	3	150	85	K(TO-3)
2N5758	NPN	6	100	25	100	3	2	1	3	150	85	K(TO-3)
TIP545	PNP	6	120	20	80	3	2	1	3	150	85	K(TO-3)
2N5759	NPN	6	120	20	80	3	2	1	3	150	85	K(TO-3)
2N5760	NPN	6	140	15	60	3	2	1	3	150	85	K(TO-3)
TI1135	NPN	7.5	50	30	120	2	4	1	2	80#	50	N(TO-61)
TI1136	NPN	7.5	50	15	60	2	4	1	2	80#	50	N(TO-61)
TI1155	NPN	7.5	50	20	80	5	4	2.5	5	80#	50	N(TO-61)
TI1156	NPN	7.5	50	10	40	5	4	2.5	6	80#	50	N(TO-61)
TI1133	NPN	7.5	75	30	120	2	4	1	2	80#	50	N(TO-61)
TI1134	NPN	7.5	75	15	60	2	4	1	2	80#	50	N(TO-61)
TI1153	NPN	7.5	75	20	80	5	4	2.5	5	80#	50	N(TO-61)
TI1154	NPN	7.5	75	10	40	5	4	2.5	5	80#	50	N(TO-61)
TI1131	NPN	7.5	100	30	120	2	4	1	2	80#	50	N(TO-61)
TI1132	NPN	7.5	100	15	60	2	4	1	2	80#	50	N(TO-61)
TI1151	NPN	7.5	100	20	80	5	4	2.5	5	80#	50	N(TO-61)
TI1152	NPN	7.5	100	10	40	5	4	2.5	5	80#	50	N(TO-61)
2N5387	NPN	7.5	200	25	100	2	5	2	5		100	N(TO-61)
TIP535	NPN	7.5	200	20	100	5	4	1.2	5		100	K(TO-3)
2N5388	NPN	7.5	250	25	100	2	5	2	5		100	N(TO-61)
TIP536	NPN	7.5	300	20	100	5	4	1.2	5		100	K(TO-3)
2N5389	NPN	7.5	300	25	100	2	5	2	5		100	N(TO-61)
TIP519	PNP	8	150	30	150	4	4	1	4		50	K(TO-3)
TIP520	PNP	8	150	30	150	4	4	1	4		50	N(TO-61)
TIP527	PNP	8	200	20	100	4	4	1.5	4		60	K(TO-3)
TIP528	PNP	8	200	20	100	4	4	1.5	4		60	N(TO-61)
TIP542†	NPN	10	45	40	200	5	4	0.8	10		40	YYYY(TO-59)
2N3789	PNP	10	60	25	90	1	2	1	4	150	85	K(TO-3)
2N3713	NPN	10	60	25	75	1	2	1	5	150	85	K(TO-3)
2N3715	NPN	10	60	50	150	1	2	1	5	150	85	K(TO-3)
2N3791	PNP	10	60	50	180	1	2	1	5	150	85	K(TO-3)
TIP543†	NPN	10	65	40	200	5	4	0.8	10		40	YYYY(TO-59)
2N5940	NPN	10	70	40	200	5	4	1	10		40	CC(TO-111)
2N3790	PNP	10	80	25	90	1	2	1	4	150	85	K(TO-3)
2N3792	PNP	10	80	50	180	1	2	1	5	150	85	K(TO-3)
2N5939	NPN	10	80	40	200	5	4	1	10		40	CC(TO-111)
2N6127	PNP	10	80	30	120	5	5	0.9	5	100¶	67	N(TO-61)
2N6128	NPN	10	80	30	120	5	5	0.9	5	100¶	67	N(TO-61)
2N3714	NPN	10	80	25	75	1	2	1	5	150	85	K TO-3)
2N3716	NPN	10	80	50	150	1	2	1	5	150	85	K(TO-3)
2N4301	NPN	10	80	30	120	5	4	0.4	5		50	N(TO-61)
2N3551	NPN	12	60	20	90	10	2	1	10		40	DDD
2N3552	NPN	12	80	20	90	10	2	1	10		40	DDD
2N5386	PNP	12	80	20	80	6	4	0.6	6		50	N(TO-61)
TIP515	NPN	12	120	40	200	6	4	0.8	6		80	K(TO-3)
TIP517	NPN	12	120	40	200	6	4	0.8	6		80	N(TO-61)
TIP516	NPN	12	150	40	200	6	4	0.8	6		80	K(TO-3)
TIP518	NPN	12	150	40	200	6	4	0.8	6		80	N(TO-61)
TIP538	NPN	15	200	20	100	7.5	4	0.75	7.5		125	K(TO-3)
TIP531	NPN	15	300	20	120	7.5	4	1.5	15		150	K(TO-3)
TIP533	NPN	15	300	20	120	7.5	4	1.5	15		150	P(TO-63)
TIP540	NPN	15	400	20	100	7.5	4	0.75	7.5		125	K(TO-3)
TIP532	NPN	15	400	20	120	7.5	4	1.5	15		150	K(TO-3)
TIP534	NPN	15	400	20	120	7.5	4	1.5	15		150	P(TO-63)

†Radiation tolerant ¶T_C=50°C #T_C=55°C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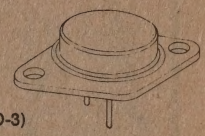
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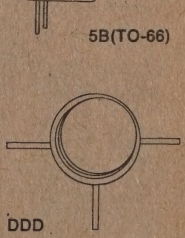
PPP(TO-39)

5B(TO-66)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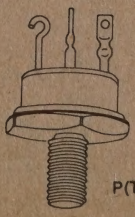
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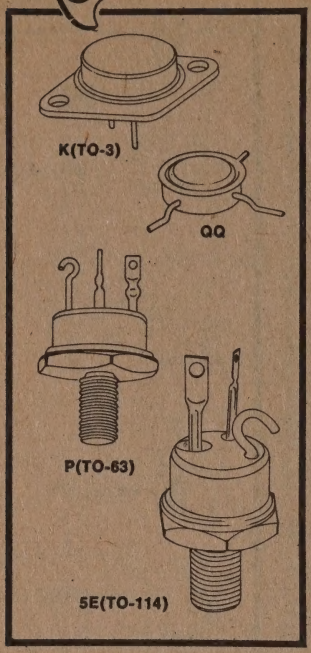


HIGH-RELIABILITY SILICON POWER TRANSISTORS (Cont.)

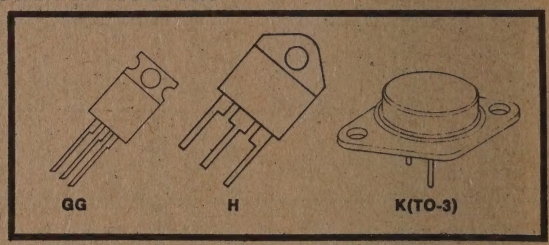
Device Type	Polarity	I_C Continuous	V_{CEO}	h_{FE}		@ I_C	V_{CE}	$V_{CE(sat)}$ MAX @ I_C		P_T T_C = 25°C	P_T T_C = 100°C	Package
		A	V	MIN	MAX	A	V	V	A	W	W	
2N1936	NPN	20	60	10	50	10	3	0.75	10		150	P(TO-63)
2N5039	NPN	20	75	20	100	10	5	2.5	20	140	80	K(TO-3)
2N1937	NPN	20	80	10	50	10	3	0.75	10		150	P(TO-63)
2N5303	NPN	20	80	15	60	10	2	1.5	15	200	114	K(TO-3)
2N4004	NPN	20	80	30	150	10	4	1	20		40	QQ
2N5038	NPN	20	90	20	100	12	5	2.5	20	140	80	K(TO-3)
2N4005	NPN	20	100	30	150	10	4	1	20		40	QQ
2N3846	NPN	20	200	10	60	10	3	0.75	10		150	P(TO-63)
2N3847	NPN	20	300	10	60	10	3	0.75	10		150	P(TO-63)
2N3263	NPN	25	60	20	55	15	2	1	20	83.3	66.7	QQ
2N3265	NPN	25	60	20	55	15	2	1	20	125	100	P(TO-63)
2N3264	NPN	25	90	20	80	15	3	1.6	20	83.3	66.7	QQ
2N3266	NPN	25	90	20	80	15	3	1.6	20	125	100	P(TO-63)
2N4398	PNP	30	40	15	60	15	4	1	15	200	114	K(TO-3)
2N5301	NPN	30	40	15	60	15	2	2	20	200	114	K(TO-3)
2N4399	PNP	30	60	15	60	15	4	1	15	200	114	K(TO-3)
2N5302	NPN	30	60	15	60	15	2	2	20	200	114	K(TO-3)
2N4002	NPN	30	80	20	80	15	4	1.2	30		100	P(TO-63)
2N6270	NPN	30	80	20	100	15	4	1	15		150	K(TO-3)
2N6272	NPN	30	80	20	100	15	4	1	15		150	P(TO-63)
2N4003	NPN	30	100	20	80	15	4	1.2	30		100	P(TO-63)
2N6271	NPN	30	100	20	100	15	4	1	15		150	K(TO-3)
2N6273	NPN	30	100	20	100	15	4	1	15		250	P(TO-63)
2N6322	NPN	30	200	40	150	5	5	1.5	20		200	K(TO-3)
2N6323	NPN	30	200	40	150	5	5	1.5	20		200	P(TO-63)
2N6324	NPN	30	300	30	150	5	5	1.5	20		200	K(TO-3)
2N6325	NPN	30	300	30	150	5	5	1.5	20		200	P(TO-63)
2N5685	NPN	50	60	15	60	25	2	1	25	300	171	K(TO-3)
2N5683	PNP	50	60	15	60	25	2	1	25	300	171	K(TO-3)
2N5684	PNP	50	80	15	60	25	2	1	25	300	171	K(TO-3)
2N5686	NPN	50	80	15	60	25	2	1	25	300	171	K(TO-3)

ECONOMY SILICON POWER TRANSISTORS

POWER DARLINGTONS

Type No.		I_C	V_{CEO}	h_{FE}	I_C V_{CE}		$V_{CE(sat)}$	I_C	I_B	P_T†	Package
NPN	PNP	A	V	MIN	A	V	MAX V	A	mA	W	
TIP110	TIP115	2	60	1000	1	4	2.5	2	8	50	
TIP111	TIP116	2	80	1000	1	4	2.5	2	8	50	
TIP112	TIP117	2	100	1000	1	4	2.5	2	8	50	GG
TIP120	TIP125	5	60	1000	3	3	2	3	12	65	
TIP121	TIP126	5	80	1000	3	3	2	3	12	65	
TIP122	TIP127	5	100	1000	3	3	2	3	12	65	
TIP140	TIP145	10	60	1000	5	4	2	5	10	125	
TIP141	TIP146	10	80	1000	5	4	2	5	10	125	H
TIP142	TIP147	10	100	1000	5	4	2	5	10	125	
TIP640	TIP645	10	60	1000	5	4	2	5	10	175	K
TIP641	TIP646	10	80	1000	5	4	2	5	10	175	(TO-3)
TIP642	TIP647	10	100	1000	5	4	2	5	10	175	

†T_C = 25°C



POWER TRANSISTORS IN HERMETIC CASES

Type No.		I_C Continuous	V_{CEO}	h_{FE}		@ I_C	V_{CE}	$V_{CE(sat)}$ Max @ I_C		P_T 25°C	Package
				Min	Max						
NPN	PNP	A	V			A	V	V	A	W	
2N5067	2N4901	5	40	20	80	1	2	1.5	5	87.5	
2N5068	2N4902	5	60	20	80	1	2	1.5	5	87.5	
2N5069	2N4903	5	80	20	80	1	2	1.5	5	87.5	
2N4913	2N4904	5	40	25	100	2.5	2	1.5	5	87.5	
2N4914	2N4905	5	60	25	100	2.5	2	1.5	5	87.5	
2N4915	2N4906	5	80	25	100	2.5	2	1.5	5	87.5	
2N5869	2N5867	5	60	20	100	1.5	4	2	3	87.5	
2N5870	2N5868	5	80	20	100	1.5	4	2	3	87.5	
2N5873	2N5871	7	60	20	100	2.5	4	2	5	115	
2N5874	2N5872	7	80	20	100	2.5	4	2	5	115	
2N5877	2N5875	10	60	20	100	4	4	3	8	150	
2N5878	2N5876	10	80	20	100	4	4	3	8	150	
2N3713	2N3789	10	60	25	75	1	2	4	10	150	K
2N3714	2N3790	10	80	25	75	1	2	4	10	150	(TO-3)
2N3715	2N3791	10	60	50	150	1	2	4	10	150	
2N3716	2N3792	10	80	50	150	1	2	4	10	150	
2N3055		15	60	20	70	4	4	8	10	115	
2N5881	2N5879	15	60	20	100	6	4	4	12	160	
2N5882	2N5880	15	80	20	100	6	4	4	12	160	
2N5885	2N5883	25	60	20	100	10	4	4	20	200	
2N5886	2N5884	25	80	20	100	10	4	4	20	200	
2N6326	2N6329	30	60	12		15	4	3	30	200	
2N6327	2N6330	30	80	12		15	4	3	30	200	
2N6328	2N6331	30	100	12		15	4	3	30	200	
2N3771		30	40	15	60	15	4	4	30	150	
2N3772		20	60	15	60	10	4	4	20	150	

PLASTIC SINGLE-DIFFUSED SILICON POWER TRANSISTORS

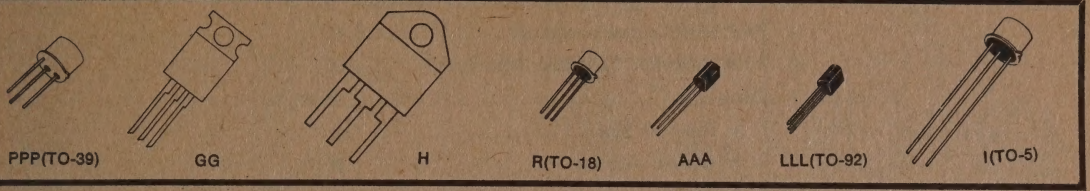
Type No.		I_C Continuous	V_{CEO}	h_{FE}		@ I_C	V_{CE}	$V_{CE(sat)}$ Max @ I_C		P_T 25°C	Package
				Min	Max						
NPN	PNP	A	V			A	V	V	A	W	
TIP29	TIP30	1	40	15	75	1	4	0.7	1	30	
TIP29A	TIP30A	1	60	15	75	1	4	0.7	1	30	
TIP29B	TIP30B	1	80	15	75	1	4	0.7	1	30	
TIP29C	TIP30C	1	100	15	75	1	4	0.7	1	30	
TIP31	TIP32	3	40	10	50	3	4	1.2	3	40	
TIP31A	TIP32A	3	60	10	50	3	4	1.2	3	40	GG
TIP31B	TIP32B	3	80	10	50	3	4	1.2	3	40	
TIP31C	TIP32C	3	100	10	50	3	4	1.2	3	40	
TIP41	TIP42	6	40	15	75	3	4	1.5	6	65	
TIP41A	TIP42A	6	60	15	75	3	4	1.5	6	65	
TIP41B	TIP42B	6	80	15	75	3	4	1.5	6	65	
TIP41C	TIP42C	6	100	15	75	3	4	1.5	6	65	
TIP3055	TIP2955	15	60	20	70	4	4	3	10	90	
TIP33	TIP34	10	40	20	100	3	4	4	10	80	
TIP33A	TIP34A	10	60	20	100	3	4	4	10	80	
TIP33B	TIP34B	10	80	20	100	3	4	4	10	80	
TIP33C	TIP34C	10	100	20	100	3	4	4	10	80	H
TIP35	TIP36	25	40	10	50	15	4	4	25	125	
TIP35A	TIP36A	25	60	10	50	15	4	4	25	125	
TIP35B	TIP36B	25	80	10	50	15	4	4	25	125	
TIP35C	TIP36C	25	100	10	50	15	4	4	25	125	

PLASTIC HIGH-VOLTAGE POWER TRANSISTORS

TIP47		1	250	30	150	0.3	10	1	1	40	
TIP48		1	300	30	150	0.3	10	1	1	40	
TIP49		1	350	30	150	0.3	10	1	1	40	GG
TIP50		1	400	30	150	0.3	10	1	1	40	
TIP51		3	250	30	150	0.3	10	1.5	3	100	
TIP52		3	300	30	150	0.3	10	1.5	3	100	H
TIP53		3	350	30	150	0.3	10	1.5	3	100	
TIP54		3	400	30	150	0.3	10	1.5	3	100	

Texas Instruments Selection Guide

ECONOMY THYRISTORS



PLASTIC TRIACS

TYPE NO.	$I_{T(RMS)}$	V_{DRM}	I_{TSM}	I_{GT} MAX I, II, III†	I_{GT} MAX IV†	V_{GT} MAX I, II, III†	V_{GT} MAX IV	V_{TM} MAX @	I_{TM}	I_H MAX	PACKAGE
	A	V	A	mA	mA	V	V	V	A	mA	
TIC205A	2	100	20	5	10	2	2	1.9	2.8	30	PPP (TO-39)
TIC205B	2	200	20	5	10	2	2	1.9	2.8	30	
TIC205D	2	400	20	5	10	2	2	1.9	2.8	30	
TIC206A	3	100	20	5	10	2	2	2.2	4.2	30	GG
TIC206B	3	200	20	5	10	2	2	2.2	4.2	30	
TIC206D	3	400	20	5	10	2	2	2.2	4.2	30	
TIC215A	3	100	20	5	10	2.2	3	2	4.2	30	PPP (TO-39)
TIC215B	3	200	20	5	10	2.2	3	2	4.2	30	
TIC215D	3	400	20	5	10	2.2	3	2	4.2	30	
TIC216A	6	100	60	5	10	2.2	3	1.7	8.4	30	GG
TIC216B	6	200	60	5	10	2.2	3	1.7	8.4	30	
TIC216D	6	400	60	5	10	2.2	3	1.7	8.4	30	
TIC226B	8	200	70	50		2.5		2.1	12	60	GG
TIC226D	8	400	70	50		2.5		2.1	12	60	
TIC236B	12	200	100	50		2.5		2.1	17	50	GG
TIC236D	12	400	100	50		2.5		2.1	17	50	
TIC246B	16	200	125	50		2.5		1.7	22.5	50	GG
TIC246D	16	400	125	50		2.5		1.7	22.5	50	
TIC253B	20	200	150	50		2.5		1.7	28.2	50	H
TIC253D	20	400	150	50		2.5		1.7	28.2	50	
TIC253E	20	500	150	50		2.5		1.7	28.2	50	
TIC253M	20	600	150	50		2.5		1.7	28.2	50	
TIC263B	25	200	175	50		2.5		1.7	35.2	50	H
TIC263D	25	400	175	50		2.5		1.7	35.2	50	
TIC263E	25	500	175	50		2.5		1.7	35.2	50	
TIC263M	25	600	175	50		2.5		1.7	35.2	50	

†Roman numerals designate the VG, VS quadrants.

ECONOMY SCR'S

TYPE NO.	V_{DRM}	I_{TSM}	I_{GT} MAX	V_{GT} MAX	I_H MAX	V_T MAX @	I_T	PACKAGE
	V	A	mA	V	mA	V	A	
2N3001	30	6	0.02	0.7	3	1.2	0.35	R (TO-18)
2N3002	60	6	0.02	0.7	3	1.2	0.35	
2N3003	100	6	0.02	0.7	3	1.2	0.35	
2N3004	200	6	0.02	0.7	3	1.2	0.35	
2N3005	30	6	0.2	0.8	5	1.2	0.35	
2N3006	60	6	0.2	0.8	5	1.2	0.35	
2N3007	100	6	0.2	0.8	5	1.2	0.35	
2N3008	200	6	0.2	0.8	5	1.2	0.35	
TIC44	30	6	0.2	0.8	5	1.4	0.3	AAA
TIC45	60	6	0.2	0.8	5	1.4	0.3	
TIC46	100	6	0.2	0.8	5	1.4	0.3	
TIC47	200	6	0.2	0.8	5	1.4	0.3	
TIC60	30	6	0.2	0.8	5	1.7	1.2	LLL (TO-92)
TIC61	60	6	0.2	0.8	5	1.7	1.2	
TIC62	100	6	0.2	0.8	5	1.7	1.2	
TIC63	150	6	0.2	0.8	5	1.7	1.2	
TIC64	200	6	0.2	0.8	5	1.7	1.2	
2N5060	30	6	0.2	0.8	5	1.7	1.2	
2N5061	60	6	0.2	0.8	5	1.7	1.2	
2N5062	100	6	0.2	0.8	5	1.7	1.2	
2N5063	150	6	0.2	0.8	5	1.7	1.2	
2N5064	200	6	0.2	0.8	5	1.7	1.2	
2N1595	50	15	10	3	25	2	1	I (TO-5)
2N1596	100	15	10	3	25	2	1	
2N1597	200	15	10	3	25	2	1	
2N1598	300	15	10	3	25	2	1	
2N1599	400	15	10	3	25	2	1	
TI145A0	50	30	25	3.5	25	2	1	I (TO-5)
TI145A1	100	30	25	3.5	25	2	1	
TI145A2	200	30	25	3.5	25	2	1	
TI145A3	300	30	25	3.5	25	2	1	
TI145A4	400	30	25	3.5	25	2	1	
TIC39Y	30	20	0.2	1	5	1.75	2	PPP (TO-39)
TIC39F	50	20	0.2	1	5	1.75	2	
TIC39A	100	20	0.2	1	5	1.75	2	
TIC39B	200	20	0.2	1	5	1.75	2	
TIC39C	300	20	0.2	1	5	1.75	2	
TIC39D	400	20	0.2	1	5	1.75	2	

TYPE NO.	V_{DRM}	I_{TSM}	I_{GT} MAX	V_{GT} MAX	I_H MAX	V_T MAX @	I_T	PACKAGE
	V	A	mA	V	mA	V	A	
2N6332	30	20	0.2	0.7	5	1.75	2	PPP (TO-39)
2N6333	50	20	0.2	0.7	5	1.75	2	
2N6334	100	20	0.2	0.7	5	1.75	2	
2N6335	200	20	0.2	0.7	5	1.75	2	
2N6336	300	20	0.2	0.7	5	1.75	2	
2N6337	400	20	0.2	0.7	5	1.75	2	
TIC106Y	30	30	0.2	1	5	1.7	5	GG
TIC106F	50	30	0.2	1	5	1.7	5	
TIC106A	100	30	0.2	1	5	1.7	5	
TIC106B	200	30	0.2	1	5	1.7	5	
TIC106C	300	30	0.2	1	5	1.7	5	
TIC106D	400	30	0.2	1	5	1.7	5	
TIC116F	50	80	20	1.5	40	1.7	8	GG
TIC116A	100	80	20	1.5	40	1.7	8	
TIC116B	200	80	20	1.5	40	1.7	8	
TIC116C	300	80	20	1.5	40	1.7	8	
TIC116D	400	80	20	1.5	40	1.7	8	
TIC116E	500	80	20	1.5	40	1.7	8	
TIC116M	600	80	20	1.5	40	1.7	8	
TIC126F	50	100	20	1.5	40	1.4	12	GG
TIC126A	100	100	20	1.5	40	1.4	12	
TIC126B	200	100	20	1.5	40	1.4	12	
TIC126C	300	100	20	1.5	40	1.4	12	
TIC126D	400	100	20	1.5	40	1.4	12	
TIC126E	500	100	20	1.5	40	1.4	12	
TIC126M	600	100	20	1.5	40	1.4	12	

Make NEWARK Your One Stop Source For All Your Electronic Components And Accessories

RCA Product Selection Guide

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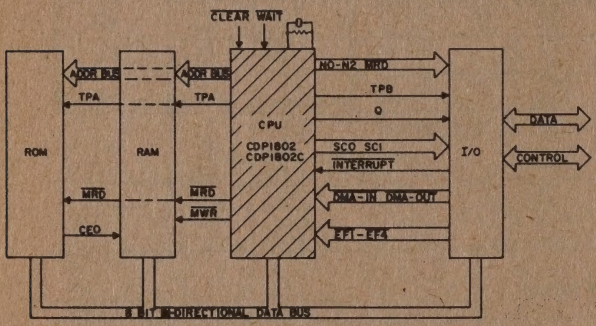
COSMAC Microprocessor — CDP1802

- Static silicon-gate CMOS circuitry—CD4000 series compatible
- Instruction fetch-execute time of 2.5/3.75 μs at V_{DD} = 10 V
- Compatible with CDP1801 software
- Full military-temperature range (−55 to +125°C)
- High noise immunity, wide operating-voltage range
- Single voltage supply
- No minimum clock frequency
- Low power
- TTL compatible
- Single-phase clock; optional on-chip crystal-controlled oscillator
- Simple control of reset, start, and pause
- 8-bit parallel organization with bidirectional data bus
- Any combination of standard RAM and ROM
- Memory addressing up to 65,536 bytes
- Flexible programmed I/O mode
- Program interrupt mode
- On-chip DMA
- Four I/O flag inputs directly tested by branch instructions
- Programmable output port
- 91 easy-to-use instructions
- 16 x 16 matrix of registers for use as multiple program counters, data pointers, or data registers



Typical CDP1802 Microprocessor System

The CDP1800 Series includes the complete family of 8-bit micro-processor CPUs featuring the COSMAC architecture, plus compatible memory and input/output interfacing support circuits.

ICs

CDP1802C	CPU
CDP1802	CPU
CDP1801C	CPU
CDP1801	CPU

ROMs*

CDP1831C	512 x 8 (COSMAC)
CDP1831	512 x 8 (COSMAC)
CDP1832C	512 x 8 (Standard)
CDP1832	512 x 8 (Standard)

Notes

Parts listed without suffixes are CMOS products with an operating range of 3 to 12 volts. A "C" suffix indicates a 4-to-6-volt operating range. An "S" suffix indicates silicon-on-sapphire (SOS) technology.

*Contact Newark for additional ordering information.

RAMs

CDP1821SC	1024 x 1
CDP1821S	1024 x 1
CDP1822SC	256 x 4
CDP1822S	256 x 4
CDP1824C	32 x 8
CDP1824	32 x 8

I/Os

CDP1852C	Byte I/O
CDP1852	Byte I/O
CDP1854C	UART
CDP1854	UART

Hardware Systems

CDP18S011	Microtutor
CDP18S020	Evaluation Kit (1802)
CDP18S001	Basic COSMAC Development System (CDS)
CDP18S002	Stand-Alone CDS
CDP18S004	Stand-Alone CDS with 1802 Emulator
CDP18S801	Floppy Disc

Software Systems

CDP18S900	CSDP Tape (1801)
CDP18S901	CSDP Deck (1801)
CDP18S910	CSDP II Tape (1802)
CDP18S911	CSDP II Deck (1802)

The CDP18S00 Series includes all the hardware and software support systems based on COSMAC microprocessors.

PC Cards

CDP18S101	1802 Emulator Card
CDP18S200	1K RAM Card
CDP18S201	4K RAM Card
CDP18S500	Monitor Card
CDP18S501	Byte I/O Card
CDP18S502	Extender Card
CDP18S400	512-Byte PROM Card

Support Literature

MPM-101	User Manual for the CDP1801 COSMAC Microprocessor
MPM-102	Program Development Guide for the CDP1801 COSMAC Microprocessor
MPM-109	Microtutor Instruction Manual
MPM-201	User Manual for the CDP1802 COSMAC Microprocessor
MPM-202	Program Deveopment Guide for the CDP1802 COSMAC Microprocessor on Time-Sharing Systems
MPM-203	CDP1802 Evaluation Kit Manual
MPM-204	CSDP II Installation Manual
MPM-208	Program Development and Operator's Guide for the COSMAC Development System

Product Selection Guide

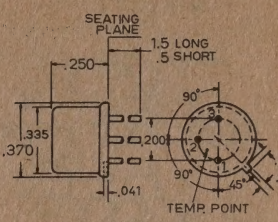
RCA

N-P-N SILICON POWER TRANSISTORS

Type No.	VCEO (sus) V	Current Gain hFE	IC A	VCE V	PT (Max.) W	IC (Max.) A	fT MHz	Sw. Times▲ tON μs	tf μs	Package	p-n-p Com-plement
IC (Max.) = 0.15 to 1 A, fT = 3 to 25 MHz											
40346	175	25 min.	0.010	10	10	1	15	—	—	TO-39	—
41505	200	20 min.	0.050	10	20	1	21	—	—	Plastic TO-5	—
2N3440	250	40-160	0.020	10	10	1	15	—	—	TO-39	2N5415
40412	250*	40 min.	0.030	20	10	1	15	—	—	TO-39	—
40321	300*	25-200	0.020	10	5	1	15	—	—	TO-39	—
2N3439	350	40-160	0.020	10	10	1	15	—	—	TO-39	2N5416
IC (Max.) = 1.5 to 2A, fT = 0.2 to 1.5 MHz											
2N1479	40	20-60	0.200	4	5	1.5	1.4	1.2	1	TO-39#	—
2N1481	40	35-100	0.200	4	5	1.5	1.4	1.2	1	TO-39#	—
40347	40	20-150	0.450	4	8.75	1.5	1.5	—	—	TO-39#	—
2N1480	55	20-60	0.200	4	5	1.5	1.4	1.2	1	TO-39#	—
2N1482	55	35-100	0.200	4	5	1.5	1.4	1.2	1	TO-39#	—
40348	65	10 min.	1	4	8.75	1.5	1.5	—	—	TO-39#	—
40349	140	10 min.	0.450	4	8.75	1.5	0.9	—	—	TO-39#	—
IC (Max.) = 2.5 to 5 A, fT = 0.2 to 1 MHz											
41504	35*	25 min.	1	4	36	4	0.8	—	—	TO-220AB	—
2N1483	40	20-60	0.750	4	25	3	0.8	1.2	1.1	TO-8	—
2N1485	40	35-100	0.750	4	25	3	0.8	1.2	1.1	TO-8	—
2N5786	40	20-100	1.6	2	10	3.5	1	5	15★	TO-39#	2N5783
2N5295	40	30-120	1	4	36	4	0.8	5	15★	TO-220AA	2N6108
2N5296	40	30-120	1	4	36	4	0.8	5	15★	TO-220AB	2N6109
2N6260	40	3 min.	4	2	29	3	0.8	—	—	TO-66	—
40250	40	25 min.	1.5	4	29	4	1	—	—	TO-66	2N5956
RCA29/SDH	40	15 min.	1	4	36	4	0.8	2.3	6★	TO-220AB	—
RCA31/SDH	40	25 min.	1	4	36	4	0.8	2.3	6★	TO-220AB	—
2N5785	50	20-100	1.2	2	10	3.5	1	5	15★	TO-39#	2N5782
2N1484	55	20-80	0.750	4	25	3	0.8	1.2	1.1	TO-8	—
2N1486	55	35-100	0.750	4	25	3	0.8	1.2	1.1	TO-8	—
2N3054	55	5 min.	3	4	25	4	0.8	—	—	TO-66	2N5955
RCA3054	55	5 min.	3	4	36	4	0.8	—	—	TO-220AB	—
BDY71	55	5 min.	3	4	29	4	0.8	—	—	TO-66	—
2N5297	60	20-80	1.5	4	36	4	0.8	5	15★	TO-220AA	2N6106
2N5298	60	20-80	1.5	4	36	4	0.8	5	15★	TO-220AB	2N6107
RCA29A/SDH	60	15 min.	1	4	36	4	0.8	2.3	6★	TO-220AB	—
RCA31A/SDH	60	25 min.	1	4	36	4	0.8	2.3	6★	TO-220AB	—
2N5784	65	20-100	1	2	10	3.5	1	5	15★	TO-39#	2N5781
2N5293	70	30-120	0.5	4	36	4	0.8	5	15★	TO-220AA	2N6106
2N5294	70	30-120	0.5	4	36	4	0.8	5	15★	TO-220AB	2N6107
2N6261	80	5 min.	4	2	50	4	0.8	—	—	TO-66	—
RCA29B/SDH	80	15 min.	4	4	36	4	0.8	2.3	6★	TO-220AB	—
RCA31B/SDH	80	25 min.	4	4	36	4	0.8	2.3	6★	TO-220AB	—

▲Measured at same current level as hFE unless otherwise indicated. ★tOFF.
#Also available in JEDEC TO-5 package. *VCER (sus).

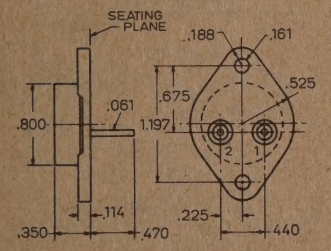
TO-39/TO-5



Symbol	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.	Notes
øa	0.190	0.210	4.83	5.33	
A	0.240	0.260	6.10	6.60	
øb	0.016	0.021	0.406	0.533	2
øb2	0.016	0.019	0.406	0.483	2
øD	0.350	0.370	8.89	9.40	
øD1	0.305	0.335	8.00	8.51	
h	0.009	0.041	0.229	1.04	
j	0.028	0.034	0.711	0.864	
k	0.029	0.040	0.737	1.02	3
L { long lead	1.500		38.10		2
L { short lead	0.500		12.70		2
l1		0.050		1.27	2
l2	0.250		6.35		2
P	0.100		2.54		1
Q					4
a	45° NOMINAL				
β	90° NOMINAL				

Note 1: This zone is controlled for automatic handling. The variation in actual diameter within this zone shall not exceed 0.010 in. (0.254 mm).
Note 2: (Three leads) Øb2 applies between l1 and l2. Øb applies between l2 and l. Diameter is uncontrolled in l1.
Note 3: Measured from maximum diameter of the actual device.
Note 4: Details of outline in this zone optional.

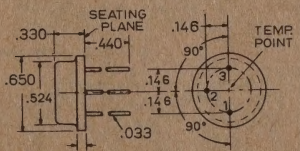
TO-3



Symbol	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.	Notes
A	0.250	0.450	6.35	11.43	
øb	0.038	0.043	0.97	1.09	2
øD		0.875		22.23	
e	0.420	0.440	10.67	11.18	
e1	0.205	0.225	5.21	5.72	
F		0.135		3.43	
1	0.312		7.92		2
øP	0.151	0.161	3.84	4.09	
q	1.177	1.197	29.90	30.40	
r1		0.525		13.34	
r2		0.188		4.78	
s	0.655	0.675	16.64	17.15	1

NOTES:
1. These dimensions should be measured at points 0.050 in. (1.27 mm) to 0.055 in. (1.40 mm) below seating plane. When gage is not used, measurement will be made at seating plane.
2. Two pins.

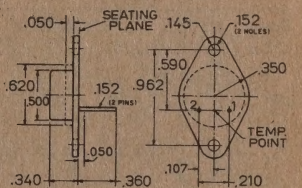
TO-8



Symbol	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.	Notes
A	0.270	0.330	6.86	8.38	—
øb	0.027	0.033	0.686	0.838	1
øD	0.550	0.650	13.97	16.51	—
øD1	0.444	0.524	11.28	13.31	—
e	0.136	0.146	3.45	3.71	—
F	—	0.115	—	2.92	—
λ	0.360	0.440	9.14	11.18	1
β	90 Nominal				

NOTE:
1. Three leads.

TO-66



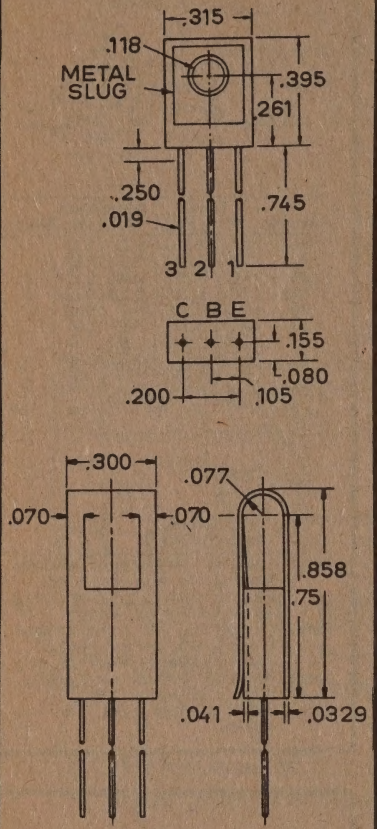
Symbol	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.
A	0.250	0.340	6.25	8.64
øb	0.028	0.034	0.711	0.863
øD	—	0.620	—	15.75
øD1	0.470	0.500	11.94	12.70
e	0.190	0.210	4.83	5.33
e1	0.093	0.107	2.36	2.72
F1	0.050	0.075	1.27	1.91
F2	—	0.050	—	1.27
L	0.360	—	9.14	—
L1	—	0.050	—	1.27
øP	0.142	0.152	3.61	3.86
q	0.958	0.962	24.33	24.43
R	—	0.350	—	8.89
R1	—	0.145	—	3.68
s	0.570	0.590	14.48	14.99

N-P-N SILICON POWER TRANSISTORS (Cont.)

Type No.	VCEO (sus) V	Current Gain hFE	IC A	VCE V	PT (Max.) W	IC (Max.) A	fT MHz	Sw. Times▲ tON μs	tf μs	Package	p-n-p Complement
IC (Max.) = 2.5 to 5 A, fT = 0.2 to 1 MHz											
RCA29C/SDH	100	15 min.	1	4	50	2.5	0.8	2.3	6★	TO-220AB	—
RCA31C/SDH	100	25 min.	1	4	50	2.5	0.8	2.3	6★	TO-220AB	—
2N6477	120	5 min.	2.5	4	50	2.5	0.2	—	—	TO-220AB	—
2N6263	120	3 min.	3	2	20	3	0.2	—	—	TO-66	2N6468
RCA6263	120	20-150	0.5	4	36	3	0.2	—	—	TO-220AB	—
2N4347	120	10 min.	5	4	100	5	0.2	—	—	TO-3	2N6248
2N6478	140	5 min.	2.5	4	50	2.5	0.2	—	—	TO-220AB	—
2N3441	140	5 min.	2.7	4	25	3	0.2	—	—	TO-66	2N6468
RCA3441	140	20-150	0.5	4	36	3	0.2	—	—	TO-220AB	—
2N6264	150	5 min.	3	2	50	3	0.2	—	—	TO-66	—
IC = 6 to 10 A, fT = 0.2 to 1 MHz											
2N1487	40	15-45	1.5	4	75	6	0.8	—	—	TO-3	—
2N1489	40	25-75	1.5	4	75	6	0.8	—	—	TO-3	—
2N5490	40	20-100	2	4	50	7	0.8	5	15★	TO-220AB	2N6109
2N5491	40	20-100	2	4	50	7	0.8	5	15★	TO-220AA	2N6108
2N5494	40	20-100	3	4	50	7	0.8	5	15★	TO-220AB	2N6109
2N5495	40	20-100	3	4	50	7	0.8	5	15★	TO-220AA	2N6108
BD278	45	15-75	4	4	75	10	0.8	—	—	TO-220AB	—
2N1488	55	15-45	1.5	4	75	6	0.8	—	—	TO-3	—
2N1490	55	25-75	1.5	4	75	6	0.8	—	—	TO-3	—
2N5492	55	20-100	2.5	4	50	7	0.8	5	15★	TO-220AB	2N6107
2N5493	55	20-100	2.5	4	50	7	0.8	5	15★	TO-220AA	2N6106
2N6098	60	5 min.	10	4	75	10	0.8	—	—	TO-220AA	—
2N6099	60	5 min.	10	4	75	10	0.8	—	—	TO-220AB	—
BD278A	60	15-75	4	4	75	10	0.8	—	—	TO-220AB	—
RCA41A/SDH	60	15 min.	3	4	75	10	0.8	3.2●	3.7★●	TO-220AB	—
2N5496	70	20-100	3.5	4	50	7	0.8	5	15★	TO-220AB	2N6107
2N5497	70	20-100	3.5	4	50	7	0.8	5	15★	TO-220AA	2N6106
2N6100	70	20-80	5	4	75	10	0.8	—	—	TO-220AA	—
2N6101	70	20-80	5	4	75	10	0.8	—	—	TO-220AB	—
RCA41B/SDH	80	15 min.	3	4	75	10	0.8	3.2●	3.7★●	TO-220AB	—
2N4348	120	10 min.	10	4	120	10	0.2	—	—	TO-3	2N6248
2N3442	140	7.5 min.	10	4	117	10	0.8	—	—	TO-3	—
2N6262	150	5 min.	10	2	150	10	0.8	—	—	TO-3	—
2N6078	250	12-70	1.2	1	45	7	1	0.32	0.3	TO-66	—
2N6077	275	12-70	1.2	1	45	7	1	0.32	0.3	TO-66	—
2N6079	350	12-50	1.2	1	45	7	1	0.32	0.3	TO-66	—
40851	350	12 min.	1.2	1	45	7	1	—	—	TO-66	—

▲Measured at same current level as hFF unless otherwise indicated ●At IC = 6A ★tOFF

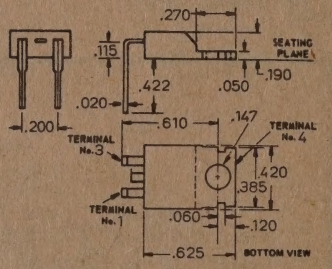
PLASTIC PACKAGES PLASTIC TO-5 AND PLASTIC TO-5 WITH HEAT CLIP



Symbol	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.	Notes
A	0.385	0.395	9.78	10.03	—
A1	0.251	0.261	6.37	6.63	—
φb	0.016	0.019	0.41	0.48	2
C	0.858		21.79		—
C1	0.750		19.05		—
D	0.305	0.315	7.75	8.00	—
D1	0.300		7.62		—
D2	0.070		1.77		—
D3	0.0329		0.813		—
D4	0.021	0.041	0.533	1.04	—
φd	0.073	0.077	1.85	1.95	—
E	0.145	0.155	3.68	3.94	—
e	0.195	0.205	4.95	5.21	—
e1	0.095	0.105	2.41	2.67	—
e2	0.070	0.080	1.78	2.03	—
l	0.725	0.745	18.41	18.91	—
l1	0.125	0.250	3.17	6.35	—
φp	0.112	0.118	2.84	2.99	—

NOTES:
1. To attach to heat-sink, use a 4-40 binding-head screw and a No. 4 flat washer. The recommended screw torque (for even distribution of mounting pressure and optimum thermal contact) is 6 in.-lb.
2. Three leads. Leads are pretinned to the l1 dimension.
3. Lead numbering from right to left with rectangular metal slug facing observer.
4. Tab to be sheared through and set inward as shown.

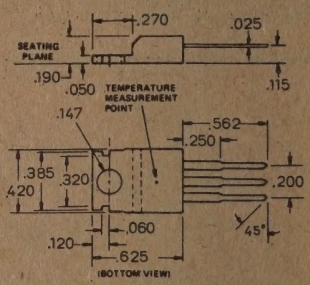
TO-220AA VERSAWATT



Symbol	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.	Notes
A	0.140	0.190	3.56	4.82	—
b	0.020	0.045	0.51	1.14	—
b1	0.045	0.070	1.14	1.77	—
c	0.015	0.025	0.38	0.63	—
D	0.560	0.625	14.23	15.87	—
E	0.380	0.420	9.66	10.66	1
E1	0.365	0.385	9.28	9.77	—
E2	0.300	0.320	7.62	8.12	—
e2	0.190	0.210	4.83	5.33	2
F	0.045	0.055	1.14	1.39	—
H1	0.230	0.270	5.85	6.85	1
J1	0.080	0.115	2.04	2.92	—
L2	—	0.050	—	1.27	—
L3	0.360	0.422	9.15	10.71	—
φP	0.139	0.147	3.531	3.733	—
Q	0.100	0.120	2.54	3.04	—
S	0.580	0.610	14.74	15.49	—
Z	0.040	0.060	1.02	1.52	—

NOTES:
1. Tab contour optional within H1 and E.
2. Position of lead to be measured 0.050 — 0.055 in. (1.270 — 1.397 mm) below seating plane.

TO-220AB VERSAWATT



Symbol	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.	Notes
A	0.140	0.190	3.56	4.82	—
b	0.020	0.045	0.51	1.14	—
b1	0.045	0.070	1.14	1.77	—
c	0.015	0.025	0.38	0.63	—
D	0.560	0.625	14.23	15.87	—
E	0.380	0.420	9.66	10.66	1
E1	0.365	0.385	9.28	9.77	—
E2	0.300	0.320	7.62	8.12	—
e	0.090	0.110	2.29	2.79	2
e1	0.190	0.210	4.83	5.33	2
F	0.045	0.055	1.14	1.39	—
H1	0.230	0.270	5.85	6.85	1
J1	0.080	0.115	2.04	2.92	—
L	0.500	0.562	12.70	14.27	—
L1	—	0.250	—	6.35	—
φP	0.139	0.147	3.531	3.733	—
Q	0.100	0.120	2.54	3.04	—
Z	0.040	0.060	1.02	1.52	—

NOTES:
1. Tab contour optional within H1 and E.
2. Position of lead to be measured 0.250 — 0.255 in. (6.350 — 6.477 mm) from case.

Product Selection Guide

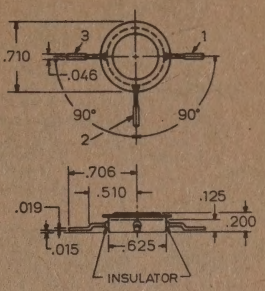
RCA

N-P-N SILICON POWER TRANSISTORS (Cont.)

Type No.	VCEO (sus) V	Current Gain hFE	IC A	VCE V	PT Max. W	IC Max. A	fT MHz	Sw. Times▲ tON μs	tf μs	Package	p-n-p Complement
IC = 6 to 10 A, fT = 50 to 100 MHz											
2N3879	75	12-100	4	2	35	7	60	0.44	0.4	TO-66	—
2N6354	120	2 min.	10	2	140	10	80	1@	0.2	TO-3	—
IC = 12 to 20 A, fT = 0.2 to 1 MHz											
2N6102	40	5 min.	16	4	75	16	0.8	—	—	TO-220AA	—
2N6103	40	5 min.	16	4	75	16	0.8	—	—	TO-220AB	—
2N6257	40	5 min.	20	4	150	20	0.2	—	—	TO-3	—
2N6371	40	4 min.	16	4	117	16	0.8	—	—	TO-3	2N6469
RCA41/SDH	40	15 min.	3	4	75	16	0.8	3.23@	3.7★●	TO-220AB	—
2N6253	45	3 min.	15	4	115	15	0.8	—	—	TO-3	—
BD142	45	12.5-160	4	4	117	15	0.8	—	—	TO-3	—
BD181	45	20-70	3	4	117	15	0.8	—	—	TO-3	—
2N3055	60	5 min.	10	4	115	15	0.8	—	—	TO-3	2N6246
2N3772	60	5 min.	20	4	150	20	0.2	—	—	TO-3	2N6246
BD182	60	20-70	4	4	117	15	0.8	—	—	TO-3	—
RCA3055	60	5 min.	10	4	75	15	0.8	—	—	TO-220AB	—
RCS258	60	5 min.	20	4	250	20	0.2	—	—	TO-3	—
40363	70*	20-70	4	4	115	15	0.7	—	—	TO-3	—
2N6254	80	5 min.	15	4	150	15	0.8	—	—	TO-3	—
IC = 25 to 50 A, fT = 0.2 to 1 MHz											
2N3771	40	5 min.	30	4	150	30	0.2	—	—	TO-3	—
BDY29	75	15-60	15	2	220	30	0.2	—	—	TO-3	—
IC = 25 to 50 A, fT = 2.5 to 25 MHz											
2N3264	60	20-80	15	3	125	25	20	0.5	0.5	Radial	—
2N3266	60	20-80	15	3	125	25	20	0.5	0.5	TO-63	—
2N3263	90	25-75	15	3	125	25	20	0.5	0.5	Radial	—
2N3265	90	25-75	15	3	125	25	20	0.5	0.5	TO-63	—
IC = 25 to 50 A, fT = 50 to 100 MHz											
2N6032	90	10-50	50	2.6	140	50	50	1@	0.5	Mod. TO-3	—
2N5671	90	20-100	15	2	140	30	50	0.5	0.5	TO-3	—
2N6033	120	10-50	40	2	140	40	50	1@	0.5	Mod. TO-3	—
2N5672	120	20-100	15	2	140	30	50	0.5	0.5	TO-3	—
IC ≥ 60 A, fT = 0.4 MHz											
2N5575	50	10-40	60	4	300	80	0.4	15	15	Mod. TO-3	—
2N5578	70	10-40	40	3	300	60	0.4	15	15	Mod. TO-3	—

▲Measured at same current level as hFE unless otherwise indicated.
●At IC = 6A @ tr ★tOFF.

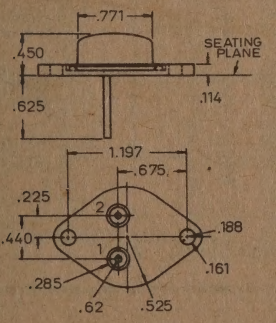
RADIAL PACKAGE



Symbol	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.	Notes
A	—	0.200	—	5.08	—
A1	—	0.126	—	3.17	1
C	0.015	0.019	0.38	0.48	—
C1	—	0.015	—	0.38	—
ϕD	—	0.710	—	18.03	—
ϕD1	0.615	0.690	15.62	17.52	1
d	0.042	0.046	1.06	1.16	—
L	—	0.706	—	17.90	—
L1	—	0.510	—	12.95	—
a1	90°	± 2°	90°	± 2°	—

NOTE:
1. Controlled area of the diameter does not include the brazed area around the ceramic and terminal 2.

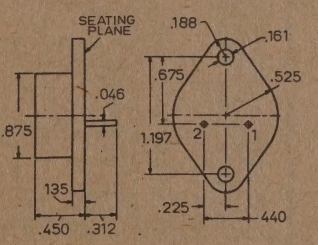
MODIFIED TO-3 (2N6032, 2N6033)



Symbol	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.	Notes
A	0.416	0.450	10.57	11.43	—
ϕb	0.059	0.62	1.499	1.575	—
ϕD	0.750	0.771	19.05	19.583	—
e	0.420	0.440	10.67	11.18	—
e1	0.205	0.225	5.21	5.72	—
F	0.100	0.114	2.54	2.89	—
L	0.595	0.625	15.12	15.87	1
ϕp	0.151	0.161	3.84	4.09	—
ϕp1	0.200	0.285	5.08	7.239	2
q	1.177	1.197	29.90	30.40	—
r1	—	0.525	—	13.34	—
r2	—	0.188	—	4.78	—
s	0.655	0.675	16.64	17.15	—

NOTES:
1. Two pins.
2. Clearance holes for both pins should be 0.285 in. (7.24 mm) min. dia.

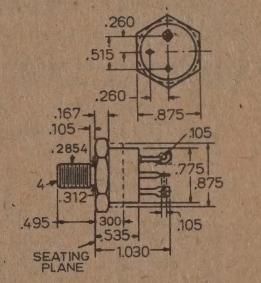
TO-3



Symbol	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.	Notes
A	0.250	0.450	6.35	11.43	—
ϕb	0.038	0.043	0.97	1.09	2
ϕD	—	0.875	—	22.23	—
e	0.420	0.440	10.67	11.18	—
e1	0.205	0.225	5.21	5.72	—
F	—	0.135	—	3.43	—
l	0.312	—	7.92	—	2
ϕP	0.151	0.161	3.84	4.09	—
q	1.177	1.197	29.90	30.40	—
r1	—	0.525	—	13.34	—
r2	—	0.188	—	4.78	—
s	0.655	0.675	16.64	17.15	1

NOTES:
1. These dimensions should be measured at points 0.050 in. (1.27 mm) to 0.055 in. (1.40 mm) below seating plane. When gage is not used, measurement will be made at seating plane.
2. Two pins.

TO-63



Symbol	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.	Notes
A	0.480	0.535	12.19	13.59	—
A1	—	0.300	—	7.62	2
ϕD	0.775	0.875	19.69	22.23	2
ϕD1	0.745	0.775	18.92	19.69	—
E	0.855	0.875	21.72	22.23	—
e	0.485	0.515	12.32	13.08	5
e1	0.240	0.260	6.10	6.60	5
F	0.090	0.167	2.29	4.24	1
J	0.937	1.030	23.80	26.16	—
ϕM	0.278	0.312	7.06	7.92	—
N	0.460	0.495	11.68	12.57	—
N1	—	0.105	—	2.67	—
ϕt	0.060	0.105	1.52	2.67	—
ϕt1	0.060	0.105	1.52	2.67	4
ϕW	0.2806	0.2854	7.127	7.249	3

NOTES:
1. Dimension does not include sealing flanges.
2. Package contour optional within dimensions specified.
3. Pitch Diameter—Thread 5/16-24 UNF-2A (coated). Reference (screw thread standards for federal services—Handbook H-2B).
4. This terminal can be flattened and pierced or hook type.
5. Position of leads in relation to the hexagon is not controlled.

RCA Product Selection Guide

P-N-P SILICON POWER TRANSISTORS

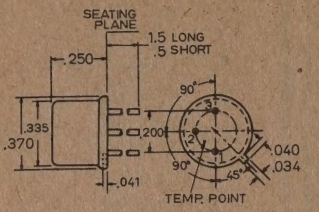
Type No.	VCEO (sus) V	Current Gain hFE	IC A	VCE V	PT (Max.) W	IC (Max.) A	fT MHz	Sw. Times▲ tON μs	tf μs	Package	n-p-n Complement
IC = −0.15 to −1A, fT = 50 to 100 MHz											
41503	−30	20 min.	−0.150	−10	7	−1	60	—	—	TO-39	41502
2N4037	−40	50-250	−0.150	−10	7	−1	60	—	—	TO-39	2N3053
2N4036	−65	40-140	−0.150	−10	7	−1	60	0.11	0.1	TO-39	2N2102
2N4314	−65	50-250	−0.150	−10	7	−1	60	—	—	TO-39	—
IC = −2.5 to −5 A, fT = 2.5 to 25 MHz											
2N5783	−40	4 min.	−3.2	−2	10	−3.5	8	0.5	2.5★	TO-39#	2N5786
RCA30	−40	15-150	−1	−4	30	−3	3	0.2	1★	TO-220AB	RCA29
RCA32	−40	25 min.	−1	−4	40	−5	3	0.2	1★	TO-220AB	RCA31
RCS30	−40	15-150	−1	−4	30	−3	3	0.2	1★	TO-66	RCS29
RCS32	−40	25 min.	−1	−4	40	−5	3	0.2	1★	TO-66	RCS31
BD240	−45	15 min.	−1	−4	30	−4	3	—	—	TO-220AB	BD239
BD242	−45	25 min.	−1	−4	40	−5	3	—	—	TO-220AB	BD241
2N5782	−50	4 min.	−3.2	−4	10	−3.5	8	0.5	2.5★	TO-39#	2N5785
BD240A	−60	15 min.	−1	−4	30	−4	3	—	—	TO-220AB	BD239A
BD242A	−60	10 min.	−3	−4	40	−5	3	—	—	TO-220AB	BD241A
RCA30A	−60	15-150	−1	−4	30	−5	3	0.2	1★	TO-220AB	RCA29A
RCA32A	−60	25 min.	−1	−4	40	−5	3	0.2	1★	TO-220AB	RCA31A
RCS30A	−60	15-150	−1	−4	30	−3	3	0.2	1★	TO-66	RCS29A
RCS32A	−60	25 min.	−1	−4	40	−5	3	0.2	1★	TO-66	RCS31A
2N5781	−65	20-100	−1	−2	10	−3.5	8	0.5	2.5★	TO-39#	2N5784
BD240B	−80	15 min.	−1	−4	30	−4	3	—	—	TO-220AB	BD239B
BD242B	−80	25 min.	−1	−4	40	−5	3	—	—	TO-220AB	BD241B
RCA30B	−80	15-150	−1	−4	30	−3	3	0.2	1★	TO-220AB	RCA29B
RCA32B	−80	25 min.	−1	−4	40	−5	3	0.2	1★	TO-220AB	RCA31B
RCS30B	−80	15-150	−1	−4	30	−3	3	0.2	1★	TO-220AB	RCS29B
RCS32B	−80	25 min.	−1	−4	40	−5	3	0.2	1★	TO-66	RCS31B
2N6467	−100	5 min.	−4	−4	40	−4	5	—	—	TO-66	2N6465
2N6475	−100	2 min.	−2.5	−4	40	−4	10	—	—	TO-220AB	2N6473
BD240C	−100	15 min.	−1	−4	30	−4	3	—	—	TO-220AB	BD239C
BD242C	−100	10 min.	−3	−4	40	−5	3	—	—	TO-220AB	BD241C
IC = −2.5 to −5 A, fT = 2.5 to 25 MHz											
RCA30C	−100	15-150	−1	−4	30	−3	3	0.2	1★	TO-220AB	RCA29C
RCA32C	−100	25 min.	−1	−4	40	−5	3	0.2	1★	TO-220AB	RCA31C
RCS30C	−100	15-150	−1	−4	30	−3	3	0.2	1★	TO-66	RCS29C
RCS32C	−100	25 min.	−1	−4	40	−5	3	0.2	1★	TO-66	RCS31C
2N6468	−120	5 min.	−4	−4	40	−4	5	—	—	TO-66	2N6466
2N6476	−120	2 min.	−4	−2.5	40	−4	10	—	—	TO-220AB	2N6474

N-P-N MONOLITHIC DARLINGTON TRANSISTORS

Type No.	VCEO (sus) V	hFE	IC A	VCE V	PT (Max.) W	IC (Max.) A	fT MHz	Sw. Times▲ tON μs	tf μs	Package	n-p-n Complement
IC(Max.) = 10 A											
2N6383	40	1000-20,000	5	3	100	10	20	—	—	TO-3	RCA8350
2N6386	40	1000-10,000	3	3	65	10	20	—	—	TO-220AB	RCA8203
BDX33	45	750 min.	4	3	70	10	20	—	—	TO-220AB	BDX34
BDX83	45	1000 min.	5	3	125	10	20	—	—	TO-3	—
2N6384	60	1000-20,000	5	3	100	10	20	—	—	TO-3	RCA8350A
2N6387	60	1000-20,000	5	3	65	10	20	—	—	TO-220AB	RCA8203A
BDX33A	60	750 min.	4	3	70	10	20	—	—	TO-220AB	BDX34A
BDX83A	60	1000 min.	5	3	125	10	20	—	—	TO-3	—
2N6385	80	1000-20,000	5	3	100	10	20	—	—	TO-3	RCA8350B
2N6388	80	1000-20,000	5	3	65	10	20	—	—	TO-220AB	RCA8203B
BDX33B	80	750 min.	3	3	70	10	20	—	—	TO-220AB	RDX34B
BDX83B	80	1000 min.	5	3	125	10	20	—	—	TO-3	—
BDX33C	100	750 min.	3	3	70	10	20	—	—	TO-220AB	BDX34C
BDX83C	100	1000 min.	5	3	125	10	20	—	—	TO-3	—
BDX33D	120	750 min.	3	3	70	10	20	—	—	TO-220AB	—

▲Measured at same current level as hFE unless otherwise indicated. ★tOFF

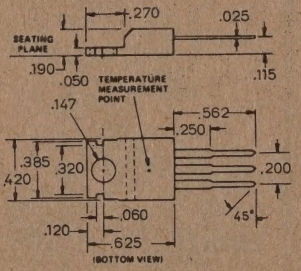
TO-39/TO-5



Symbol	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.	Notes
øa	0.190	0.210	4.83	5.33	—
A	0.240	0.260	6.10	6.60	—
øb	0.016	0.021	0.406	0.533	2
øb2	0.016	0.019	0.406	0.483	2
øD	0.350	0.370	8.89	9.40	—
øD1	0.305	0.335	8.00	8.51	—
h	0.009	0.041	0.229	1.04	—
j	0.028	0.034	0.711	0.864	—
k	0.029	0.040	0.737	1.02	3
L (long lead)	1.500	—	38.10	—	2
L (short lead)	0.500	—	12.70	—	2
l1	—	0.050	—	1.27	2
l2	0.250	—	6.35	—	2
P	0.100	—	2.54	—	1
Q	—	—	—	—	4
α	45° Nominal				
β	90° Nominal				

NOTES:
1. This zone is controlled for automatic handling. The variation in actual diameter within this zone shall not exceed 0.010 in. (0.254 mm).
2. (Three leads) øb2 applies between l1 and l2. øb applies between l2 and l. Diameter is uncontrolled in l1.
3. Measured from maximum diameter of the actual device.
4. Details of outline in this zone optional.

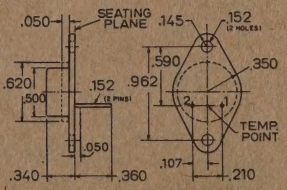
TO-220AB VERSAWATT



Symbol	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.	Notes
A	0.140	0.190	3.56	4.82	—
b	0.020	0.045	0.51	1.14	—
b1	0.045	0.070	1.14	1.77	—
c	0.015	0.025	0.38	0.63	—
D	0.560	0.625	14.23	15.87	—
E	0.380	0.420	9.66	10.66	1
E1	0.365	0.385	9.28	9.77	—
E2	0.300	0.320	7.62	8.12	—
e	0.090	0.110	2.29	2.79	2
e1	0.190	0.210	4.83	5.33	2
F	0.045	0.055	1.14	1.39	—
H1	0.230	0.270	5.85	6.85	1
J1	0.080	0.115	2.04	2.92	—
L	0.500	0.562	12.70	14.27	—
L1	—	0.250	—	6.35	—
øP	0.139	0.147	3.531	3.733	—
Q	0.100	0.120	2.54	3.04	—
Z	0.040	0.060	1.02	1.52	—

NOTES:
1. Tab contour optional within H1 and E.
2. Position of lead to be measured 0.250—0.255 in. (6.350—6.477 mm) from case.

TO-66



Symbol	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.
A	0.250	0.340	6.35	8.64
øb	0.028	0.034	0.711	0.863
øD	—	0.620	—	15.75
øD1	0.470	0.500	11.94	12.70
e	0.190	0.210	4.83	5.33
e1	0.093	0.107	2.36	2.72
F1	0.050	0.075	1.27	1.91
F2	—	0.050	—	1.27
L	0.360	—	9.14	—
L1	—	0.050	—	1.27
øp	0.142	0.152	3.61	3.86
q	0.958	0.962	24.33	24.43
R	—	0.350	—	8.89
R1	—	0.145	—	3.68
s	0.570	0.590	14.48	14.99

Product Selection Guide

RCA

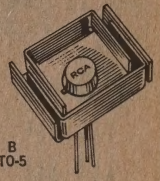
SENSITIVE-GATE TRIACS

RCA TYPE	Current IT (RMS) A	ITSM A	Temp. TC °C	Case	Voltage VDROM V	Temp. Range Operating °C	Max. Gate Trigger Current IGT-mA Modes I+	III−	I−	III+	Critical Rate of Rise of: Commutation Voltage dv/dt-V/μs Min.	Typ.	TC-°C	Off-State Voltage dv/dt-V/μs Min.	Typ.	TC-°C	Thermal Resistance RθJC °C/W
T23 types																	
T2300A	2.5	25	60	A	100	-40 to 90	3	3	3	3	0.5	—	90	3	5	90	8.5
T2300B	2.5	25	60	A	200	-40 to 90	3	3	3	3	0.5	—	90	3	5	90	8.5
T2300D	2.5	25	60	A	400	-40 to 90	3	3	3	3	0.5	—	90	3	5	90	8.5
T2301A	2.5	25	60	A	100	-40 to 90	4	4	4	4	0.5	—	90	3	5	90	8.5
T2301B	2.5	25	60	A	200	-40 to 90	4	4	4	4	0.5	—	90	3	5	90	8.5
T2301D	2.5	25	60	A	400	-40 to 90	4	4	4	4	0.5	—	90	3	5	90	8.5
T2302A	2.5	25	70	A	100	-40 to 100	10	10	10	10	0.5	—	100	6	10	100	8.5
T2302B	2.5	25	70	A	200	-40 to 100	10	10	10	10	0.5	—	100	6	10	100	8.5
T2302D	2.5	25	70	A	400	-40 to 100	10	10	10	10	0.5	—	100	6	10	100	8.5
T2310A	1.6	25	25●	B	100	-40 to 90	3	3	3	3	0.5	—	90	3	5	90	35▲
T2310B	1.6	25	25●	B	200	-40 to 90	3	3	3	3	0.5	—	90	3	5	90	35▲
T2310D	1.6	25	25●	B	400	-40 to 90	3	3	3	3	0.5	—	90	3	5	90	35▲
T2311A	1.6	25	25●	B	100	-40 to 90	4	4	4	4	0.5	—	90	3	5	90	35▲
T2311B	1.6	25	25●	B	200	-40 to 90	4	4	4	4	0.5	—	90	3	5	90	35▲
T2311D	1.6	25	25●	B	400	-40 to 90	4	4	4	4	0.5	—	90	3	5	90	35▲
T2312A	1.9	25	25●	B	100	-40 to 100	10	10	10	10	0.5	—	100	6	10	100	35▲
T2312B	1.9	25	25●	B	200	-40 to 100	10	10	10	10	0.5	—	100	6	10	100	35▲
T2312D	1.9	25	25●	B	400	-40 to 100	10	10	10	10	0.5	—	100	6	10	100	35▲

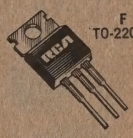
GENERAL-PURPOSE TRIACS

T23 types																	
2N5754	2.5	25	70	A	100	-65 to 100	25	25	40	40	0.5	—	70	10	100	100	8.5
2N5755	2.5	25	70	A	200	-65 to 100	25	25	40	40	0.5	—	70	10	100	100	8.5
2N5756	2.5	25	70	A	400	-65 to 100	25	25	40	40	0.5	—	70	10	100	100	8.5
2N5757	2.5	25	70	A	600	-65 to 100	25	25	40	40	0.5	—	70	10	100	100	8.5
T2313A	1.9	25	25●	B	100	-65 to 100	25	25	40	40	0.5	—	70	10	100	100	30▲
T2313B	1.9	25	25●	B	200	-65 to 100	25	25	40	40	0.5	—	70	10	100	100	30▲
T2313D	1.9	25	25●	B	400	-65 to 100	25	25	40	40	0.5	—	70	10	100	100	30▲
T2313M	1.9	25	25●	B	600	-65 to 100	25	25	40	40	0.5	—	70	10	100	100	30▲
T25 types																	
T2500B	6	60	80	F	200	-65 to 100	25	25	60	60	4	10	80	100	300	100	2.7
T2500D	6	60	80	F	400	-65 to 100	25	25	60	60	4	10	80	75	250	100	2.7
T27 types																	
T2700B	6	100	75	D	200	-65 to 100	25	25	40	40	3	10	75	30	150	100	4
T2700D	6	100	75	D	400	-65 to 100	25	25	40	40	3	10	75	20	100	100	4
T2710B	3.3	100	25●	E	200	-65 to 100	25	25	40	40	3	10	25●	30	150	100	24▲
T2710D	3.3	100	25●	E	400	-65 to 100	25	25	40	40	3	10	25●	20	100	100	24▲
T28 types																	
T2800B	8	100	80	F	200	-65 to 100	25	25	60	60	4	10	80	100	300	100	2.2
T2800C	8	100	80	F	300	-65 to 100	25	25	60	60	4	10	80	85	275	100	2.2
T2800D	8	100	80	F	400	-65 to 100	25	25	60	60	4	10	80	75	250	100	2.2
T2800E	8	100	80	F	500	-65 to 100	25	25	60	60	4	10	80	65	225	100	2.2
T2800M	8	100	80	F	600	-65 to 100	25	25	60	60	4	10	80	60	200	100	2.2
T41 types																	
2N5567	10	100	85	G	200	-65 to 100	25	25	40	40	2	5	85	30	150	100	1
2N5568	10	100	85	G	400	-65 to 100	25	25	40	40	2	5	85	20	100	100	1
T4101M	10	100	85	G	600	-65 to 100	25	25	40	40	2	5	85	10	75	100	1
2N5569	10	100	85	H	200	-65 to 100	25	25	40	40	2	5	85	30	150	100	1
2N5570	10	100	85	H	400	-65 to 100	25	25	40	40	2	5	85	20	100	100	1
T4111M	10	100	85	H	600	-65 to 100	25	25	40	40	2	5	85	10	75	100	1
T4121B	10	100	85	J	200	-65 to 100	25	25	40	40	2	5	85	30	150	100	1.1
T4121D	10	100	85	J	400	-65 to 100	25	25	40	40	2	5	85	20	100	100	1.1
T4121M	10	100	85	J	600	-65 to 100	25	25	40	40	2	5	85	10	75	100	1.1
2N5571	15	100	80	G	200	-65 to 100	50	50	80	80	2	10	80	30	150	100	1
2N5572	15	100	80	G	400	-65 to 100	50	50	80	80	2	10	80	20	100	100	1
T4100M	15	100	80	G	600	-65 to 100	50	50	80	80	2	10	80	10	75	100	1
2N5573	15	100	80	H	200	-65 to 100	50	50	80	80	2	10	80	30	150	100	1
2N5574	15	100	80	H	400	-65 to 100	50	50	80	80	2	10	80	20	100	100	1
T4110M	15	100	80	H	600	-65 to 100	50	50	80	80	2	10	80	10	75	10	1
T47 types																	
T4700B	15	100	70	D	200	-40 to 100	30	30	80	80	—	10	70	—	40	100	1.3
T4700D	15	100	70	D	400	-40 to 100	30	30	80	80	—	10	70	—	40	100	1.3
T64 types																	
T6401B	30	300	65	G-1	200	-65 to 100	50	50	80	80	3	20	65	40	200	100	0.8
T6401D	30	300	65	G-1	400	-65 to 100	50	50	80	80	3	20	65	25	150	100	0.8
T6401M	30	300	65	G-1	600	-65 to 100	50	50	80	80	3	20	65	20	100	100	0.8

A
TO-5



B
TO-5



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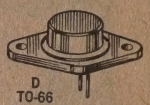
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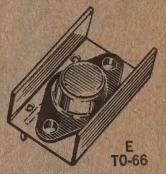

E
TO-66

G

H

J

G-1

● Ambient Temperature (T_A)

▲ Junction-to-Ambient ($R_{\theta JA}$)

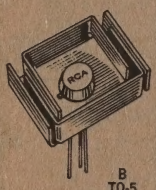
J-1

G-1

A
TO-5

G

H



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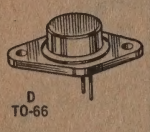
TO-5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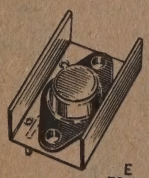
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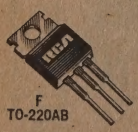

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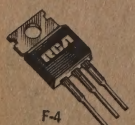


F-4

GENERAL PURPOSE TRIACS (Cont.)

RCA TYPE	Current IT (RMS) A	Current ITSM A	Current Temp. TC °C	Case	Voltage VDROM V	Temp. Range Operating °C	Max. Gate Trigger Current IGT-mA Modes I+	III−	I−	III+	Critical Rate of Rise of: Commutation Voltage dv/dt-V/μs Min.	Commutation Voltage dv/dt-V/μs Typ.	Commutation Voltage dv/dt-V/μs TC-°C	Off-State Voltage dv/dt-V/μs Min.	Off-State Voltage dv/dt-V/μs Typ.	Off-State Voltage dv/dt-V/μs TC-°C	Thermal Resistance RθJC °C/W
T64 types (cont.)																	
T6411B	30	300	60	H-1	200	-65 to 100	50	50	80	80	3	20	60	40	200	100	0.9
T6411D	30	300	60	H-1	400	-65 to 100	50	50	80	80	3	20	60	25	150	100	0.9
T6411M	30	300	60	H-1	600	-65 to 100	50	50	80	80	3	20	60	20	100	100	0.9
T6421B	30	300	55	J-1	200	-65 to 100	50	50	80	80	3	20	55	40	200	100	1
T6421D	30	300	55	J-1	400	-65 to 100	50	50	80	80	3	20	55	25	150	100	1
T6421M	30	300	55	J-1	600	-65 to 100	50	50	80	80	3	20	55	20	100	100	1
2N5441	40	300	70	G-1	200	-65 to 110	50	50	80	80	5	30	70	50	200	110	0.8
2N5442	40	300	70	G-1	400	-65 to 110	50	50	80	80	5	30	70	30	150	110	0.8
2N5443	40	300	70	G-1	600	-65 to 110	50	50	80	80	5	30	70	20	100	110	0.8
T6400N	40	300	70	G-1	800	-65 to 110	50	50	80	80	5	30	70	10	75	110	0.8
2N5444	40	300	65	H-1	200	-65 to 110	50	50	80	80	5	30	65	50	200	110	0.9
2N5445	40	300	65	H-1	400	-65 to 110	50	50	80	80	5	30	65	30	150	110	0.9
2N5446	40	300	65	H-1	600	-65 to 110	50	50	80	80	5	30	65	20	100	110	0.9
T6410N	40	300	65	H-1	800	-65 to 110	50	50	80	80	5	30	65	10	75	110	0.9

400-HZ TRIACS

T23 types

T2304B	0.5	25	90	A	200	-50 to 100	10	10	10	10	1	4	90	10	100	100	8.5
T2304D	0.5	25	90	A	400	-50 to 100	10	10	10	10	1	4	90	10	100	100	8.5
T2305B	0.5	25	90	A	200	-50 to 100	25	25	40	40	1	4	90	10	100	100	8.5
T2305D	0.5	25	90	A	400	-50 to 100	25	25	40	40	1	4	90	10	100	100	8.5

T41 types

T4105B	6	100	90	G	200	-50 to 100	50	50	80	80	5	10	90	30	150	100	1
T4105D	6	100	90	G	400	-50 to 100	50	50	80	80	5	10	90	30	150	100	1
T4115B	6	100	90	H	200	-50 to 100	50	50	80	80	5	10	90	30	150	100	1
T4115D	6	100	90	H	400	-50 to 100	50	50	80	80	5	10	90	30	150	100	1
T4113B	15	100	80	H	200	-50 to 100	50	50	80	80	5	10	80	30	150	100	1
T4113D	15	100	80	H	400	-50 to 100	50	50	80	80	5	10	80	20	150	100	1

ZERO-VOLTAGE SWITCH TRIACS

T23 types

T2316A	1.9	25	70	B	100	-40 to 100	45	—	—	45	2	—	70	10	—	100	30▲
T2316B	1.9	25	70	B	200	-40 to 100	45	—	—	45	2	—	70	10	—	100	30▲
T2316D	1.9	25	70	B	400	-40 to 100	45	—	—	45	2	—	70	10	—	100	30▲
T2306A	2.5	25	70	A	100	-40 to 100	45	—	—	45	2	—	70	10	—	100	8.5
T2306B	2.5	25	70	A	200	-40 to 100	45	—	—	45	2	—	70	10	—	100	8.5
T2306D	2.5	25	70	A	400	-40 to 100	45	—	—	45	2	—	70	10	—	100	8.5

T27 types

T2706B	6	100	75	D	200	-65 to 100	45	—	—	45	3	—	75	30	—	100	4
T2706D	6	100	75	D	400	-65 to 100	45	—	—	45	3	—	75	20	—	100	4
T2716B	3.3	100	25●	E	200	-65 to 100	45	—	—	45	3	—	25●	30	—	100	24▲
T2716D	3.3	100	25●	E	400	-65 to 100	45	—	—	45	3	—	25●	20	—	100	24▲

T28 types

T2806B	8	100	80	F	200	-40 to 100	45	—	—	45	4	—	80	100	—	100	2.2
T2806D	8	100	80	F	400	-40 to 100	45	—	—	45	4	—	80	75	—	100	2.2
T2856B	8	100	75	F-4	200	-65 to 100	45	—	—	45	4	—	75	100	—	100	3.1
T2856D	8	100	75	F-4	400	-65 to 100	45	—	—	45	4	—	75	75	—	100	3.1

T41 types

T4117B	10	100	85	H	200	-40 to 100	45	—	—	45	2	—	85	30	—	100	1
T4117D	10	100	85	H	400	-40 to 100	45	—	—	45	2	—	85	20	—	100	1
T4117M	10	100	85	H	600	-40 to 100	45	—	—	45	2	—	85	10	—	100	1
T4106B	15	100	80	G	200	-40 to 100	45	—	—	45	2	—	80	30	—	100	1
T4106D	15	100	80	G	400	-40 to 100	45	—	—	45	2	—	80	20	—	100	1
T4106M	15	100	80	G	600	-40 to 100	45	—	—	45	2	—	80	10	—	100	1

T47 types

T4706B	15	100	70	D	200	-40 to 100	45	—	—	45	—	10	70	—	40	100	1.3
T4706D	15	100	70	D	400	-40 to 100	45	—	—	45	—	10	70	—	40	100	1.3

T64 types

T6407B	30	300	65	G-1	200	-40 to 100	45	—	—	45	3	—	65	40	—	100	0.8
T6407D	30	300	65	G-1	400	-40 to 100	45	—	—	45	3	—	65	25	—	100	0.8
T6407M	30	300	65	G-1	600	-40 to 100	45	—	—	45	3	—	65	20	—	100	0.8
T6417B	30	300	60	H-1	200	-40 to 100	45	—	—	45	3	—	60	40	—	100	0.9
T6417D	30	300	60	H-1	400	-40 to 100	45	—	—	45	3	—	60	25	—	100	0.9
T6417M	30	300	60	H-1	600	-40 to 100	45	—	—	45	3	—	60	20	—	100	0.9
T6427B	30	300	55	J-1	200	-65 to 100	45	—	—	45	3	—	55	40	—	100	1
T6427D	30	300	55	J-1	400	-65 to 100	45	—	—	45	3	—	55	25	—	100	1

▲Junction-to-Ambient ($R_{\theta JA}$) ●Ambient Temperature (T_A)

Product Selection Guide

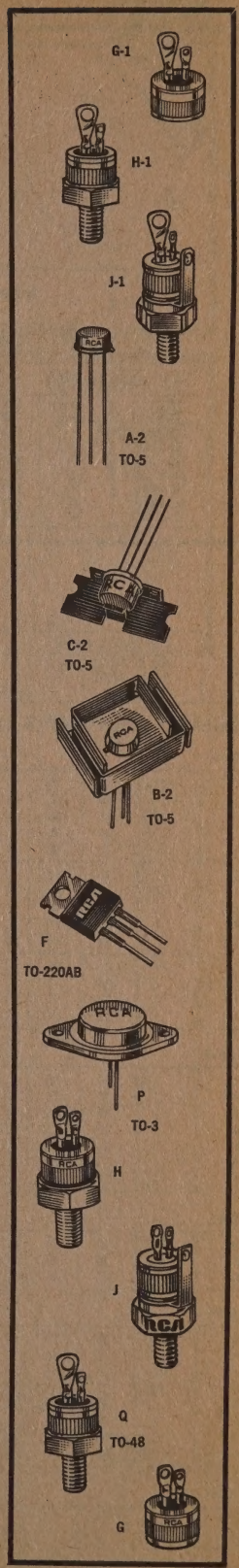
RCA

ZERO-VOLTAGE SWITCH TRIACS (CONT.)

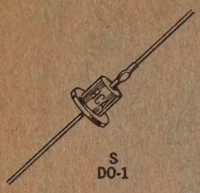
RCA TYPE	Current IT (RMS) A	ITSM A	Temp. TC °C	Case	Voltage VDROM V	Temp. Range Operating °C	Max. Gate Trigger Current IGT-mA Modes I+	III−	I−	III+	Critical Rate of Rise of: Commutation Voltage dv/dt-V/μs Min.	Typ.	TC-°C	Off-State Voltage dv/dt-V/μs Min.	Typ.	TC-°C	Thermal Resistance RθJC °C/W
T64 types (cont.)																	
T6427M	30	300	55	J-1	600	-65 to 100	45	—	—	45	3	—	55	20	—	100	1
T6406B	40	300	70	G-1	200	-40 to 110	45	—	—	45	5	—	70	50	—	110	0.8
T6406D	40	300	70	G-1	400	-40 to 110	45	—	—	45	5	—	70	30	—	110	0.8
T6406M	40	300	70	G-1	600	-40 to 110	45	—	—	45	5	—	70	20	—	110	0.8
T6416B	40	300	65	H-1	200	-40 to 110	45	—	—	45	5	—	65	50	—	110	0.9
T6416D	40	300	65	H-1	400	-40 to 110	45	—	—	45	5	—	65	30	—	110	0.9
T6416M	40	300	65	H-1	600	-40 to 110	45	—	—	45	5	—	65	20	—	110	0.9
T6426B	40	300	60	J-1	200	-65 to 110	45	—	—	45	5	—	60	50	—	110	1
T6426D	40	300	60	J-1	400	-65 to 110	45	—	—	45	5	—	60	30	—	110	1
T6426M	40	300	60	J-1	600	-65 to 110	45	—	—	45	5	—	60	20	—	110	1

GENERAL PURPOSE SCR's

RCA TYPE	Current IT (RMS) A	ITSM A	Temp. TC °C	Case	Voltage VDROM VRROM V	Temp. Range Operating °C	Maximum Gate Trigger Characteristic IGT mA	VGT V	Critical Rate of Rise of Off-State Voltage dv/dt-V/μs Min.	Typ.	TC-°C	Maximum Instantaneous Holding Current IHO-mA	TC-°C	Thermal Resistance RθJC °C/W
S26 types														
S2600B	7	100	60	A-2	200	-65 to 100	15	1.5	20	200	100	20	25	5
S2600D	7	100	60	A-2	400	-65 to 100	15	1.5	20	200	100	20	25	5
S2600M	7	100	60	A-2	600	-65 to 100	15	1.5	20	200	100	20	25	5
S2620B	7	100	50‡	C-2	200	-65 to 100	15	1.5	20	200	100	20	25	7♦
S2620D	7	100	50‡	C-2	400	-65 to 100	15	1.5	20	200	100	20	25	7♦
S2620M	7	100	50‡	C-2	600	-65 to 100	15	1.5	20	200	100	20	25	7♦
S2610B	3.3	100	25●	B-2	200	-65 to 100	15	1.5	20	200	100	20	25	35▲
S2610D	3.3	100	25●	B-2	400	-65 to 100	15	1.5	20	200	100	20	25	35▲
S2610M	3.3	100	25●	B-2	600	-65 to 100	15	1.5	20	200	100	20	25	35▲
S28 types														
S2800F	10	100	80	F	50	-65 to 100	15	1.5	100	—	100	20	25	2
S2800A	10	100	80	F	100	-65 to 100	15	1.5	75	—	100	20	25	2
S2800B	10	100	80	F	200	-65 to 100	15	1.5	50	—	100	20	25	2
S2800C	10	100	80	F	300	-65 to 100	15	1.5	40	—	100	20	25	2
S2800D	10	100	80	F	400	-65 to 100	15	1.5	30	—	100	20	25	2
S2800E	10	100	80	F	500	-65 to 100	15	1.5	25	—	100	20	25	2
S2800M	10	100	80	F	600	-65 to 100	15	1.5	20	—	100	20	25	2
S2800S	10	100	80	F	700	-65 to 100	15	1.5	15	—	100	20	25	2
S40 types														
2N3668	12.5	200	80	P	100	-40 to 100	40	2	10	100	100	50	25	1.7
2N3669	12.5	200	80	P	200	-40 to 100	40	2	10	100	100	50	25	1.7
2N3670	12.5	200	80	P	400	-40 to 100●	40	2	10	100	100	50	25	1.7
2N4103	12.5	200	80	P	600	-40 to 100	40	2	10	100	100	50	25	1.7
S62 types														
S6200A	20	200	75	G	100	-65 to 100	15	2	10	100	100	20	25	1.2
S6200B	20	200	75	G	200	-65 to 100	15	2	10	150	100	20	25	1.2
S6200D	20	200	75	G	400	-65 to 100	15	2	10	150	100	20	25	1.2
S6200M	20	200	75	G	600	-65 to 100	15	2	10	75	100	20	25	1.2
S6210A	20	200	75	H	100	-65 to 100	15	2	10	100	100	20	25	1.2
S6210B	20	200	75	H	200	-65 to 100	15	2	10	150	100	20	25	1.2
S6210D	20	200	75	H	400	-65 to 100	15	2	10	100	100	20	25	1.2
S6210M	20	200	75	H	600	-65 to 100	15	2	10	75	75	20	25	1.2
S6220A	20	200	75	J	100	-65 to 100	15	2	10	100	100	20	25	1.4
S6220B	20	200	75	J	200	-65 to 100	15	2	10	150	100	20	25	1.4
S6220D	20	200	75	J	400	-65 to 100	15	2	10	100	100	20	25	1.4
S6220M	20	200	75	J	600	-65 to 100	15	2	10	75	100	20	25	1.4
S64 types														
2N681	25	150	65	Q	25	-65 to 125	25	3	10	40	125	15*	125	2
2N682	25	150	65	Q	50	-65 to 125	25	3	10	40	125	15*	125	2
2N683	25	150	65	Q	100	-65 to 125	25	3	10	40	125	15*	125	2
2N684	25	150	65	Q	150	-65 to 125	25	3	10	40	125	15*	125	2
2N685	25	150	65	Q	200	-65 to 125	25	3	10	40	125	15*	125	2
2N686	25	150	65	Q	250	-65 to 125	25	3	10	40	125	15*	125	2
2N687	25	150	65	Q	300	-65 to 125	25	3	10	40	125	15*	125	2
2N688	25	150	65	Q	400	-65 to 125	25	3	10	40	125	15*	125	2
2N689	25	150	65	Q	500	-65 to 125	25	3	10	40	125	15*	125	2
2N690	25	150	65	Q	600	-65 to 125	25	3	10	40	125	15*	125	2
2N3870	35	350	65	G	100	-40 to 100	40	2	10	100	100	70	25	0.9
2N3871	35	350	65	G	200	-40 to 100	40	2	10	100	100	70	25	0.9
2N3872	35	350	65	G	400	-40 to 100	40	2	10	100	100	70	25	0.9
2N3873	35	350	65	G	600	-40 to 100	40	2	10	100	100	70	25	0.9
S6400N	35	350	65	G	800	-40 to 100	40	1	10	100	100	70	25	0.9
2N3896	35	350	65	H	100	-40 to 100	40	2	10	100	100	70	25	0.9



*Ambient Temperature (T_A) ▲Junction-to-Ambient ($R_{\theta JA}$) ‡Heat-Spreader Temperature (T_{HS})
♦Junction-to-Heat Spreader ($R_{\theta JHS}$) ●Typical value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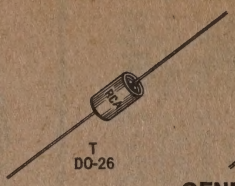
DO-1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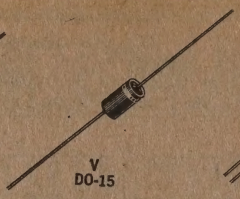
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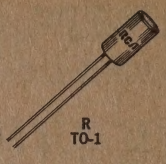
R
TO-1

W
DO-4

X
DO-5

GENERAL-PURPOSE SCR's (CONT.)

RCA TYPE	Current IT (RMS) A	ITSM A	Temp. TC °C	Case	Voltage VDROM VRROM V	Temp. Range Operating °C	Maximum Gate Trigger Characteristic IGT mA	VGT V	Critical Rate of Rise of Off-State Voltage dv/dt-V/μs Min.	Typ.	TC-°C	Maximum Instantaneous Holding Current iHO-mA	TC-°C	Thermal Resistance RθJC °C/W
S64 types (cont.)														
2N3897	35	350	65	H	200	-40 to 100	40	2	10	100	100	70	25	0.9
2N3898	35	350	65	H	400	-40 to 100	40	2	10	100	100	70	25	0.9
2N3899	35	350	65	H	600	-40 to 100	40	2	10	100	100	70	25	0.9
S6410N	35	350	65	H	800	-40 to 100	40	2	10	100	100	70	25	0.9
S6420A	35	350	60	J	100	-40 to 100	40	2	10	100	100	70	25	1
S6420B	35	350	60	J	200	-40 to 100	40	2	10	100	100	70	25	1
S6420D	35	350	60	J	400	-40 to 100	40	2	10	100	100	70	25	1
S6420M	35	350	60	J	600	-40 to 100	40	2	10	100	100	70	25	1
S6420N	35	350	60	J	800	-40 to 100	40	2	10	100	100	70	25	1

RECTIFIERS

STANDARD RECTIFIERS with Lead-Type Packages

RCA TYPE	Forward Current Av. Io A	Surge IFSM A	Temp. TA °C	Case	Voltage VRRM V	Temp. Range Operating °C	Voltage Drop VF V	Io A
D11 types								
1N536	0.75	15	50	S	50	-65 to 165	1.1	0.5
1N537	0.75	15	50	S	100	-65 to 165	1.1	0.5
1N538	0.75	15	50	S	200	-65 to 165	1.1	0.5
1N539	0.75	15	50	S	300	-65 to 165	1.1	0.5
1N540	0.75	15	50	S	400	-65 to 165	1.1	0.5
1N1095	0.75	15	50	S	500	-65 to 165	1.2	0.5
1N547	0.75	15	50	S	600	-65 to 165	1.2	0.5
1N2858A	1	35	75	S	50	-65 to 135	1.2	1
1N2859A	1	35	75	S	100	-65 to 135	1.2	1
1N2860A	1	35	75	S	200	-65 to 135	1.2	1
1N2861A	1	35	75	S	300	-65 to 135	1.2	1
1N2862A	1	35	75	S	400	-65 to 135	1.2	1
1N2863A	1	35	75	S	500	-65 to 135	1.2	1
1N2864A	1	35	75	S	600	-65 to 135	1.2	1
D12 Types								
D1201F	1	30	75	V	50	-65 to 175	1.1	1
D1201A	1	30	75	V	100	-65 to 175	1.1	1
D1201B	1	30	75	V	200	-65 to 175	1.1	1
D1201D	1	30	75	V	300	-65 to 175	1.1	1
D1201M	1	30	75	V	400	-65 to 175	1.1	1
D1201N	1	30	75	V	800	-65 to 175	1.1	1
D1201P	1	30	75	V	1000	-65 to 175	1.1	1
D13 types								
D1300A	0.25	30	65	R	100	-65 to 125	1	0.25
D1300B	0.25	30	65	R	200	-65 to 125	1	0.25
D1300D	0.25	30	65	R	400	-65 to 125	1	0.25
D16 types								
1N3193	0.75	35	75	T	200	-65 to 100	1.2	0.5
1N3194	0.75	35	75	T	400	-65 to 100	1.2	0.5
1N3195	0.75	35	75	T	600	-65 to 100	1.2	0.5
1N3196	0.5	35	75	T	800	-65 to 100	1.2	0.5
1N5211	1	50	75	T	200	-65 to 175	1.2	1
1N5212	1	50	75	T	400	-65 to 175	1.2	1
1N5213	1	50	75	T	600	-65 to 175	1.2	1
1N5214	0.75	50	75	T	800	-65 to 175	1.2	1
D17 types								
1N3253	0.75	35	75	T	200	-65 to 100	1.2	0.5
1N3254	0.75	35	75	T	400	-65 to 100	1.2	0.5

STANDARD RECTIFIERS with Lead-Type Packages (Cont.)

RCA TYPE	Forward Current Av. Io A	Surge IFSM A	Temp. TA °C	Case	Voltage VRRM V	Temp. Range Operating °C	Voltage Drop VF V	Io A
D17 types								
1N3255	0.75	35	75	T	600	-65 to 100	1.2	0.5
1N3256	0.5	35	75	T	800	-65 to 100	1.2	0.5
1N3563	0.4	35	75	T	1000	-65 to 100	1.2	0.5
1N5215	1	50	75	T	200	-65 to 175	1.2	1
1N5216	1	50	75	T	400	-65 to 175	1.2	1
1N5217	1	50	75	T	600	-65 to 175	1.2	1
1N5218	0.75	50	75	T	800	-65 to 175	1.2	1

STANDARD RECTIFIERS with Stud-Type Packages‡

RCA TYPE	Forward Current Av. Io A	Surge IFSM A	Temp. TA °C	Case	Voltage VRRM V	Temp. Range Operating °C	Voltage Drop VF V	Io A
D15 types								
1N1199A	12	240	150	W	50	-65 to 200	0.55■	12
1N1200A	12	240	150	W	100	-65 to 200	0.55■	12
1N1202A	12	240	150	W	200	-65 to 200	0.55■	12
1N1203A	12	240	150	W	300	-65 to 200	0.55■	12
1N1204A	12	240	150	W	400	-65 to 200	0.55■	12
1N1205A	12	240	150	W	500	-65 to 200	0.55■	12
1N1206A	12	240	150	W	600	-65 to 200	0.55■	12
1N1183A	40	800	150	X	50	-65 to 200	0.65■	40
1N1184A	40	800	150	X	100	-65 to 200	0.65■	40
1N1186A	40	800	150	X	200	-65 to 200	0.65■	40
1N1187A	40	800	150	X	300	-65 to 200	0.65■	40
1N1188A	40	800	150	X	400	-65 to 200	0.65■	40
1N1189A	40	800	150	X	500	-65 to 200	0.65■	40
1N1190A	40	800	150	X	600	-65 to 200	0.65■	40

‡ Reverse-polarity versions available ■ At full cycle average

DIACS — For Triggering Triacs

RCA TYPE	Peak Pulse Amps	Temp. Range Operating °C	Case	Breakover Voltage V(BO) V	*	†
D32 type						
D3202Y	2	-40 to 100	V	29 min. 35 max.	±3 max.	9
D3202U	2	-40 to 100	V	25 min. 40 max.	±3 max.	9

*Breakover Voltage Symmetry $|+V_{(BO)}|-|-V_{(BO)}|V$
†Dynamic Breakback Voltage $|\triangle V\pm|$ V (min.)

General Electric Selector Guide

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DETECTORS

PHOTO TRANSISTORS

Type	Fig.	Minimum Sensitivity mA / mW / cm²	BV_{CEO} Volts	I_D Max. nA	Typical t_r µsec	Typical t_f µsec	Size, Inches Dia. x Lgth.
L14H1	B	.05	50	100	6	6	.170 x .210
L14H2	B	.1	50	100	15	10	.170 x .210
L14H3	B	.25	50	100	20	15	.170 x .210
L14H4	B	.05	50	100	25	20	.170 x .210
L14G1	C	.6	45	100	5	5	.230 x .255
L14G2	C	.3	45	100	5	5	.230 x .255
L14G3	C	1.2	45	100	5	5	.230 x .255

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2N5777	B	.25	25	100	75	50	.170 x .210
2N5778	B	.25	40	100	75	50	.170 x .210
2N5779	B	1.0	25	100	75	50	.170 x .210
2N5780	B	1.0	40	100	75	50	.170 x .210
L14F	C	15	25	100	75	50	.230 x .255

PHOTO SWITCHES

Type	Fig.	Irradiance To Trigger mW / cm²	Blocking Volts	I_D Max. µA	V_F Volts	Size, Inches Dia. x Lgth.
L8	G	4.2	25-200	10	1.4	.370 x .260
L9	G	10	25-200	10	1.4	.370 x .260

PHOTO SCR

Type	Fig.	Isolation Volts	I_F to Trigger mA RGK10K	I_F to Trigger mA RGK27K	I_D µA	Blocking Volts	V_F Volts	Size, Inches W. x Lgth.
H11C1	I	2500	20	11	50	200	1.5	.280 x .350
H11C2	I	1500	20	11	50	200	1.5	.280 x .350
H11C3	I	1500	30	14	50	200	1.5	.280 x .350
H11C4	I	2500	20	11	150	400	1.5	.280 x .350
H11C5	I	1500	20	11	150	400	1.5	.280 x .350
H11C6	I	1500	30	14	150	400	1.5	.280 x .350

PHOTON COUPLED INTERUPTER MODULES

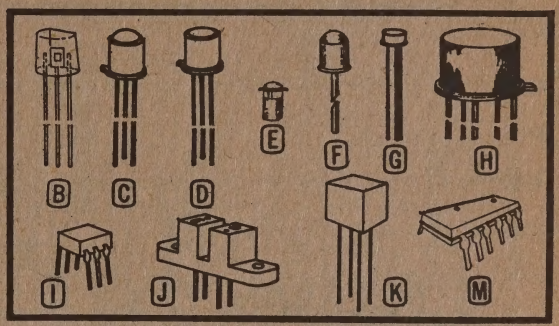
PHOTO TRANSISTOR OUTPUT

Type	Fig.	Output Current* µA	I_D nA	BV_{CEO} Volts	Typical ton µsec	Typical tf µsec	Size, Inches ‡ x Lgth.
H13A1	J	200	100	30	5	5	.125 x .984
H13A2	J	50	100	30	5	5	.125 x .984
H17A1	B	50	100	30	5	5	.170 x .210

PHOTO DARLINGTON OUTPUT

H13B1	J	1000†	100	25	150	150	.125 x .984
H13B2	J	500†	100	25	150	150	.125 x .984
H17B1	B	1000	100	25	150	150	.170 x .210

*At I_F = 20 mA. †At I_F = 10 mA. ‡Length between pins.



COUPLERS

PHOTO TRANSISTOR OUTPUT

Type	Fig.	Isolation Volts	Min. Current Transfer Ratio	I_D nA	BV_{CEO} Volts	Typical t_r µsec	Typical t_f µsec	Size Inches W. x Lgth.
H11A1	I	2500	50%	50	30	5	5	.280 x .350
H11A2	I	1500	20%	50	30	5	5	.280 x .350
H11A3	I	2500	20%	50	30	6	5	.280 x .350
H11A4	I	1500	10%	50	30	5	5	.280 x .350
H11A5	I	1500	30%	100	30	5	5	.280 x .350
H15A1	K	4000	20%	100	30	5	5	.250 x .375
H15A2	K	4000	10%	100	30	5	5	.250 x .375
4N25	I	2500	20%	50	30	5	5	.280 x .350
4N25A	I	1775 rms	20%	50	30	5	5	.280 x .350
4N26	I	1500	20%	50	30	5	5	.280 x .350
4N27	I	1500	10%	50	30	5	5	.280 x .350
4N28	I	500	10%	100	30	5	5	.280 x .350
4N35	I	2500 rms	100%	50	30	5	5	.280 x .350
4N36	I	1750 rms	100%	50	30	5	5	.280 x .350
4N37	I	1050 rms	100%	50	30	5	5	.280 x .350
4N38	I	1500	20%	50	80	5	5	.280 x .350
4N38A	I	1775 rms	20%	50	80	5	5	.280 x .350
H11D1	I	2500	20%	100	300	5	5	.280 x .350
H11D2	I	1500	20%	100	200	5	5	.280 x .350
H11D3	I	1500	20%	100	200	5	5	.280 x .350
H11D4	I	1500	10%	100	200	5	5	.280 x .350

PHOTO DARLINGTON OUTPUT

H11B1	I	2500	500%	100	25	125	100	.280 x .350
H11B2	I	1500	200%	100	25	125	100	.280 x .350
H11B3	I	1500	100%	100	25	125	100	.280 x .350
H15B1	K	4000	400%	100	25	125	100	.250 x .375
H15B2	K	4000	200%	100	25	125	100	.250 x .375
4N29	I	2500	100%	100	30	5	40	.280 x .350
4N29A	I	1775 rms	100%	100	30	5	40	.280 x .350
4N30	I	1500	100%	100	30	5	40	.280 x .350
4N31	I	1500	50%	100	30	5	40	.280 x .350
4N32	I	2500	500%	100	30	5	100	.280 x .350
4N32A	I	1775 rms	500%	100	30	5	100	.280 x .350
4N33	I	1500	500%	100	30	5	100	.280 x .350

INFRARED EMITTERS

Type	Min. Power Output at I_F=100 mA	Max. Forward Voltage at I_F=100 mA	Peak Emission Wavelength Typical Nanometers	Rise Time Typical Nanoseconds	Fall Time Typical Nanoseconds	Max. Power Diss. mW	Max. Forward Current Continuous mA	Package Outline
LED55B	3.5 mW	1.7	940	300	200	1300	100	E
LED55BF	3.5 mW	1.7	940	300	200	1300	100	F
LED55C	5.4 mW	1.7	940	300	200	1300	100	E
LED55CF	5.4 mW	1.7	940	300	200	1300	100	F
LED56	1.5 mW	1.7	940	300	200	1300	100	E
LED56F	1.5 mW	1.7	940	300	200	1300	100	F

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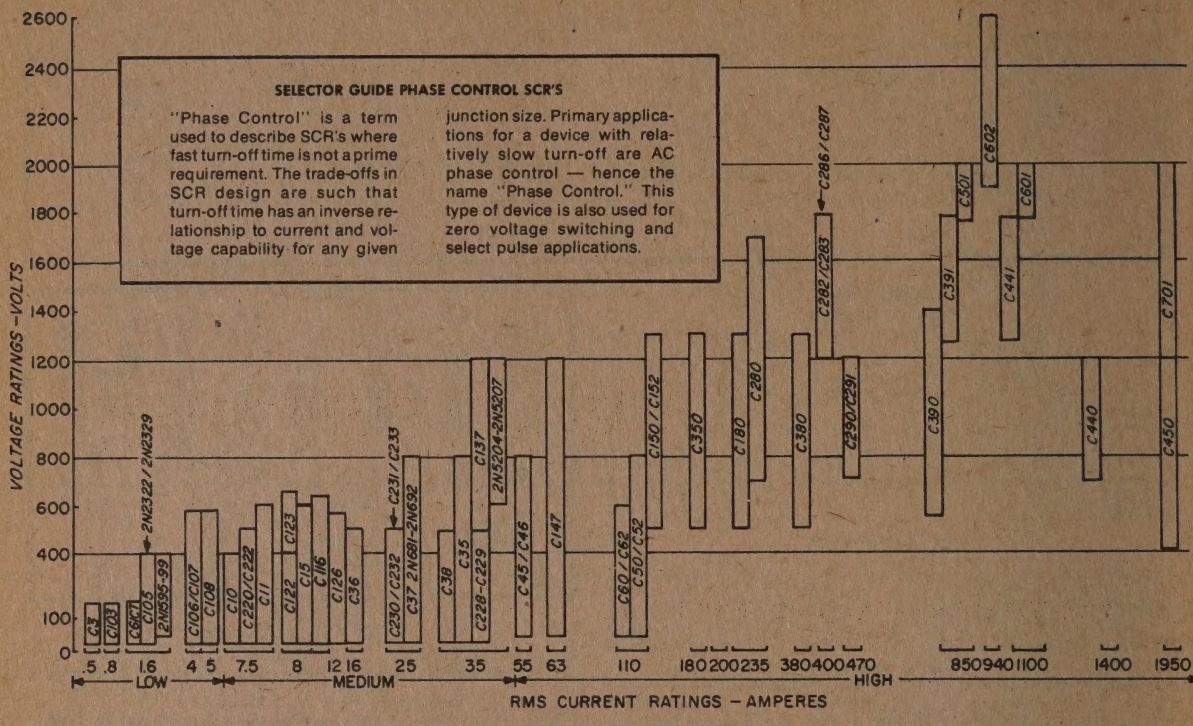

15 VOLTS TO 500 VOLTS

rms Current Amps	Case	GE Type Repetitive Peak Forward and Reverse Voltages 15	25	30	50	100	150	200	250	300	400	500
0.5	112			2N877	2N878*	2N879	2N880	2N881				
0.8	195.1, 228			C103Y	C103YY*	C103A		C103B				
1.6	101		2N2344		2N2345	2N2346	2N2347	2N2348				
1.6	101		2N2322		2N2323	2N2324	2N2325	2N2326	2N2327	2N2328	2N2329	
1.6	101				2N1595	2N1596		2N1597	2N1598	2N1599		
4.0	232	C106Q		C106Y	C106F	C106A		C106B		C106C	C106D	C106E
4.0	232	C107Q		C107Y	C107F	C107A		C107B		C107C	C107D	C107E
5	232	C108Q		C108Y	C108F	C108A		C108B		C108C	C108D	C108E
7.4	104		C10U		C10F	C10A	C10G	C10B	C10H	C10C	C10D	
7.4	104		2N1770A		2N1771A	2N1772A	2N1773A	2N1774A	2N1775A	2N1776A	2N1777A	
7.4	104		C11U		C11F	C11A	C11G	C11B	C11H	C11C	C11D	
7.4	104		2N1770		2N1771	2N1772	2N1773	2N1774	2N1775	2N1776	2N1777	2N1778
7.4	241-243		C220U		C220F	C220A		C220B		C220C	C220D	C220E
7.4	241-243		C222U		C222F	C222A		C222B		C222C	C222D	C222E
8.0	104		C15U		C15F	C15A	C15G	C15B		C15C	C15D	C15E
8.0	173				C122F1			C122B1			C122D1	C122E1
16.0	107		2N1842		2N1843	2N1844	2N1845	2N1846	2N1847	2N1848	2N1849	2N1850
16.0	107		C36U		C36F	C36A	C36G	C36B	C36H	C36C	C36D	C36E
25.0	241-243		C230U		C230F	C230A		C230B		C230C	C230D	C230E
25.0	241,243		C231U		C231F	C231A		C231B		C231C	C231D	C231E
25.0	241-243		C232U		C232F	C232A		C232B		C232C	C232D	C232E
25.0	241-243		C233U		C233F	C233A		C233B		C233C	C233D	C233E
25.0	107		C37U		C37F	C37A		C37B		C37C	C37D	C37E
25.0	107		2N681		2N682	2N683	2N684	2N685	2N686	2N687	2N688	2N689
35.0	107		C35U		C35F	C35A	C35G	C35B	C35H	C35C	C35D	C35E
35.0	107		C38U		C38F	C38A	C38G	C38B	C38H	C38C	C38D	C38E
35.0	107											C137E
35.0	257-260				C228F	C228A		C228B		C228C	C228D	C228E
35.0	257-260				C229F	C229A		C229B		C229C	C229D	C229E
55.0	108		C45U		C45F		C45G	C45B	C45H	C45C	C45D	C45E
55.0	109		C46U		C46F		C46G	C46B	C46H	C46C	C46D	C46E
63.0	108.1					C147A		C147B		C147C	C147D	C147E
110.0	108		2N1909		2N1910	2N1911	2N1912	2N1913	2N1914	2N1915	2N1916	C50E
110.0	109		C52U		2N1792	2N1793	2N1794	2N1795	2N1796	2N1797	2N1798	C52E
110.0	108											C150E
110.0	109											C152E
110.0	108		2N2023		2N2024	2N2025	2N2026	2N2027	2N2028	2N2029	2N2030	C60E
110.0	109		C62U		C62F	C62A	C62G	C62B	C62H	C62C	C62D	C62E

*60 volts.

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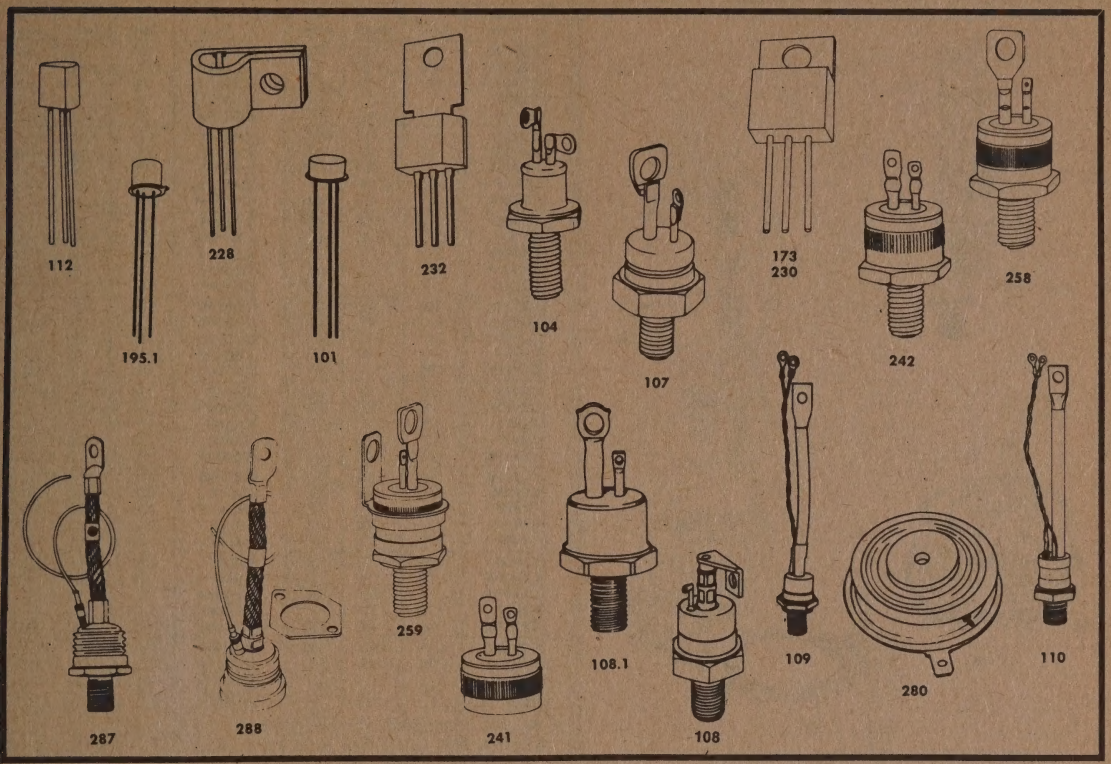

600 VOLTS to 800 VOLTS

rms Current Amps	Case	GE Type Repetitive Peak Voltage (Volts) 600	700	800
7.4	104	2N2619	.....	.....
25.0	107	C37M	C37S	C37N
25.0	107	2N690	2N691	2N692
25.0	241-243	C230M	.....	.....
35.0	107	C35M	C35S	C35N
35.0	107	C137M	C137S	C137N
35.0	107	2N5204	.....	2N5205
35.0	257-260	C228M	.....	.....
35.0	257-260	C229M	.....	.....
55.0	108	C45M	C45S	C45N
55.0	109	C46M	C46S	C46N
63.0	108.1	C147M	C147S	C147N
110.0	108	C50M	C50S	C50N
110.0	109	C52M	C52S	C52N
110.0	108	C150M	C150S	C150N
110.0	109	C152M	C152S	C152N

900 VOLTS TO 1300 VOLTS

rms Current Amps	Case	GE Type Repetitive Peak Voltage (Volts) 900	1000	1100	1200	1300
35.0	107	C137T	C137P	C137PA	C137PB	.....
35.0	107	.....	2N5206	.....	2N5207	.....
63.0	108.1	C147T	C147P	C147PA	C147PB	.....
110.0	108	C150T	C150P	C150PA	C150PB	C150PC
110.0	109	C152T	C152P	C152PA	C152PB	C152PC

NEWARK stocks new semiconductor types as soon as they are released. Even if it is not listed, call, write or wire for all the latest information on new and old semiconductor devices.

HIGH CURRENT SCR'S FOR PHASE CONTROL

GE Type	Case	Volts*	rms Amps
C350A	280	100	190
C350B	280	200	190
C350C	280	300	190
C350D	280	400	190
C350E	280	500	190
C350M	280	600	190
C350S	280	700	190
C350N	280	800	190
C350T	280	900	190
C350P	280	1000	190
C350PA	280	1100	190
C350PB	280	1200	190
C350PC	280	1300	190
C180E	110	500	235
C180M	110	600	235
C180S	110	700	235
C180N	110	800	235
C180T	110	900	235
C180P	110	1000	235
C180PA	110	1100	235
C180PB	110	1200	235
C180PC	110	1300	235
C280PB	287	1200	235
C280PC	287	1300	235
C280PD	287	1400	235
C280PE	287	1500	235
C280PM	287	1600	235
C280PS	287	1700	235
C380A	280	100	380
C380B	280	200	380
C380C	280	300	380
C380D	280	400	380
C380E	280	500	380
C380M	280	600	380
C380S	280	700	380
C380N	280	800	380
C380T	280	900	380
C380P	280	1000	380
C380PA	280	1100	380
C380PB	280	1200	380
C380PC	280	1300	380

GE Type	Case	Volts*	rms Amps
C282S	287	700	400
C282N	287	800	400
C282T	287	900	400
C282P	287	1000	400
C282PA	287	1100	400
C282PB	287	1200	400
C282PC	287	1300	400
C282PD	287	1400	400
C282PE	287	1500	400
C282PM	287	1600	400
C282PS	287	1700	400
C283S	288	700	400
C283N	288	800	400
C283T	288	900	400
C283P	288	1000	400
C283PA	288	1100	400
C283PB	288	1200	400
C283PC	288	1300	400
C283PD	288	1400	400
C283PE	288	1500	400
C283PM	288	1600	400
C283PS	288	1700	400
C286S	287	700	400
C286N	287	800	400
C286T	287	900	400
C286P	287	1000	400
C286PA	287	1100	400
C286PB	287	1200	400
C286PC	287	1300	400
C286PD	287	1400	400
C286PE	287	1500	400
C286PM	287	1600	400
C287S	288	700	400
C287N	288	800	400
C287T	288	900	400
C287P	288	1000	400
C287PA	288	1000	400
C287PB	288	1200	400
C287PC	288	1300	400
C287PD	288	1400	400
.....			

*Repetitive peak forward and reverse voltage.

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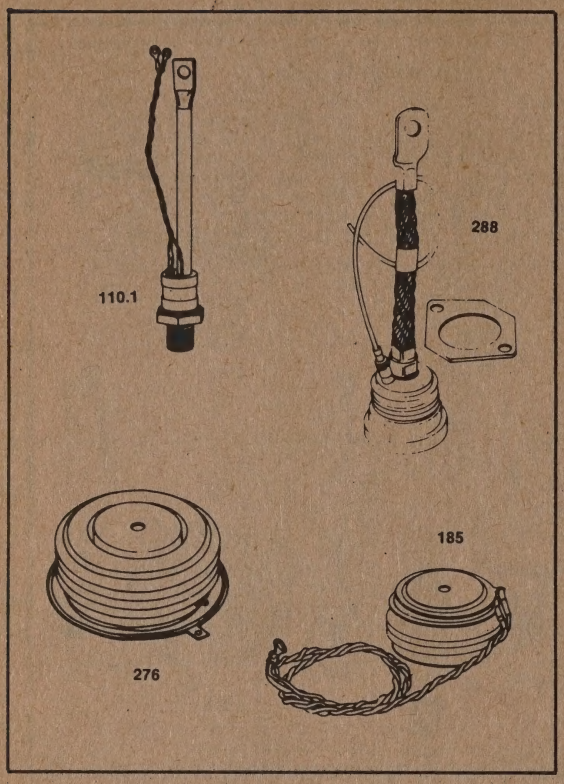


HIGH CURRENT SCR'S (CONT.)

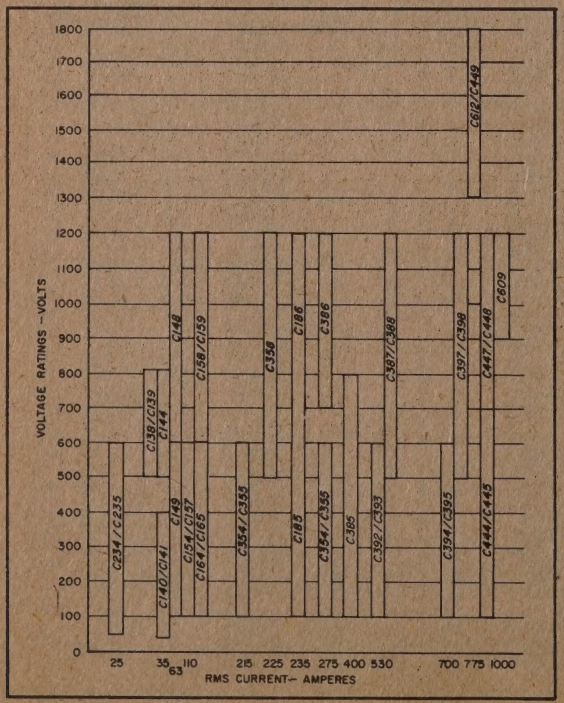
GE Type	Case	Volts*	rms Amps
C287PE	288	1500	400
C287PM	288	1600	400
C290A	287	100	470
C290B	287	200	470
C290C	287	300	470
C290D	287	400	470
C290E	287	500	470
C290M	287	600	470
C290S	287	700	470
C290N	287	800	470
C290T	287	900	470
C290P	287	1000	470
C290PA	287	1100	470
C290PB	287	1200	470
C291A	288	100	470
C291B	288	200	470
C291C	288	300	470
C291D	288	400	470
C291E	288	500	470
C291M	288	600	470
C291S	288	700	470
C291N	288	800	470
C291T	288	900	470
C291P	288	1000	470
C291PA	288	1100	470
C291PB	288	1200	470
C390M	276	600	850
C390S	276	700	850
C390N	276	800	850
C390T	276	900	850
C390P	276	1000	850
C390PA	276	1100	850
C390PB	276	1200	850
C391PC	276	1300	850
C391PD	276	1400	850
C391PE	276	1500	850
C391PM	276	1600	850
C391PS	276	1700	850
C391PN	276	1800	850

GE Type	Case	Volts*	rms Amps
C501PC	185	1300	850
C501PD	185	1400	850
C501PE	185	1500	850
C501PM	185	1600	850
C501PS	185	1700	850
C441PB	276	1200	1100
C441PC	276	1300	1100
C441PD	276	1400	1100
C441PE	276	1500	1100
C441PM	276	1600	1100
C441PS	276	1700	1100
C441PN	276	1800	1100
C601PA	276	1100	1100
C601PB	276	1200	1100
C601PC	276	1300	1100
C601PD	276	1400	1100
C601PE	276	1500	1100
C601PM	276	1600	1100
C601PS	276	1700	1100
C440M	276	600	1400
C440S	276	700	1400
C440N	276	800	1400
C440T	276	900	1400
C440P	276	1000	1400
C440PA	276	1100	1400
C440PB	276	1200	1400
C600E	276	500	1400
C600M	276	600	1400
C600S	276	700	1400
C600N	276	800	1400
C600T	276	900	1400
C600P	276	1000	1400
C600PA	276	1100	1400
C600PB	276	1200	1400
C701PB	276.1	1200	1950
C701PD	276.1	1400	1950
C701PE	276.1	1500	1950
C701PM	276.1	1600	1950
C701PS	276.1	1700	1950

*Repetitive peak forward and reverse voltage.

GE Series C602 — (940 amps) available from 1600 to 2600 volts; call or write for information.

SCR'S FOR INVERTERS



These SCR's are optimized for turn-off time (commutation speed) capability and other speed characteristics. As the name implies, major applications for these devices are DC/AC inverters. Additionally, they are used in cycloconverters and other pulse applications requiring high speed capability.

GE Type	Case	Volts*	rms Amps
C234F	257-260	50	25
C234A	257-260	100	25
C234B	257-260	200	25
C234C	257-260	300	25
C234D	257-260	400	25
C234E	257-260	500	25
C234M	257-260	600	25
C235F	257-260	50	25
C235A	257-260	100	25
C235B	257-260	200	25
C235C	257-260	300	25
C235D	257-260	400	25
C235E	257-260	500	25
C235M	257-260	600	25
C140F‡	107	50	35
C140A‡	107	100	35
C140B‡	107	200	35
C140C‡	107	300	35
C140D‡	107	400	35
C141F†	107	50	35
C141A†	107	100	35
C141B†	107	200	35
C141C†	107	300	35
C141D†	107	400	35
C138E	107	500	35
C138M	107	600	35
C138S	107	700	35

GE Type	Case	Volts*	rms Amps
C138N	107	800	35
C139E	107	500	35
C139M	107	600	35
C139S	107	700	35
C139N	107	800	35
C144E	107	500	35
C144M	107	600	35
C144S	107	700	35
C144N	107	800	35
C149A	108.1	100	63
C149B	108.1	200	63
C149C	108.1	300	63
C149D	108.1	400	63
C149E	108.1	500	63
C149M	108.1	600	63
C154A	109	100	110
C154B	109	200	110
C154C	109	300	110
C154D	109	400	110
C154E	109	500	110
C155A	109	100	110
C155B	109	200	110
C155C	109	300	110
C155D	109	400	110
C155E	109	500	110
C155M	109	600	110
C156A	108	100	110

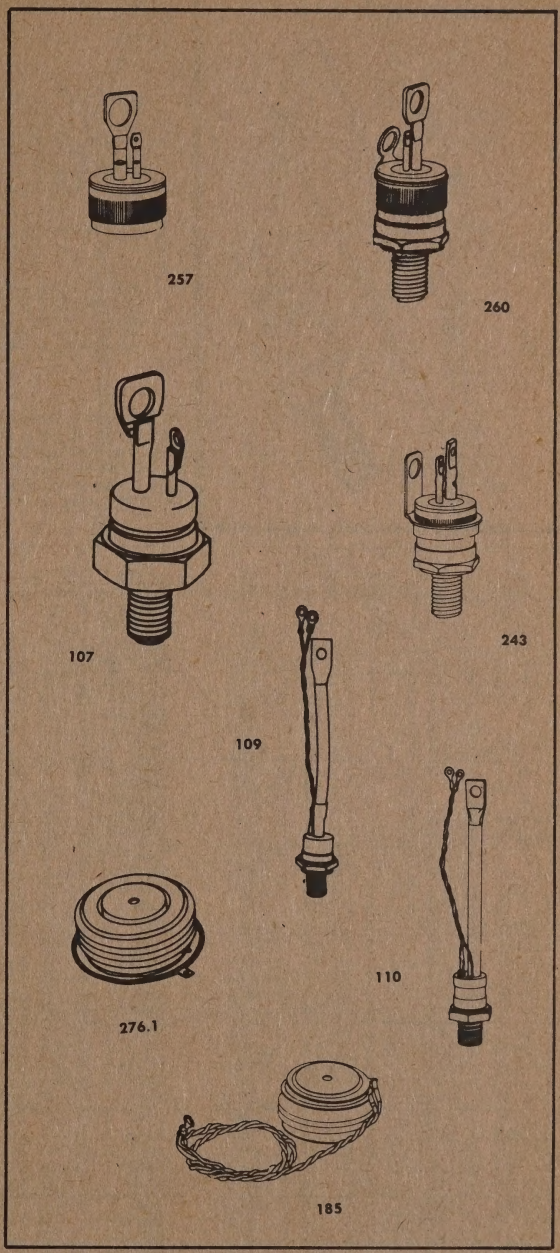
*Repetitive peak forward and reverse voltage.
‡Also available as 2N3649, 50, 51, 52, and 53.
†Also available as 2N3654, 55, 56, 57, and 58.

General Electric Product Selection Guide

SCR'S FOR INVERTERS

GE Type	Case	Volts*	rms Amps
C156B	108	200	110
C156C	108	300	110
C156D	108	400	110
C156E	108	500	110
C157A	108	100	110
C157B	108	200	110
C157C	108	300	110
C157D	108	400	110
C157E	108	500	110
C157M	108	600	110
C158E	109	500	110
C158M	109	600	110
C158S	109	700	110
C158N	109	800	110
C158T	109	900	110
C158P	109	1000	110
C158PA	109	1100	110
C158PB	109	1200	110
C159E	108	500	110
C159M	108	600	110
C159S	108	700	110
C159N	108	800	110
C159T	108	900	110
C159P	108	1000	110
C159PA	108	1100	110
C159PB	108	1200	110
C164A	109	100	110
C164B	109	200	110
C164C	109	300	110
C164D	109	400	110
C164E	109	500	110
C164M	109	600	110
C165A	108	100	110
C165B	108	200	110
C165C	108	300	110
C165D	108	400	110
C165E	108	500	110
C165M	108	600	110
C354A	280	100	215
C354B	280	200	215
C354C	280	300	215
C354D	280	400	215
C354E	280	500	215
C354M	280	600	215
C355A	280	100	215
C355B	280	200	215
C355C	280	300	215
C355D	280	400	215
C355E	280	500	215
C355M	280	600	215
C358E	280	500	225
C358M	280	600	225
C358S	280	700	225
C358N	280	800	225
C358T	280	900	225
C358P	280	1000	225
C358PA	280	1100	225
C358PB	280	1200	225
C186S	110.1	700	235
C186N	110.1	800	235
C186T	110.1	900	235
C186P	110.1	1000	235
C186PA	110.1	1100	235
C186PB	110.1	1200	235
C364A	280	100	275
C364B	280	200	275
C364C	280	300	275
C364D	280	400	275
C364E	280	500	275
C364M	280	600	275
C365A	280	100	275
C365B	280	200	275
C365C	280	300	275
C365D	280	400	275
C365E	280	500	275
C365M	280	600	275
C185A	110.1	100	300
C185B	110.1	200	300
C185C	110.1	300	300
C185D	110.1	400	300
C185E	110.1	500	300
C185M	110.1	600	300
C385A	280	100	400
C385B	280	200	400

GE Type	Case	Volts*	rms Amps
C385C	280	300	400
C385D	280	400	400
C385E	280	500	400
C385M	280	600	400
C386S	280	700	400
C386N	280	800	400
C386T	280	900	400
C386P	280	1000	400
C386PA	280	1100	400
C386PB	280	1200	400
C392A	276	100	500
C392B	276	200	500
C392C	276	300	500
C392D	276	400	500
C392E	276	500	500
C392M	276	600	500
C393A	276	100	500
C393B	276	200	500
C393C	276	300	500
C393D	276	400	500
C393E	276	500	500
C393M	276	600	500
C387E	276	500	550
C387M	276	600	550
C387S	276	700	550
C387N	276	800	550
C387T	276	900	550
C387P	276	1000	550
C387PA	276	1100	550
C387PB	276	1200	550
C388E	276	500	550
C388M	276	600	550
C388S	276	700	550
C388N	276	800	550
C388T	276	900	550
C388P	276	1000	550
C388PA	276	1100	550
C388PB	276	1200	550
C394A	276	100	700
C394B	276	200	700
C394C	276	300	700
C394D	276	400	700
C394E	276	500	700
C394M	276	600	700
C395A	276	100	700
C395B	276	200	700
C395C	276	300	700
C395D	276	400	700
C395E	276	500	700
C395M	276	600	700
C397E	276	500	700
C397M	276	600	700
C397S	276	700	700
C397N	276	800	700
C397T	276	900	700
C397P	276	1000	700
C397PA	276	1100	700
C397PB	276	1200	700
C398E	276	500	700
C398M	276	600	700
C398S	276	700	700
C398N	276	800	700
C398T	276	900	700
C398P	276	1000	700
C398PA	276	1100	700
C398PB	276	1200	700
C509S	185	700	775
C509N	185	800	775
C509T	185	900	775
C509P	185	1000	775
C509PA	185	1100	775
C509PB	185	1200	775
C609S	276	700	1000
C609N	276	800	1000
C609T	276	900	1000
C609P	276	1000	1000
C609PA	276	1100	1000
C609PB	276	1200	1000
C447S	276	700	1000
C447N	276	800	1000
C447T	900	1000	
C447P	276	1000	1000
C447PA	276	1100	1000
C447PB	276	1200	1000



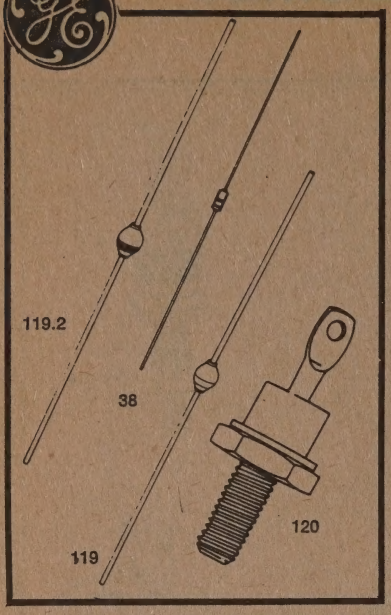
GE Type	Case	Volts*	rms Amps
C448S	276	700	1000
C448N	276	800	1000
C448T	276	900	1000
C448P	276	1000	1000
C448PA	276	1100	1000
C448PB	276	1200	1000
C444A	276	100	1200
C444B	276	200	1200
C444C	276	300	1200

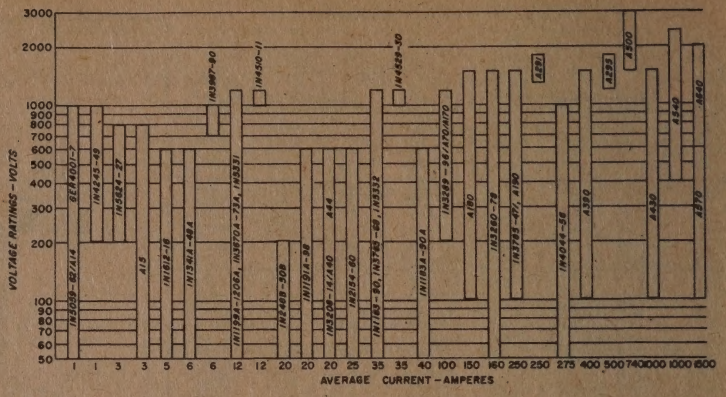
GE Type	Case	Volts*	rms Amps
C444D	276	400	1200
C444E	276	500	1200
C444M	276	600	1200
C445A	276	100	1200
C445B	276	200	1200
C445C	276	300	1200
C445D	276	400	1200
C445E	276	500	1200
C445M	276	600	1200

*Repetitive peak forward and reverse voltage.

General Electric Product Selection Guide

SILICON RECTIFIERS





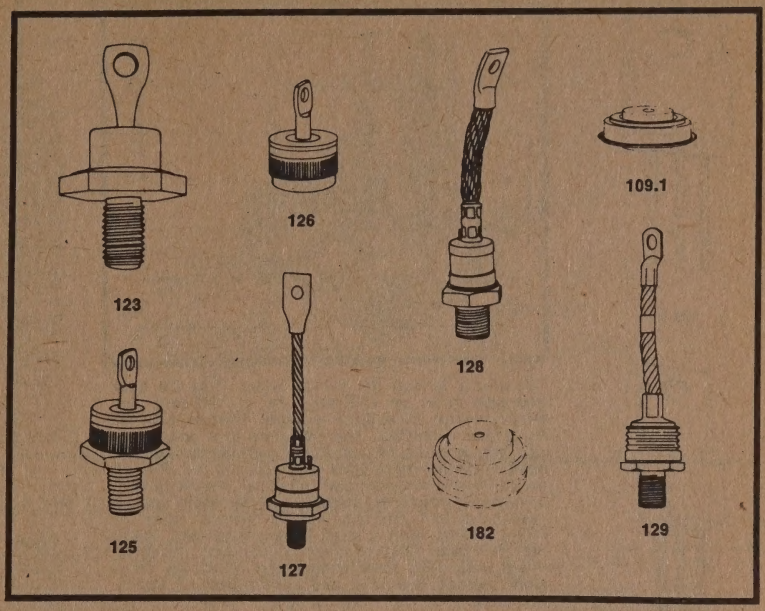
These power rectifiers are the broadest lines available in the industry with voltage ratings up to 1800 volts and currents to 1500 amperes.
I_F is the average forward curent rating.
I_{FM} is the maximum peak non-recurrent surge current (one 60 Hz cycle). The voltage rating given is the maximum repetitive peak reverse voltage.
§Fast recovery types.

GE Type	Case	I_F Amps	I_{FM} Amps	Volts
DT230F	38	.25	5	50
DT230A	38	.25	5	100
DT230B	38	.25	5	200
1N4246	119	1	25	400
1N4247	119	1	25	600
1N4248	119	1	25	800
1N4249	119	1	25	1000
A14F	119	1	50	50
A14A	119	1	50	100
1N5059	119	1	50	200
A14C	119	1	50	300
1N5060	119	1	50	400
A14E	119	1	50	500
1N5061	119	1	50	600
1N5062	119	1	50	800
A14P	119	1	50	1000
A14D	119	1	50	1400
A14F§	119	1	40	50
A14A§	119	1	40	100
A14B§	119	1	40	200
A14C§	119	1	40	300
A14D§	119	1	40	400
A14E§	119	1	40	500
A14M§	119	1	40	600
A15F	119.2	3	125	50
A15A	119.2	3	125	100
1N5624	119.2	3	125	200
1N5625	119.2	3	125	400
1N5626	119.2	3	125	600
1N5627	119.2	3	125	800
A115F§	119.2	3	110	50
A115A§	119.2	3	110	100
A115B§	119.2	3	110	200
A115C§	119.2	3	110	300
A115D§	119.2	3	110	400
A115E§	119.2	3	110	500
A115M§	119.2	3	110	600
1N1612	120	5	150	50
1N1613	120	5	150	100
1N1614	120	5	150	200
1N1615	120	5	150	400
1N1616	120	5	150	600
1N1341A	120	6	150	50
1N1342A	120	6	150	100
1N1344A	120	6	150	200
1N1345A	120	6	150	300
1N1346A	120	6	150	400
1N1347A	120	6	150	500
1N1348A	120	6	150	600
1N3988	120	6	150	800
1N3990	120	6	150	1000
1N3879§	120	6	75	50
1N3880§	120	6	75	100
1N3881§	120	6	75	200
1N3882§	120	6	75	300
1N3883§	120	6	75	400
1N1199A	120	12	240	50
1N1200A	120	12	240	100
1N1202A	120	12	240	200
1N1203A	120	12	240	300
1N1204A	120	12	240	400
1N1205A	120	12	240	500
1N1206A	120	12	240	600
1N3671A	120	12	240	800
1N3673A	120	12	240	1000
1N5331	120	12	240	1200
1N3889§	120	12	150	50
1N3890§	120	12	150	100
1N3891§	120	12	150	200
1N3892§	120	12	150	300
1N3893§	120	12	150	400
A28F§	120	12	240	50
A28A§	120	12	240	100
A28B§	120	12	240	200
A28C§	120	12	240	300
A28D§	120	12	240	400
1N3208	125	20	300	50
1N3209	125	20	300	100
1N3210	125	20	300	200
1N3211	125	20	300	300
1N3212	125	20	300	400
1N3213	125	20	300	500
1N3214	125	20	300	600
A44F	126	20	300	50
A44A	126	20	300	100
A44B	126	20	300	200
A44C	126	20	300	300
A44D	126	20	300	400
A44E	126	20	300	500
A44M	126	20	300	600
1N248B	123	20	350	50
1N249B	123	20	350	100
1N250B	123	20	350	200
1N1195A	123	20	350	300
1N1196A	123	20	350	400
1N1197A	123	20	350	500
1N1198A	123	20	350	600
1N3899§	123	20	225	50
1N3900§	123	20	225	100
1N3901§	123	20	225	200
1N3902§	123	20	225	300
1N3903§	123	20	225	400
1N2154	123	25	400	50
1N2155	123	25	400	100
1N2156	123	25	400	200
1N2157	123	25	400	300
1N2158	123	25	400	400
1N2159	123	25	400	500
1N2160	123	25	400	600
A139E§	123	25	400	600
A139M§	123	25	400	600
A139N§	123	25	400	800
A139P§	123	25	400	1000
1N3909§	123	30	300	50
1N3910§	123	30	300	100
1N3911§	123	30	300	200
1N3912§	123	30	300	300
1N3913§	123	30	300	400
1N1183	123	35	500	50
1N1184	123	35	500	100
1N1186	123	35	500	200
1N1187	123	35	500	300
1N1188	123	35	500	400
1N1189	123	35	500	500
1N1190	123	35	500	600
1N3766	123	35	500	800
1N3768	123	35	500	1000
1N5332	123	35	500	1200
A70B	127	100	1600	200
1N3289	127	100	1600	200
A70C	127	100	1600	300
1N3290	127	100	1600	300
A70D	127	100	1600	400
1N3291	127	100	1600	400
A70E	127	100	1600	500
1N3292	127	100	1600	500
A70M	127	100	1600	600
1N3293	127	100	1600	600
A70N	127	100	1600	800
1N3294	127	100	1600	800
A70P	127	100	1600	1000
1N3295	127	100	1600	1000
A70PB	127	100	1600	1200
1N3296	127	100	1600	1200
A177A	127	100	1600	100
A177B	127	100	1600	200
A177C	127	100	1600	300
A177D	127	100	1600	400
A177E	127	100	1600	500
A177M	127	100	1600	600
A177S	127	100	1600	700
A177N	127	100	1600	800
A177T	127	100	1600	900
A177P	127	100	1600	1000
A177PA	127	100	1600	1100
A177PB	127	100	1600	1200
A177PC	127	100	1600	1300
A177PD	127	100	1600	1400
A177PE	127	100	1600	1500
A180A	127	150	2500	100
A180B	127	150	2500	200
A180C	127	150	2500	300

General Electric Product Selection Guide

SILICON RECTIFIERS (CONT.)

GE Type	Case	I_F Amps	I_{Fm} Amps	Volts
A180D	127	150	2500	400
A180E	127	150	2500	500
A180M	127	150	2500	600
A180S	127	150	2500	700
A180N	127	150	2500	800
A180T	127	150	2500	900
A180P	127	150	2500	1000
A180PA	127	150	2500	1100
A180PB	127	150	2500	1200
A180PC	127	150	2500	1300
A180PD	127	150	2500	1400
A180PE	127	150	2500	1500
A187A§	127	150	2000	100
A187B§	127	150	2000	200
A187C§	127	150	2000	300
A187D§	127	150	2000	400
A187E§	127	150	2000	500
A187M§	127	150	2000	600
A187S§	127	150	2000	700
A187N§	127	150	2000	800
A187T§	127	150	2000	900
A187P§	127	150	2000	1000
A187PA§	127	150	2000	1100
A187PB§	127	150	2000	1200
A187PC§	127	150	2000	1300
A187PD§	127	150	2000	1400
A187PE§	127	150	2000	1500
1N3267	128	160	2000	400
1N3268	128	160	2000	500
1N3269	128	160	2000	600
1N3271	128	160	2000	800
1N3273	128	160	2000	1000
1N3738	128	250	4500	400
1N3739	128	250	4500	500
1N3740	128	250	4500	600
1N3741	128	250	4500	800
1N3742	128	250	4500	1000
A190A	128	250	4500	100
A190B	128	250	4500	200
A190C	128	250	4500	300
A190D	128	250	4500	400
A190E	128	250	4500	500
A190M	128	250	4500	600
A190S	128	250	4500	700
A190N	128	250	4500	800
A190T	128	250	4500	900
A190P	128	250	4500	1000
A190PA	128	250	4500	1100
A190PB	128	250	4500	1200
A190PC	128	250	4500	1300
A190PD	128	250	4500	1400
A190PE	128	250	4500	1500
A291PC	129	250	4500	1300
A291PD	129	250	4500	1400
A291PE	129	250	4500	1500
A291PM	129	250	4500	1600
A197A§	128	250	3500	100
A197B§	128	250	3500	200
A197C§	128	250	3500	300
A197D§	128	250	3500	400
A197E§	128	250	3500	500
A197M§	128	250	3500	600
A197S§	128	250	3500	700
A197N§	128	250	3500	800
A197T§	128	250	3500	900
A197P§	128	250	3500	1000
A197PA§	128	250	3500	1100
A197PB§	128	250	3500	1200
A197PC§	128	250	3500	1300
A197PD§	128	250	3500	1400
A197PE§	128	250	3500	1500



GE Type	Case	I_F Amps	I_{Fm} Amps	Volts
1N4049	128	275	5000	300
1N4050	128	275	5000	400
1N4051	128	275	5000	500
1N4052	128	275	5000	600
1N4054	128	275	5000	800
1N4056	128	275	5000	1000
A390M	109.1	400	4500	600
A390N	109.1	400	4500	800
A390P	109.1	400	4500	1000
A390PB	109.1	400	4500	1200
A390PC	109.1	400	4500	1300
A390PD	109.1	400	4500	1400
A390PE	109.1	400	4500	1500
A397A§	109.1	400	3500	100
A397B§	109.1	400	3500	200
A397C§	109.1	400	3500	300
A397D§	109.1	400	3500	400
A397E§	109.1	400	3500	500
A397M§	109.1	400	3500	600
A397S§	109.1	400	3500	700
A397N§	109.1	400	3500	800
A397T§	109.1	400	3500	900
A397P§	109.1	400	3500	1000
A397PA§	109.1	400	3500	1100
A397PB§	109.1	400	3500	1200
A397PC§	109.1	400	3500	1300
A397PD§	109.1	400	3500	1400
A397PE§	109.1	400	3500	1500
A295B	129	500	7000	200
A295C	129	500	7000	300
A295D	129	500	7000	400
A295E	129	500	7000	500
A295M	129	500	7000	600
A295N	129	500	7000	800
A295P	129	500	7000	1000
A295PB*	129	500	7000	1200

GE Type	Case	I_F Amps	I_{Fm} Amps	Volts
A437E§	276	750	10000	500
A437M§	276	750	10000	600
A437S§	276	750	10000	700
A437N§	276	750	10000	800
A437T§	276	750	10000	900
A437P§	276	750	10000	1000
A437PA§	276	750	10000	1100
A437PB§	276	750	10000	1200
A437PC§	276	750	10000	1300
A437PD§	276	750	10000	1400
A437PE§	276	750	10000	1500
A430E	276	1000	10000	500
A430M	276	1000	10000	600
A430S	276	1000	10000	700
A430N	276	1000	10000	800
Z430T	276	1000	10000	900
A430P	276	1000	10000	1000
A430PA	276	1000	10000	1100
A430PB	276	1000	10000	1200
A430PC	276	1000	10000	1300
A430PD	276	1000	10000	1400
A430PE	276	1000	10000	1500
A540D	182	1000	10000	400
A540E	182	1000	10000	500
A540M	182	1000	10000	600
A540N	182	1000	10000	800
A540P	182	1000	10000	1000
A540PB	182	1000	10000	1200
A540PD*	182	1000	10000	1400
A570A	182	1500	15000	100
A570B	182	1500	15000	200
A570C	182	1500	15000	300
A570D	182	1500	15000	400
A570E	182	1500	15000	500
A570M	182	1500	15000	600

§Fast recovery types. *Series is available up to 3000 volts, write or call for more information.

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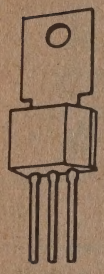
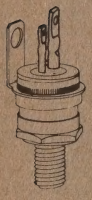
General Electric Product Selection Guide

TRIACS AND TRIAC TRIGGERS

173.2



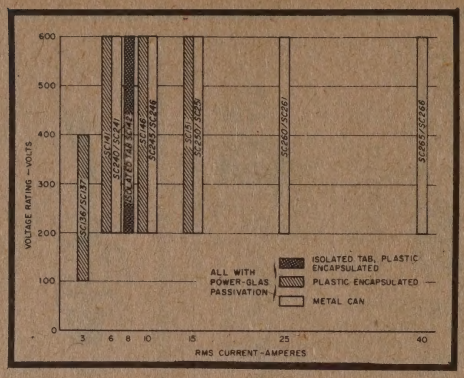
173.1



243

244

241



Triac is a silicon AC switch which may be gate triggered from an OFF-state to an ON-state for either polarity of applied voltage. Triac is also an AC phase controller, that performs in a single device the function of two SCR's connected back to back to control heat, light and motor speed. Plastic triacs feature low cost and reliability. **Power Glas™** passivated junctions, rugged and industry proven packaging and are available in various types of (TO-5, TO-66, etc.) formed leads. Metal can triacs feature **Power Glas** passivated junctions, glass to metal seal, high performance and reliability, transient voltage immunity and comprehensive specifications.

TRIACS IN PLASTIC POWER TAB CASE (173.2)

GE Type*	rms On-State Current† Amps	V_{DRM} Off-State† Volts	I_{gt} DC Trigger Current† mA§	V_{gt} DC Trigger Volts	I_{TSM}‡ Amps
SC136A	3	100	10	2	30
SC136B	3	200	25	2	30
SC136D	3	400	25	2	30

TRIACS IN PLASTIC POWER PAC CASE (173.1)

SC141B	6	200	50	2.5	80
SC141D	6	400	50	2.5	80
SC141E	6	500	50	2.5	80
SC141M	6	600	50	2.5	80
SC146B	10	200	50	2.5	100
SC146D	10	400	50	2.5	100
SC146E	10	500	50	2.5	100
SC146M	10	600	50	2.5	100
SC151B	15	200	50	2.5	120
SC151D	15	400	50	2.5	120
SC151E	15	500	50	2.5	120
SC151M	15	600	50	2.5	120

TRIACS IN ISOLATED POWER PAC CASE (230)

SC142B	8	200	50	2.5	80
SC142D	8	400	50	2.5	80
SC142E	8	500	50	2.5	80
SC142M	8	600	50	2.5	80

TRIACS IN ISOLATED STUD CASE (243, 244)

SC240B2,3	6	200	50	2.5	80
SC240D2,3	6	400	50	2.5	80
SC240E2,3	6	500	50	2.5	80
SC240M2,3	6	600	50	2.5	80
SC245B2,3	10	200	50	2.5	100
SC245D2,3	10	400	50	2.5	100
SC245E2,3	10	500	50	2.5	100
SC245M2,3	10	600	50	2.5	100
SC250B2,3	15	200	50	2.5	100
SC250D2,3	15	400	50	2.5	100
SC250E2,3	15	500	50	2.5	100
SC250M2,3	15	600	50	2.5	100
SC260B2,3	25	200	50	2.5	250
SC260D2,3	25	400	50	2.5	250
SC260E2,3	25	500	50	2.5	250
SC260M2,3	25	600	50	2.5	250

#Types shown are standard types; for zero voltage switch types, add suffix -2 to GE No.; for selected four quadrant types, add suffix -3; for 400 Hz types, add suffix -4. †At 12 volts, 25° C. †Surge current at 60 Hz, one cycle non-negative. §MT2+G+, MT2—G—, MT2+G—.

TRIACS IN STUD CASE (242)

GE Type*	rms On-State Current† Amps	V_{DRM} Off-State† Volts	I_{gt} DC Trigger Current† mA	V_{gt} DC Trigger Volts	I_{TSM}‡ Amps
SC240B	6	200	50	2.5	80
SC240D	6	400	50	2.5	80
SC240E	6	500	50	2.5	80
SC240M	6	600	50	2.5	80
SC245B	10	200	50	2.5	100
SC245D	10	400	50	2.5	100
SC245E	10	500	50	2.5	100
SC245M	10	600	50	2.5	100
SC250B	15	200	50	2.5	100
SC250D	15	400	50	2.5	100
SC250E	15	500	50	2.5	100
SC250M	15	600	50	2.5	100
SC260B	25	200	50	2.5	250
SC260D	25	400	50	2.5	250
SC260E	25	500	50	2.5	250
SC260M	25	600	50	2.5	250
SC265B	40	200	80	2.5	300
SC265D	40	400	80	2.5	300
SC265E	40	500	80	2.5	300
SC265M	40	600	80	2.5	300

TRIACS IN PRESS FIT CASE (241)

GE Type*	rms On-State Current† Amps	V_{DRM} Off-State† Volts	I_{gt} DC Trigger Current† mA§	V_{gt} DC Trigger Volts	I_{TSM}‡ Amps
SC241B	6	200	50	2.5	80
SC241D	6	400	50	2.5	80
SC241E	6	500	50	2.5	80
SC241M	6	600	50	2.5	80
SC246B	10	200	50	2.5	100
SC246D	10	400	50	2.5	100
SC246E	10	500	50	2.5	100
SC246M	10	600	50	2.5	100
SC251B	15	200	50	2.5	100
SC251D	15	400	50	2.5	100
SC251E	15	500	50	2.5	100
SC251M	15	600	50	2.5	100
SC261B	25	200	50	2.5	250
SC261D	25	400	50	2.5	250
SC261E	25	500	50	2.5	250
SC261M	25	600	50	2.5	250
SC266B	40	200	80	2.5	300
SC266D	40	400	80	2.5	300
SC266E	40	500	80	2.5	300
SC266M	40	600	80	2.5	300

*Types shown are standard types; for zero voltage switch types, add suffix -12 to GE Number; for selected four quadrant types, add suffix -13 to GE Number; for 400 Hz types, add suffix -14 to GE Number. †At 12 volts, 25° C. ‡Surge current at 60 Hz, one cycle non-negative. §MT2+G+, MT2—G—, MT2+G—.

TRIAC TRIGGERS

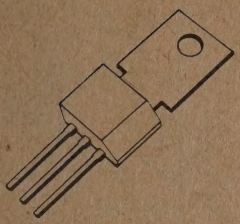
ST2 (diac) is a silicon bi-directional diode which may be used for triggering triacs or SCR's. It has three layer structure with negative resistance switching characteristics in both directions. ST4 is an asymmetrical AC trigger integrated circuit for use in triac phase control applications. This device reduces the snap-on effects that are present in conventional trigger circuits by eliminating control circuit hysteresis. This performance is possible with a single RC time constant.

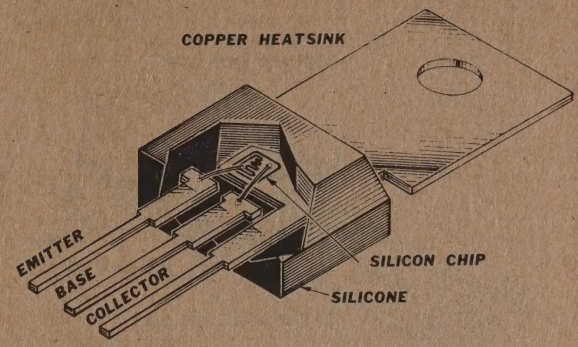
GE Type	V_{S2} Switching Volts Min.	V_{S2} Switching Volts Max.	V_{S1} Switching Volts Min.	V_{S1} Switching Volts Max.	Max. Switching Current μA	Min. Pulse Output Volts
ST2	28*	36*	28*	36*	200	3.0
ST4	7	9	14	18	80	3.5

*For ST2, $V_{S2}-V_{S1}\pm10\%$.

General Electric Product Selection Guide

SILICON POWER TRANSISTORS





Power Tab plastic encapsulated devices engineered to deliver excellent performance with maximum value. Can be supplied with formed leads to fit TO-5 or TO-66 configurations. Contact your nearest NEWARK distributor for information. Data and pricing on request.

SILICON POWER TAB TRANSISTORS

D40D/D41D, D40E/D41E, D42C/D43C are complementary. D40N and D40P applications in CRT video output, regulators, inverters. D40C, D, E, K; D41D, E; D42C; D43C; applications as audio output, 3 watts to 20 watts. Other applications include regulators, drivers, inverters, motor controls, lamp controls and relay drivers.

NPN Darlington h_{FE} at $V_{CE} = 5$ V and $I_C = 200$ mA. $V_{CE(SAT)}$ at $I_C = 500$ mA and $I_B = 0.5$ mA. $f_T = 75$ MHz.

GE Type	hFE	Min. VCEO V	IC Cont. A	IC Peak A	PT W
D40C1	10K-60K	30	0.5	1.0	6.25
D40C2	40K min.	30	0.5	1.0	6.25
D40C3	90K min.	30	0.5	1.0	6.25
D40C4	10K-60K	40	0.5	1.0	6.25
D40C5	40K min.	40	0.5	1.0	6.25
D40C7	10K-60K	50	0.5	1.0	6.25
D40C8	40K min.	50	0.5	1.0	6.25

NPN Darlington h_{FE} at $V_{CE} = 5$ V and $I_C = 200$ mA. $V_{CE(SAT)}$ at $I_C = 1.5$ amps and $I_B = 3$ mA. $f_T = 75$ MHz.

D40K1	10K min.	30	1.5	2.5	10
D40K2	10K min.	50	1.5	2.5	10

NPN h_{FE} at $V_{CE} = 10$ V and $I_C = 20$ mA. $f_T = 80$ MHz.

D40N1	30-90	250	0.1	0.2	6.25
D40N2	60-180	250	0.1	0.2	6.25
D40N3	30-90	300	0.1	0.2	6.25
D40N4	60-180	300	0.1	0.2	6.25
D40N5	20 min.	375	0.1	0.2	6.25

NPN h_{FE} at $V_{CE} = 2$ V and $I_C = 100$ mA. $V_{CE(SAT)}$ at $I_C = 500$ mA and $I_B = 50$ mA. $f_T = 200$ MHz.

D40D1	50-150	30	1.0	1.5	6.25
D40D2‡	120-360	30	1.0	1.5	6.25
D40D3	290 min.	30	1.0	1.5	6.25
D40D4	50-150	45	1.0	1.5	6.25
D40D5	120-360	45	1.0	1.5	6.25
D40D7	50-150	60	1.0	1.5	6.25
D40D8	120-360	60	1.0	1.5	6.25
D40D10	50-150	75	1.0	1.5	6.25
D40D11	120-360	75	1.0	1.5	6.25
D40D13	50-150	75	1.0	1.5	6.25
D40D14	120-360	75	1.0	1.5	6.25

NPN h_{FE} at $V_{CE} = 2$ V and $I_C = 100$ mA.

GE Type	hFE§	Min. VCEO V	IC Cont. A	IC Peak A	PT W
D40E1	50 min.‡	30	2	..	8
D40E5	50 min.‡	60	2	..	8
D40E7	50 min.‡	80	2	..	8

NPN h_{FE} at $V_{CE} = 10$ V and $I_C = 80$ mA. $V_{CE(SAT)}$ at $I_C = 100$ mA and $I_B = 10$ mA. $f_T = 50$ MHz.

D40P1	40 min.#	120	0.5	1.0	6.25
D40P3	40 min.#	180	0.5	1.0	6.25
D40P5	40 min.#	225	0.5	1.0	6.25

PNP h_{FE} at $V_{CE} = 2$ V and $I_C = 100$ mA. $V_{CE(SAT)}$ at $I_C = -500$ mA and $I_B = -50$ mA. $f_T = 150$ MHz.

GE Type	BFE	Min. VCEO V	Ic Cont. A	Ic Peak A	PT W
D41D1	50-150	−30	−1.0	−1.5	6.25
D41D2	120-360	−30	−1.0	−1.5	6.25
D41D4	50-150	−45	−1.0	−1.5	6.25
D41D5	120-360	−45	−1.0	−1.5	6.25
D41D7	50-150	−60	−1.0	−1.5	6.25
D41D8	120-360	−60	−1.0	−1.5	6.25
D41D10	50-150	−75	−1.0	−1.5	6.25
D41D11	120-360	−75	−1.0	−1.5	6.25
D41D13	50-150	−75	−1.0	−1.5	6.25
D41D14	120-360	−75	−1.0	−1.5	6.25

PNP h_{FE} at $V_{CE} = 2$ V and $I_C = 100$ mA.

D41E1	50 min.‡	−30	2	..	8
D41E5	50 min.‡	−60	2	..	8
D41E7	50 min.‡	−80	2	..	8

PNP Darlington H_{FE} at $V_{CD} = 5$ V, $I_C = 200$ mA. $V_{CE(SAT)}$ at $I_C = 1.5$A, $I_B = 3$ mA for D41K1, 2 and $V_{CE(SAT)}$ at $I_C = 1.0$A, $I_B = 2$mA for D41K3, 4. $f_T = 100$ MHz.

D41K1	10K min.	−30	−2	−3	10
D41K2	10K min.	−50	−2	−3	10
D41K3	10K min.	−30	−2	−3	10
D41K4	10K min.	−50	−2	−3	10

P_T at 25°C tab temperature.
‡20 when measured at 2 mA collector current.
‡10 at V_{CE} −2 V and I_C −1 A.

NPN h_{FE} at $V_{CE} = 1$ V and $I_C = 200$ mA. $V_{CE(SAT)}$ at $I_C = 1$ A and $I_B = 50$ mA. $f_T = 50$ MHz.

GE Type	hFE§	Min. VCEO V	IC Cont. A	IC Peak A	PT W
D42C1	25 min.	30	3.0	5.0	12.5
D42C2	40-120	30	3.0	5.0	12.5
D42C3†	40-120	30	3.0	5.0	12.5
D42C4	25 min.	45	3.0	5.0	12.5
D42C5	40-120	45	3.0	5.0	12.5
D42C6†	40-120	45	3.0	5.0	12.5
D42C7	25 min.	60	3.0	5.0	12.5
D42C8	40-120	60	3.0	5.0	12.5
D42C9†	40-120	60	3.0	5.0	12.5
D42C10	25 min.	80	3.0	5.0	12.5
D42C11*	40-120	80	3.0	5.0	12.5
D42C12†	40-120	80	3.0	5.0	12.5

NPN h_{FE} at $V_{CE} = 10$ V and $I_C = 500$ mA. $V_{CE(SAT)}$ at $I_C = 500$ mA and $I_B = 50$ mA. P_T for D42R1, 2 and $V_{CE(SAT)}$ at $I_C = 300$ mA, $I_B = 30$ mA for D42R3, 4. $f_T = 55$ MHz.

D42R1	30 min.	250	1.0	2.0	15
D42R2	30 min.	300	1.0	2.0	15
D42R3	30 min.	250	1.0	2.0	15
D43R4	30 min.	300	1.0	2.0	15

PNP h_{FE} at $V_{CE} = -1$ V and $I_C = -200$ mA. $V_{CE(SAT)}$ at $I_C = -1$ A and $I_B = -50$ mA. $f_T = 40$ MHz.

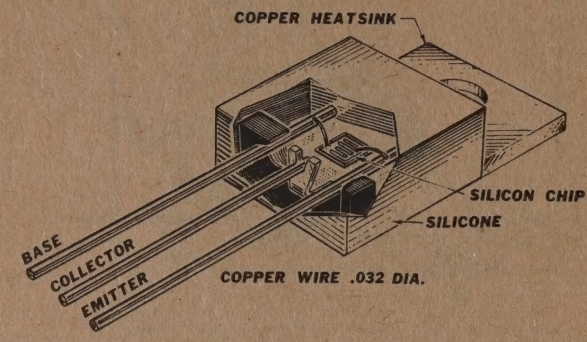
D43C1	25 min.	−30	−3.0	−5.0	12.5
D43C2	40-120	−30	−3.0	−5.0	12.5
D43C3†	40-120	−30	−3.0	−5.0	12.5
D43C4	25 min.	−45	−3.0	−5.0	12.5
D43C5	40-120	−45	−3.0	−5.0	12.5
D43C6†	40-120	−45	−3.0	−5.0	12.5
D43C7	25 min.	−60	−3.0	−5.0	12.5
D43C8	40-120	−60	−3.0	−5.0	12.5
D43C9†	40-120	−60	−3.0	−5.0	12.5
D43C10	25 min.	−80	−3.0	−5.0	12.5
D43C11*	40-120	−80	−3.0	−5.0	12.5
D43C12†	40-120	−80	−3.0	−5.0	12.5

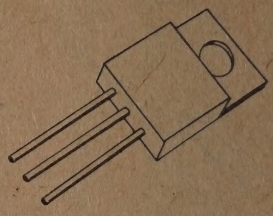
*h_{FE}=20 min. at 2 V, 1 A; all others = 10 min. †h_{FE} = 20 min. when measured at $I_C = 2$ A.

§h_{FE}=20 min. at 1 V, 1 A on parts 2, 5, 8, 11; h_{FE}=10 min. at 1 V, 1 A on parts 1, 4, 7, 10. $V_{CE(SAT)}$ on parts 1, 4, 7, 10 is measured at 1 A, 100 mA.

General Electric Product Selection Guide

SILICON POWER TRANSISTORS





Power Pac plastic encapsulated devices engineered to deliver excellent performance with maximum value. Can be supplied with formed leads to fit TO-5 or TO-66 configurations. Contact your nearest NEWARK distributor for information. Data and pricing on request.

SILICON POWER PAC TRANSISTORS

NPN h_{FE} at V_{CE}=1 V and I_C=200 mA. $V_{CE(SAT)}$ at I_C=1A and I_B=50 mA. f_T=50 MHz.

GE Type	h_{FE}§	Min. V_{CEO} V	I_C Cont. A	I_C Peak A	P_T W
D44C1	25 min.	30	4.0	6.0	30.0
D44C2	40-120	30	4.0	6.0	30.0
D44C3#	40-120	30	4.0	6.0	30.0
D44C4	25 min.	45	4.0	6.0	30.0
D44C5	40-120	45	4.0	6.0	30.0
D44C6#	40-120	45	4.0	6.0	30.0
D44C7	25 min.	60	4.0	6.0	30.0
D44C8	40-120	60	4.0	6.0	30.0
D44C9#	40-120	60	4.0	6.0	30.0
D44C10	25 min.	80	4.0	6.0	30.0
D44C11*	40-120	80	4.0	6.0	30.0
D44C12#	40-120	80	4.0	6.0	30.0

PNP Darlington h_{FE} at I_C=5.0 A, V_{CE}= 5 V. $V_{CE(SAT)}$ at I_C=5.0 A. I_B=10mA.

D44E1	1000 min.	40	10	20	50
D44E2	1000 min.	60	10	20	50
D44E3	1000 min.	80	10	20	50

NPN h_{FE} at V_{CE}=10 V and I_C=2 amps. $V_{CE(SAT)}$ at I_C=2 amps and I_B=200 mA. f_T=50 MHz.

D44Q1	20 min.‡	125	4.0	8.0	31.25
D44Q3	20 min.‡	175	4.0	8.0	31.25
D44Q5	20 min.‡	225	4.0	8.0	31.25

NPN h_{FE} at V_{CE}=10 V and I_C=500 mA. $V_{CE(SAT)}$ at I_C=500 mA and I_B=50 mA. f_T=40 MHz.

D44R1	30-90	250	1.0	2.0	31.25
D44R2	75-175	250	1.0	2.0	31.25

GE Type	h_{FE}§	Min. V_{CEO} V	I_C Cont. A	I_C Peak A	P_T W
D44R3	30-90	300	1.0	2.0	31.25
D44R4	75-175	300	1.0	2.0	31.25
D44R5	30 min.	250	1.0	2.0	31.25
D44R6	30 min.	300	1.0	2.0	31.25
D44R7	150-300	250	1.0	2.0	31.25
D44R8	150-300	300	1.0	2.0	31.25

NPN h_{FE} at V_{CE}=1 V and I_C=2 amps. $V_{CE(SAT)}$ at I_C=8 amps and I_B=0.4 A (0.8 A for D44H1, 4, 7, 10). F_T=50 MHz.

D44H1	35 min.	30	10	20	50
D44H2	60 min.	30	10	20	50
D44H4	35 min.	45	10	20	50
D44H5	60 min.	45	10	20	50
D44H7	35 min.	60	10	20	50
D44H8	60 min.	60	10	20	50
D44H10	35 min.	80	10	20	50
D44H11	60 min.	80	10	20	50

PNP h_{FE} at V_{CE}= —1 and I_C=200 mA. $V_{CE(SAT)}$ at I_C= —1 A and I_B=50 mA. f_T=40 MHz.

D45C1	25 min.	—30	—4.0	—6.0	30.0
D45C2	40-120	—30	—4.0	—6.0	30.0
D45C3	40-120†	—30	—4.0	—6.0	30.0
D45C4	25 min.	—45	—4.0	—6.0	30.0
D45C5	40-120	—45	—4.0	—6.0	30.0
D45C6	40-120†	—45	—4.0	—6.0	30.0
D45C7	25 min.	—60	—4.0	—6.0	30.0
D45C8	40-120	—60	—4.0	—6.0	30.0
D45C9	40-120†	—60	—4.0	—6.0	30.0
D45C10	25 min.	—80	—4.0	—6.0	30.0
D45C11	40-120	—80	—4.0	—6.0	30.0
D45C12	40-120†	—80	—4.0	—6.0	30.0

†h_{FE}=20 min. at —1 V, —2 A.

PNP Darlington h_{FE} at I_C= —5.0 A, V_{CE}= —5.0 V. $V_{CE(SAT)}$ at I_C=5.0 A, I_B= —10 mA.

GE Type	h_{FE}§	Min. V_{CEO} V	I_C Cont. A	I_C Peak A	P_T W
D45E1	1000 min.	—40	—10	—20	50
D45E2	1000 min.	—60	—10	—20	50
D45E3	1000 min.	—80	—10	—20	50

PNP h_{FE} at V_{CE}= 10 V and I_C=200 mA. $V_{CE(SAT)}$ at I_C= —8 A and I_B= —0.4 A (—0.8 A for D45H1, 4, 7, 10). f_T=40 MHz.

D45H1	35 min.	—30	—10	—20	50
D45H2	60 min.	—30	—10	—20	50
D45H4	35 min.	—45	—10	—20	50
D45H5	60 min.	—45	—10	—20	50
D45H7	35 min.	—60	—10	—20	50
D45H8	60 min.	—60	—10	—20	50
D45H10	35 min.	—80	—10	—20	50
D45H11	60 min.	—80	—10	—20	50

P_T at 25°C tab temperature.
D44C/D45C and D44H/D45H are complementary.

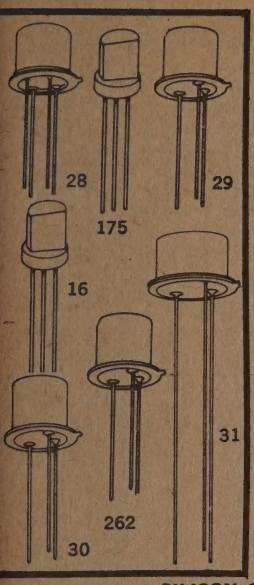
*h_{FE}=20 min. at 2 V, 1 A, all others=10 min.
‡h_{FE}=20 min. when measured at I_C=2 A.
‡h_{FE}=20 min. at 10 V, 2 A.
§h_{FE}=20 min. at 1 V, 1 A on parts 2, 5, 8, 11; h_{FE}=10 min. at 1 V, 1 A on parts 1, 4, 7, 10, 100. $V_{CE(SAT)}$ on parts 1, 4, 7, 10 is measured at 1 A, 100 mA.
*$V_{CE(SAT)}$ is measured at I_C= 300 mA and I_B=30 mA.

MAKE NEWARK YOUR DEPENDABLE SOURCE

FOR ALL ELECTRONIC PARTS AND EQUIPMENT

General Electric Product Selection Guide

UNIJUNCTIONS AND SILICON SWITCHES



Use	Device	Unijunctions: Conventional 2N489-94, 2N1671, 2N2160	Unijunctions: Complementary 2N2646 2N2647	Unijunctions: Complementary D5K1 D5K2	Unijunctions: Programmable 2N6027 2N6028	Triggers: SUS 2N4983-90	Triggers: SBS 2N4991-93	Triggers: SAS D13H
Trigger for SCR's	DC, Lo Cost	P	F	P	E	E	E	E
	DC, Hi Perf.	F	F	F	E	F	F	F
	DC, Volt Regulator	P	P	F	F	E	E	E
	DC, Inverter	F	F	E	E	F	F	F
	DC, Hi ΔI/ΔT	P	P	P	E[1]	P	P	P
	AC, ϕ, Hi Perf.	F	F	E	E[1]	F	F	F
	AC, ϕ, Hi f	F	F	F	E	P	P	P
	AC, Lo RFI	P	P	F	F	E	E	E
	AC, ϕ, Lo Cost	P	F	P	E	E	E	E
Timers	>1 hr.	F[1]	P	F[1]	E[1]	N	N	N
	>1 min, Lo Cost	P	F	P	E	N	N	N
	>1 min, Stable	F	P	E	P	N	N	N
	<1 min, Lo Cost	P	F	P	E	F	F	F
	<1 min, Stable	F	P	E	P	F	N	N
	<10V	P	P	F	E	N	N	N
	10V-25V	E	E	E	E	F	F	F
	>25V	P	P	P	E	F	F	F
Oscillators	Stability	F	F	E	F	N	N	N
	Cost	P	F	P	E	N	N	N
	Adjust, Range	E	E	F	F[1]	N	N	N
Markets	Military	E	P	F	F[2]	P	P	P
	Hi-Rel	E	P	E	F[2]	F	F	P
	Economy	P	F	P	E	E	E	E

SILICON CONTROL SWITCHES (SCS)

Four-terminal 28 package.

GE Type	Anode Blk. V	Cont. DC I_F mA	Peak Recur. I_F A*	Peak Cath. Gate Cur. mA	Dissipation mW	I_B at VAC V	I_B R_{GC}= 10K μA	Maximum V_{GC} I_{GC}= 20 μA V	Maximum V_{GA} I_{GA}= 1 μA V
3N81	65	200	1.0	500	400	65	20	5	65
3N82	100	200	1.0	500	400	100	20	5	100
3N83	70	50	0.1	50	200	70	20†	5	70
3N84	40	175	0.5	100	320	40	20†	5	40
3N85	100	175	0.5	100	320	100	20†	5	100
3N86	65	200	1.0	500	400	65	20	5	65

*At 100 μsec. †Measured at 125° C; all others at 150° C.

PROGRAMMABLE UNIJUNCTION—PUT 175

Passivated PNPN devices with anode, anode gate and cathode terminals. Recommended for SCR trigger, pulse and timing circuits. Gate-cathode forward voltage and gate-anode reverse voltage=40 V. Anode-cathode voltage= ±40 V.

GE Type	I_{GAO} V_S=40V nA	Max. Values at V_S=10V I_P μA	V_T V	I_V μA	I_F (CONT) mA	P_T W
2N6027	10	2	.2-1.6	50	150	300
2N6028	10	0.15	.2-.6	25	150	300

COMPLEMENTARY UNIJUNCTION (29)

Ideal for low frequency oscillators and timers. Same characteristics as standard unijunction except opposite polarity current and voltages are applied to it.

GE Type	R_{BO} kohms	Intrinsic Standoff Ratio	I_V Min. mA	I_P Max. μA	I_{FO} Max. nA	V_O Min. Volts	Freq. Stab.* %
D5K1	5.5-8.2	.58-.62	1	5	10	3.5	1.0
D5K2	5-15	.58-.62	1	15	10	2.0	2.0

*Frequency stability from 25° C,—55° C to +150° C.

SILICON BILATERAL SWITCHES (SBS)
6-10 VOLT BIDIRECTIONAL PLANAR TRIGGER DIODE

V_F at 200 mA=1.7 volts.

GE Type	Case	Max. I_F (CONT) mA	T_J —55° C to °C	V_S V	Max. I_S μA	I_B at 5 V μA
2N4991	16	175	+125	6-10	500	1.0
2N4992	16	200	+150	7.5-9	120	0.1
2N4993	262	200	+150	6-10	500	1.0

SILICON UNILATERAL SWITCHES (SUS)
6-10 VOLT PLANAR TRIGGER DIODE

V_{ACR}=30 volts maximum. V_F at 200 mA=1.5 volts.

GE Type	Case	Max. I_F (CONT) mA	T_J —55° C to °C	V_S V	Max. I_S μA	I_B at 5 V μA
2N4983	262	175	+125	6-10	500	1.0
2N4984	262	200	+150	7.5-9	150	0.1
2N4985	262	200	+150	7.5-8.2	300	0.01
2N4986	262	175	+125	7-9	200	0.1
2N4987	16	175	+125	6-10	500	1.0
2N4988	16	200	+150	7.5-9	150	0.1
2N4989	16	200	+150	7.5-8.2	300	0.1
2N4990	16	175	+125	7-9	200	0.1

SILICON UNIJUNCTION TRANSISTORS

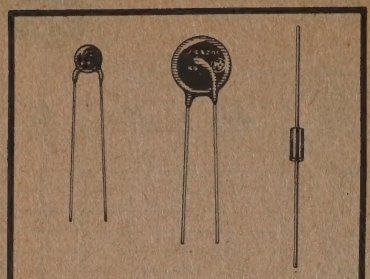
"N" type silicon bar mounted between two ohmic base contacts with a "P" type emitter near base two.
Package type 31 except 2N2646 and 2N2647 package 30.

GE Type	R_{BBO} V_{BB}=3V I_E=0 kohms	Intrin. Standoff Ratio†	I_V Min. mA	I_P Max. Emitter μA	I_{EO} Max. μA	I_{EO} Max. V_{B2E}‡
2N489				12	2	60
2N489A*	4.7-6.8	.51-.62	8	12	2	60
2N489B				6	0.2	30
2N490				12	2	60
2N490A*	6.2-9.1	.51-.62	8	12	2	60
2N490B				6	0.2	30
2N490C				2	0.02	30
2N491				12	2	60
2N491A*	4.7-6.8	.56-.68	8	12	2	60
2N491B				6	0.2	30
2N492				12	2	60
2N492A*	6.2-9.1	.56-.68	8	12	2	60
2N492B				6	0.2	30
2N492C				2	0.02	30
2N493				12	2	60
2N493A*	4.7-6.8	.62-.75	8	12	2	60
2N493B				6	0.2	30
2N494				12	2	60
2N494A*				12	2	60
2N494B	6.2-9.1	.62-.75	8	6	0.2	30
2N494C				2	0.02	30
2N1671				25	12	30
2N1671A	4.7-9.1	.47-.62	8	25	12	30
2N1671B				6	0.2	30
2N1671C				2	0.02	30
2N2160	4.0-12.0	.47-.80	8	25	12	30
2N2646	4.7-9.1	.56-.75	4	5	12	30
2N2647	4.7-9.1	.68-.82	8	2	0.2	30

†Van=10 V. ‡T_J=25° C. *JAN type available.

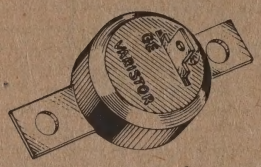
General Electric Product Selection Guide

GE-MOV METAL OXIDE VARISTORS

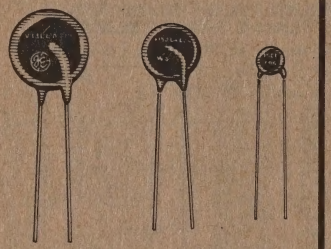


ZA SERIES

MA SERIES



PA SERIES



L SERIES

Varistors are voltage dependent, symmetrical resistors which perform in a manner similar to back-to-back zener diodes in circuit protection but offer advantages in performance and economics. When exposed to high energy voltage transient, varistor impedance changes from a high standby value to a low conducting value thus clamping the voltage to a safe level. Dangerous energy of incoming high voltage pulse is absorbed by the varistor, thus protecting voltage sensitive circuit components. Eliminates follow-on currents, extends contact life and protects circuit insulation. Applications include component and system voltage transient protection in inductive and transformer switching circuits, regenerative loads, switching magnetic amplifiers; contact arc suppression-reduction of lightning effects. If nonsinusoidal wave input is present, peak voltage input values should be used to select model.

TYPE ZA VARISTORS

Power Dissipation: Up to .55 watts. **Current:** Can handle up to 300 amps.

GE Type	Appl. Max. rms Volts	Max Recur. Peak Volts	Appl. DC Volts	Max. Energy Joules
V22ZA1	12	17	16	.6
V22ZA3	12	17	16	3.0
V24ZA1	15	21	19	.8
V24ZA4	15	21	19	4.0
V27ZA1	15	21	20	.8
V27ZA4	15	21	20	4.0
V33ZA1	20	28	26	1.0
V33ZA5	20	28	26	5.0
V39ZA1	25	35	31	1.2
V39ZA6	25	35	31	6.0
V47ZA1	30	42	38	1.4
V47ZA7	30	42	38	7.0
V56ZA2	35	49	45	1.7
V56ZA8	35	49	45	8.0
V68ZA2	40	57	56	2.0
V68ZA10	40	57	56	10.0
V82ZA2	50	71	66	2.5
V82ZA12	50	71	66	12.0
V100ZA3	60	85	81	3.0
V100ZA15	60	85	81	15.0
V120ZA1	70	99	97	1.0
V120ZA6	75	106	102	6.0
V150ZA1	85	120	119	1.2
V150ZA8	95	134	127	8.0
V180ZA1	105	149	146	1.5
V180ZA10	115	163	153	10.0

TYPE PA VARISTORS

Power Dissipation: Up to 15 watts at 70°C mounting-tab temperature. **Current:** Can handle up to 2000 amps. **Voltage Rating:** 130-575 volts rms and 170-780 VDC. **Energy Rating:** 10-80 joules. Meets NEMA creep and strike-terminal distances. Comes with quick disconnect terminals.

GE Type	Appl. Max. rms Volts	Max. Recur. Peak Volts	Appl. DC Volts	Max. Energy Joules
V130PA10A	130	184	170	10
V130PA20A	130	184	170	20
V130PA20B	130	184	170	20
V130PA20C	130	184	170	20
V150PA10A	150	212	195	10
V150PA20A	150	212	195	20
V150PA20B	150	212	195	20
V150PA20C	150	212	195	20
V250PA10A	250	354	330	10
V250PA20A	250	354	330	20
V250PA40A	250	354	330	40
V250PA40B	250	354	330	40
V250PA40C	250	354	330	40
V275PA10A	275	389	360	10
V275PA20A	275	389	360	20
V275PA40A	275	389	360	40
V275PA40B	275	389	360	40
V275PA40C	275	389	360	40
V320PA40A	320	452	415	40
V320PA40B	320	452	415	40
V320PA40C	320	452	415	40
V420PA20A	420	595	540	20
V420PA40A	420	595	540	40
V420PA40B	420	595	540	40
V420PA40C	420	595	540	40
V460PA20A	460	650	600	20
V460PA40A	460	650	600	40
V460PA40B	460	650	600	40
V460PA40C	460	650	600	40
V480PA20A	480	679	625	20
V480PA40A	480	679	625	40
V480PA80A	480	679	625	80
V480PA80B	480	679	625	80
V480PA80C	480	679	625	80
V510PA20A	510	721	655	20
V510PA40A	510	721	655	40
V510PA80A	510	721	655	80
V510PA80B	510	721	655	80
V510PA80C	510	721	655	80
V550PA20A	550	778	720	20
V550PA40A	550	778	720	40
V550PA80A	550	778	720	80
V550PA80B	550	778	720	80
V550PA80C	550	778	720	80
V575PA20A	575	813	750	20
V575PA40A	575	813	750	40
V575PA80A	575	813	750	80
V575PA80B	575	813	750	80
V575PA80C	575	813	750	80

TYPE L VARISTORS

Power Dissipation: Up to 1.3 watts at 85°C ambient temperature. **Current:** Can handle up to 2000 amps. **Voltage Rating:** 95-1000 volts rms and 130-675 VDC. **Energy Rating:** 7-160 joules.

GE Type	Appl. Max. rms Volts	Max. Recur. Peak Volts	Appl. DC Volts	Max. Energy Joules
V95LA7A	95	134	130	7
V95LA7B	95	134	130	7
V130LA1	130	184	175	1
V130LA2	130	184	175	2
V130LA10A	130	184	175	10
V130LA20A	130	184	175	20
V130LA20B	130	184	175	20
V150LA1	150	212	200	1
V150LA2	150	212	200	2
V150LA10A	150	212	200	10
V150LA20A	150	212	200	20
V150LA20B	150	212	200	20
V250LA2	250	354	330	2
V250LA4	250	354	330	4
V250LA15A	250	354	330	15
V250LA20A	250	354	330	20
V250LA40A	250	354	330	40
V250LA40B	250	354	330	40
V275LA2	275	389	369	2
V275LA4	275	389	369	4
V275LA15A	275	389	369	15
V275LA20A	275	389	369	20
V275LA40A	275	389	369	40
V275LA40B	275	389	369	40
V300LA2	300	424	405	2
V300LA4	300	424	405	4
V320LA15A	320	452	420	15
V320LA20A	320	452	420	20
V320LA40A	320	452	420	40
V320LA40B	320	452	420	40
V420LB20A	420	595	560	20
V420LB40A	420	595	560	40
V420LB40B	420	595	560	40
V460LB20A	460	650	615	20
V460LB40A	460	650	615	40
V460LB40B	460	650	615	40
V480LB20A	480	679	640	20
V480LB40A	480	679	640	40
V480LB80A	480	679	640	80
V480LB80B	480	679	640	80
V510LB20A	510	721	675	20
V510LB40A	510	721	675	40
V510LB80A	510	721	675	80
V510LB80B	510	721	675	80
V550LB20A	550	778	...	20
V550LB40A	550	778	...	40
V550LB80A	550	778	...	80
V550LB80B	550	778	...	80
V575LB20A	575	813	...	20
V575LB40A	575	813	...	40
V575LB80A	575	813	...	80
V575LB80B	575	813	...	80
V1000LB80A	1000	1414	...	80
V1000LB160A	1000	1414	...	160
V1000LB160B	1000	1414	...	160

TYPE MA VARISTORS

Power Dissipation: 0.2 watts. **Current:** Can handle up to 20 amps.

GE Type	Appl. Max. rms Volts	Max. Recur. Peak Volts	Appl. DC Volts	Max. Energy Joules
V150MA1A	88	124	121	.10
V150MA1B	92	130	137	.20
V180MA1B	105	148	144	.15
V180MA3B	110	156	152	.30
V220MA2A	132	187	181	.20
V220MA4B	138	195	191	.40
V270MA2A	163	230	224	.20
V270MA4B	171	242	235	.40
V330MA2A	188	266	257	.25
V330MA5B	200	283	274	.50
V390MA3A	234	331	322	.30
V390MA6B	242	342	334	.60
V430MA3A	253	358	349	.35
V430MA7B	264	373	365	.70

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2001R70
Solid State Ignitron Replacement

REPLACES IGNITRON TYPES:

FG2388	5555	AX5555/653B	GL5555/FG238B
WL653B	GL5555	WL5555/653B	NL5555

FEATURES

Low forward drop (approx. 1.0 Volt)
Low losses — improved efficiency
High overload capacity
Air cooled — no water
No igniter firing circuit
Coordinated fusing for each diode
Transient voltage suppression
Mechanically and electronically interchangeable with the ignitron it replaces
High reliability-redundant diode

BENEFITS

Higher dc output voltage

Lower operating costs

No arc-backs

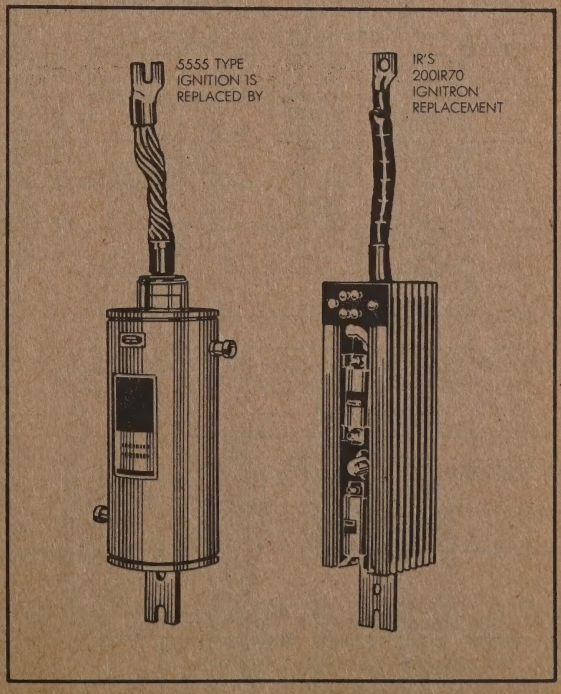
Water system maintenance eliminated

Subsequent ignitron replacements unnecessary

Reduced maintenance costs

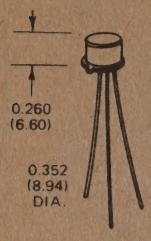
Saves production down time

Characteristics unchanged with time



International Rectifier Product Guide

SILICON CONTROLLED RECTIFIERS



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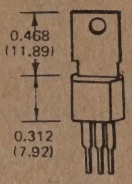

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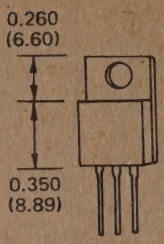
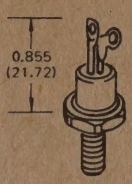
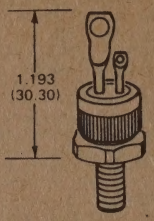


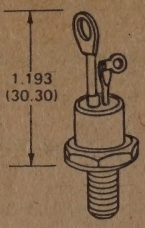
TO-220AB



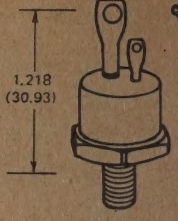
TO-64



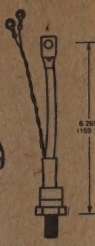
TO-48 (A-8B)



TO-48 (A-1)



TO-65



TO-94 (A-11)

International Rectifier offers a broad and growing range of SCR types and ratings to serve SCR users, with new series of SCRs being added to this edition for low, medium, high power and inverter applications.

I_{T} (RMS) (A)	1.6	4.0
$I_{T(AV)}$ (A) @Max. T_C = (°C)	1.0 @ 85°	2.55 @ 30°
Max. I_{GT} @ 25°C (mA)	0.2	0.2
dv/dt (V/μs), typical	20	8
I_{TSM} (A)	15	25
Notes	①	① ②
Case Style	**TO-5**	**A-2**
15 Volts	—	IR106Q1
25 Volts	2N2322	—
30 Volts	—	IR106Y1
50 Volts	2N2323	IR106F1
100 Volts	2N2324	IR106A1
150 Volts	2N2325	—
200 Volts	2N2326	IR106B1
250 Volts	2N2327	—
300 Volts	2N2328	IR106C1
400 Volts	2N2329	IR106D1

I_{T} (RMS) (A)	7.4	8.0	25	25
$I_{T(AV)}$ (A) @ Max. T_C = (°C)	4.7@ 105°	5.1@ 85°	16@ 45°	16@ 65°
Max. I_{GT} @ 25°C (mA)	15	25	90	40
dv/dt (V/μsec), typical	20	50 (min.)	10 (min.)	20
I_{TSM} (A)	60	80	200	150
Notes	①	—	—	†
Case Style	**TO-64**	**TO-220AB**	**TO-48**	**TO-48**
25 Volts	2N1770A	—	—	2N681
50 Volts	2N1771A	IR122F	—	2N682
100 Volts	2N1772A	IR122A	10RC10A	2N683
150 Volts	2N1773A	—	—	2N684
200 Volts	2N1774A	IR122B	10RC20A	2N685
250 Volts	2N1775A	—	—	2N686
300 Volts	2N1776A	IR122C	10RC30A	2N687
400 Volts	2N1777A	IR122D	10RC40A	2N688
500 Volts	5RC50B	—	10RC50A	2N689
600 Volts	5RC60B	—	10RC60A	2N690
700 Volts	—	—	10RC70A	2N691
800 Volts	—	—	10RC80A	2N692
1000 Volts	—	—	10RC100A	—
1100 Volts	—	—	10RC110A	—
1200 Volts	—	—	10RC120A	—

I_{T} (RMS) (A)	35	35
$I_{T(AV)}$ (A) @Max. T_C = (°C)	22 @ 35°	22 @ 85°
Max. I_{GT} @ 25°C (mA)	40	40
dv/dt (V/μs), min.	10	20
I_{TSM} (A)	300	350
Case Style	**TO-48**	**A-8B**
50 Volts	16RC5A	22RA5
100 Volts	16RC10A	22RA10
200 Volts	16RC20A	22RA20
300 Volts	16RC30A	22RA30
400 Volts	16RC40A	22RA40
500 Volts	16RC50A	22RA50
600 Volts	16RC60A	22RA60
700 Volts	—	22RA70
800 Volts	16RC80A	22RA80
1000 Volts	16RC100A	—
1100 Volts	16RC110A	—
1200 Volts	16RC120A	—

POWER TRIACS are a series of high current triacs with the capability of AC or DC control.

COMPANION SERIES are listed in the tables. They differ from the basic series in case style and/or turn-off time.

$I_{T(RMS)}$ (A)	=3	80	80	110
$I_{T(AV)}$ (A) @ Max. T_C = (°C)	40@ 87°	50@ 75°	50@ 87°	70@ 62°
Max. I_{GT} @ 25°C (mA)	110	200	110	70
dv/dt (V/μs), min.	20	200	25	20
I_{TSM} (A)	1,000	1,200	1,200	1,200
Companion Series	—	37RA	—	72RC-A
Notes	—	④	—	③
Case Style	**TO-65**	**A-11**	**TO-65**	**A-13**
50 Volts	40RCS5	—	50RCS5	—
100 Volts	40RCS10	—	50RCS10	71RC10A
150 Volts	—	—	—	—
200 Volts	40RCS20	—	50RCS20	71RC20A
300 Volts	40RCS30	—	50RCS30	71RC30A
400 Volts	40RCS40	—	50RCS40	71RC40A
500 Volts	40RCS50	36RA50	50RCS50	71RC50A
600 Volts	40RCS60	36RA60	50RCS60	71RC60A
700 Volts	40RCS70	—	50RCS70	—
800 Volts	40RCS80	36RA80	50RCS80	71RC80A
900 Volts	—	—	50RCS90	—
1000 Volts	40RCS100	36RA100	50RCS100	—
1100 Volts	40RCS110	36RA110	50RCS110	—
1200 Volts	40RCS120	36RA120	50RCS120	—
1300 Volts	—	36RA130	—	—
1400 Volts	—	36RA140	—	—
1500 Volts	—	36RA150	—	—
1600 Volts	—	36RA160	—	—

$I_{T(RMS)}$ (A)	110
$I_{T(AV)}$ (A) @Max. T_C = (°C)	70 @ 80°
I_{GT} @ 25°C (mA)	150
dv/dt (V/μs), min.	200
I_{TSM} (A)	1,600
Companion Series	72RA
Notes	④
Case Style	**A-11**
250 Volts	—
300 Volts	—
400 Volts	—
500 Volts	71RA50
600 Volts	71RA60
700 Volts	—
800 Volts	71RA80
900 Volts	—
1000 Volts	71RA100
1100 Volts	71RA110
1200 Volts	71RA120
1300 Volts	71RA130
1400 Volts	71RA140
1500 Volts	71RA150
1600 Volts	71RA160

NOTES:

① Current drawn by 1,000Ω shunt resistor not included in max. I_{GT} rating.

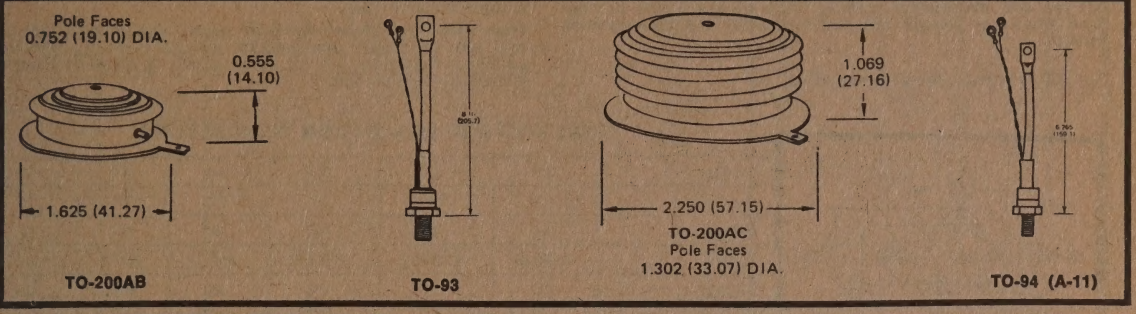
② Other bent and modified pin and tab configurations readily available.

③ Companion series uses flag terminal case A-14.

④ Companion series uses flag terminal case A-12.

† JAN types available.

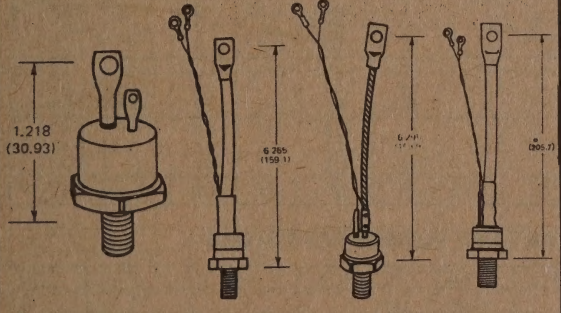
SILICON CONTROLLED RECTIFIERS (Cont.)



TO-200AB | TO-93 | TO-200AC | TO-94 (A-11)

$I_{T(RMS)}$ (A)	180	235
$I_{T(AV)}$ (A) @ Max. T_C = (°C)	115 @ 85°	150 @ 85°
I_{GT} @ 25°C (mA)	150	150
dv/dt (V/μs), min.	200	200
I_{TSM} (A)	1,600	4,250
Companion Series	—	—
Notes	—	—
Case Style	**TO-200AB**	**TO-93**
100 Volts	115PA10	—
200 Volts	115PA20	—
300 Volts	115PA30	—
400 Volts	115PA40	—
500 Volts	115PA50	151RA50
600 Volts	115PA60	151RA60
800 Volts	115PA80	151RA80
1000 Volts	115PA100	151RA100
1100 Volts	—	151RA110
1200 Volts	115PA120	151RA120
1300 Volts	115PA130	151RA130
1400 Volts	115PA140	151RA140
1500 Volts	115PA150	151RA150
1600 Volts	115PA160	151RA160

$I_{T(RMS)}$ (A)	275	400
$I_{T(AV)}$ (A) @ Max. T_C = (°C)	175 @ 85°	250 @ 70°
I_{GT} @ 25°C (mA)	200	150
dv/dt (V/μs), min.	200	200
I_{TSM} (A)	3,300	4,250
Companion Series	—	—
Notes	—	—
Case Style	**TO-200AB**	**TO-200AB**
500 Volts	175PA50	250PA50
600 Volts	175PA60	250PA60
800 Volts	175PA80	250PA80
1000 Volts	175PA100	250PA100
1100 Volts	175PA110	250PA110
1200 Volts	175PA120	250PA120
1300 Volts	175PA130	250PA130
1400 Volts	175PA140	250PA140
1500 Volts	175PA150	250PA150
1600 Volts	175PA160	250PA160



TO-65 | TO-94 (A-11) | TO-94 (A-13) | TO-93

$I_{T(RMS)}$ (A)	470	740
$I_{T(AV)}$ (A) @ Max. T_C = (°C)	300 @ 75°	470 @ 67°
I_{GT} @ 25°C (mA)	150	150
dv/dt (V/μs) min.	100	100
I_{TSM} (A)	8,000	7,000
Companion Series	—	—
Notes	—	—
Case Style	**TO-118**	**TO-200AC**
100 Volts	300RA10	—
200 Volts	300RA20	—
300 Volts	300RA30	—
400 Volts	300RA40	—
500 Volts	300RA50	470PB50
600 Volts	300RA60	470PB60
800 Volts	300RA80	470PB80
1000 Volts	300RA100	470PB100
1100 Volts	300RA110	470PB110
1200 Volts	300RA120	470PB120
1300 Volts	300RA130	470PB130
1400 Volts	300RA140	470PB140
1500 Volts	300RA150	470PB150
1600 Volts	300RA160	470PB160
1700 Volts	300RA170	470PB170

POWER TRIACS

$I_{T(RMS)}$ (A)	50	60	100	200	200
$I_{T(AV)}$ (A) @ Max. T_C = (°C)	— 85°	— 85°	— 75°	— 65°	— 65°
I_{GT} @ 25°C (mA)	500	500	500	500	500
dv/dt (V/μs), min.	200	50	50	50	50
I_{TSM} (A)	400	700	900	1,300	1,300
Companion Series	50AC-A	61AC	101AC	—	—
Notes	⑤	④⑥	⑥	⑥	⑥
Case Style	**TO-65**	**A-11**	**TO-94**	**TO-93**	**TO-93**
400 Volts	50AC40	60AC40	100AC40	200AC40	2N5257
600 Volts	50AC60	60AC60	100AC60	200AC60	2N5258
800 Volts	50AC80	60AC80	100AC80	200AC80	2N5259
1000 Volts	50AC100	60AC100	100AC100	200AC100	2N5260
1200 Volts	50AC120	—	—	—	—

NOTES:

④ Companion series uses flag terminal case A-12.

⑤ Companion series has sensitive 200 mA I_{GT}.

⑥ IR'S exclusive power logic triacs. AC or DC control available, depending on gate polarity.

NEWARK can supply all your semiconductor needs. New types are stocked as soon as they are released.

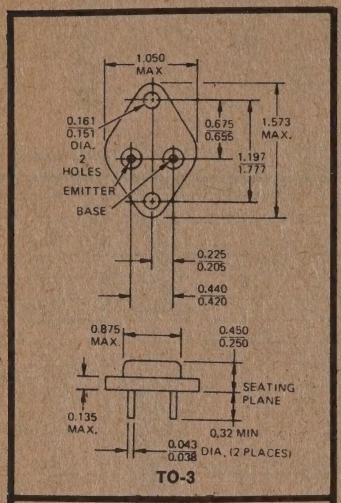
POWER TRANSISTORS

International Rectifier's Power Transistors and Power Darlingtons offer state-of-the-art processes and techniques in popular device ratings. IR's unique glass passivation ensures high reliability and exceptional stability. The triple-diffused process used offers high voltage, fast switching times and low saturation voltages.

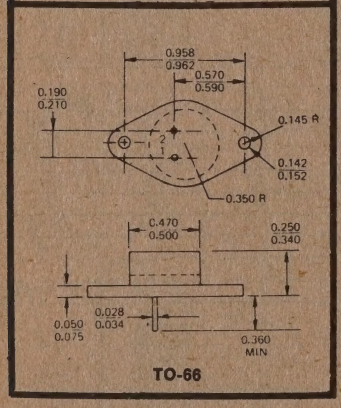
Tc=250°C unless otherwise specified.

Silicon Power Transistors offer high power, high voltage, and high current ratings. Applications include inverters, choppers, deflection circuits, etc. In addition there are fast switching power transistor types.

Monolithic Darlingtons offer high power, high voltage, high current and high gain. Applications include inverters, choppers, switching regulators, ignition systems, etc. In addition, there are fast-switching Darlingtons.



TO-3



TO-66

HIGH VOLTAGE NPN POWER TRANSISTORS

Ic Cont. (A)	3.0	3.5	3.5	5.0	5.0	7
Ic Peak (A)	5.0	—	—	7.0	7.0	10
VCBO (V)	375	700	700	400	400	700
SERIES	2N5840	2N3902	2N5157	IR401	IR413	IR402
VCEO(sus) min. (V) @ Ic (A)	350 0.20	325 0.10	400 0.10	300 0.10	325 0.10	325 0.10
ICEO max. (mA) @ VCE (V)	2.0 250	0.25 400	0.25 500	0.25 400	0.25 400	0.25 400
ICEV max. (mA) @ VCE (V) @ VBE (V)	2.0 360 -1.5	2.5 700 -1.5	0.50 700 -1.5	0.50② 400 -1.5	0.5③ 400 -1.5	0.5③ 700 -1.5
hFE (min/max) @ Ic (A) @ VCE (V)	10 2.0 3.0	30/90 1.0 5.0	30/90 1.0 5.0	20/100 0.5 5.0	20/80 0.5 5.0	— — —
VCE(sat) max. (V) @ Ic (A) @ IB (A)	1.5 2.0 0.20	0.8 1.0 0.10	0.8 1.0 0.10	0.8 0.5 0.05	0.8 0.5 0.05	2.0 3.0 0.6
Pd (W)	100	100	100	100	100	125

Ic Cont. (A)	5.0	5.0	5.0	5.0	7.0	7.0	7.0	7.0	7.0
Ic Peak (A)	15	15	—	10	10	10	10	10	10
VCEO (V)	300	375	400	400	300	400	400	400	400
SERIES	2N5804	2N5805	2N5241	IR410	IR411	IR430	IR431	IR409	IR423
VCEO(sus) min. (V) @ Ic (A)	225 0.20	300 0.20	325 0.10	200 0.10	300 0.10	300 0.10	325 0.10	325 0.10	325 0.10
ICEO max. (mA) @ VCE (V)	15.0 150	5.0 150	2.5 400	0.25 300	0.25 300	2.5 400	2.5 400	0.25 400	0.25 400
ICEV max. (mA) @ VCE (V) @ VBE (V)	5.0 270 -1.5	5.0 340 -1.5	0.5 400 -1.5	0.50② 200 -1.5	0.5③ 300 -1.5	5.0③ 400 0	5.0② 400 0	0.5③ 400 -1.5	0.5④ 400 -1.5
hFE (min/max) @ Ic (A) @ VCE (V)	10/100 5.0 4.0	10/100 5.0 4.0	15/35 2.5 5.0	30/90 1.0 5.0	30/90 1.0 5.0	15/45 2.5 5.0	15/35 2.5 5.0	15③ 1.0 5.0	30/90 1.0 5.0
VCE(sat) max. (V) @ Ic (A) @ IB (A)	2.0 5.0 0.50	2.0 5.0 0.50	0.7 2.5 0.50	0.8 1.0 0.10	0.8 1.0 0.10	0.9 2.5 0.50	0.7 2.5 0.50	1.2 1.0 0.167	0.8 1.0 0.10
Pd (W)	110	110	125	100	100	125	125	125	125

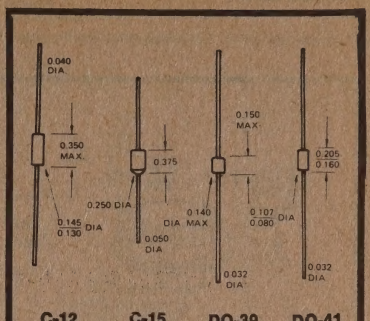
FAST-SWITCHING, HIGH VOLTAGE NPN POWER TRANSISTORS

Ic Cont. (A)	5.0	5.0	8.0	8.0	8.0	8.0	8.0	10	10
Ic Peak (A)	—	—	16	16	—	16	—	15	15
VCBO (V)	650	850	500	600	650	700	850	500	600
SERIES	2N6542	2N6543	2N6306	2N6307	2N6544	2N6308	2N6545	2N6573	2N6574
VCEO(sus) min. (V) @ Ic (A)	300 0.10	400 0.10	250 0.10	300 0.10	300 0.10	350 0.10	400 0.10	250 0.10	275 0.10
ICEO max. (mA) @ VCE (V)	— —	— —	0.5 250	0.5 300	— —	0.5 350	— —	— —	— —
ICEV max. (mA) @ VCE (V) @ VBE (V)	0.5 650 -1.5	0.5 850 -1.5	0.5 500 -1.5	0.5 600 -1.5	0.5 650 -1.5	0.5 700 -1.5	0.5 850 -1.5	0.5 500 -1.5	0.5 600 -1.5
hFE (min/max) @ Ic (A) @ VCE (V)	12/60 7/35 1.5 3.0 2.0 2.0	12/60 7/35 1.5 3.0 2.0 2.0	5/75 ③4 3.0 8.0 5.0 5.0	15/75 ③4 3.0 8.0 5.0 5.0	12/60 7/35 2.5 5.0 3.0 3.0	12/60 ③3 3.0 8.0 5.0 5.0	12/60 7/35 2.5 5.0 3.0 3.0	15/60 ③5 3.0 10 3.0 5.0	20/60 ③5 3.0 10 3.0 5.0
VCE(sat) max. (V) @ Ic (A) @ IB (A)	5.0 5.0 1.0	5.0 5.0 1.0	5.0 8.0 2.0	5.0 8.0 2.0	5.0 8.0 2.0	5.0 8.0 2.67	5.0 8.0 2.0	1.2 5.0 3.0 10 0.3 2.0	1.0 5.0 3.0 10 0.3 2.0
Pd (W)	100	100	125	125	125	125	125	125	125
tr/ts/tf max. (μs) @ Ic (A)	0.7/4.0/0.8 3.0	0.7/4.0/0.8 3.0	0.6/1.6/0.4 3.0	0.6/1.6/0.4 3.0	1.0/4.0/1.0 5.0	0.6/1.6/0.4 3.0	1.0/4.0/1.0 5.0	0.9/2.5/0.7 7.0	0.9/2.5/0.7 7.0

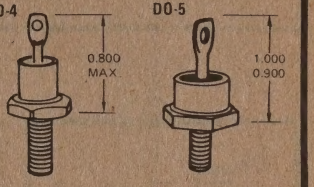
① TO-66 Case (All others TO-3 case). ② Tc=125°C. ③ Min.

POWER TRANSISTORS (Cont.)

Ic Cont (A)	10	10	10	10	15	15
IC Peak (A)	15	30	30	30	30	30
VCBO (V)	700	300	375	450	650	850
SERIES	2N6575	2N6249	2N6250	2N6251	2N6546	2N6547
VCEO(sus) min. @ Ic (A)	300V 0.10	200V 0.20	275V 0.20	350V 0.20	300V 0.10	400V 0.10
ICEO max. mA @ VCE (V)	— —	5.0 150	5.0 225	5.0 300	— —	— —
ICEV max. mA @ VCE (V) @ VBE (V)	0.5 700 -1.5	5.0 225 -1.5	5.0 300 -1.5	5.0 375 -1.5	1.0 650 -1.5	1.0 850 -1.5
hFE (min/max) @ IC (A) @ VCE (V)	20/60 5③ 3.0 10 3.0 5.0	10/50 10 3.0	8/50 10 3.0	6/50 10 3.0	12/60 6/30 5.0 10 2.0 2.0	12/60 6/30 5.0 10 2.0 2.0
VCE(sat) max. @ IC (A) @ IB (A)	1.0V 5.0V 3.0 10 0.3 2.0	1.5V 10 1.0	1.5V 10 1.25	1.5V 10 1.67	1.5V 5.0V 10 15 2.0 3.0	1.5V 5.0V 10 15 2.0 3.0
Pd (W)	125	175	175	175	175	175
tr/ts/tf max. (μs) @ IC (A)	0.9/2.5/0.7 7.0	2.0/3.5/1.0 10	2.0/3.5/1.0 10	2.0/3.5/1.0 10	0.7/4.0/0.8 10	0.7/4.0/0.8 10

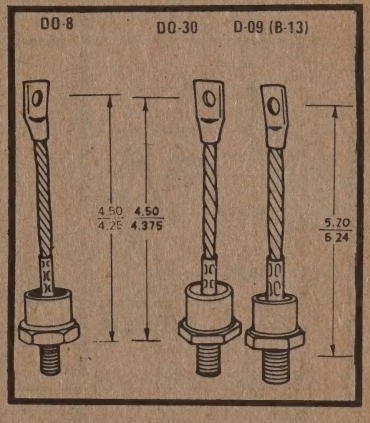


C-12 C-15 DO-39 DO-41



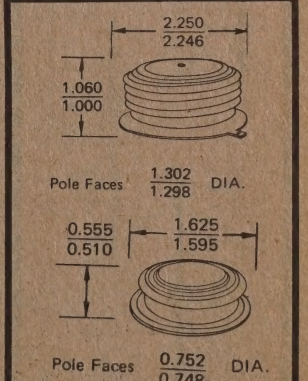
SILICON RECTIFIERS

IR has been a major producer of low-current, low-voltage silicon rectifier diodes for many years. Through continuous improvements in engineering and manufacturing techniques, IR is now producing standard rectifiers with current handling capacities from 400 mA to 3000 amps in a wide array of lead-mounted, stud-mounted, and Hockey-Puk packages.



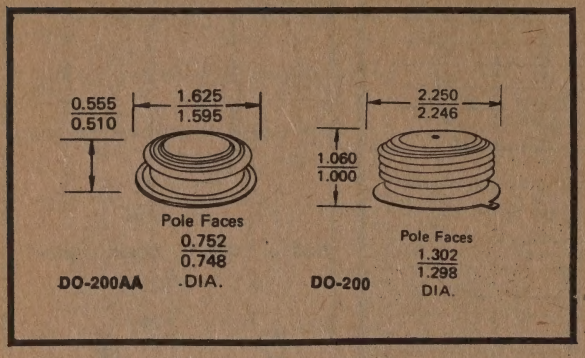
IF(AV) (A) @ Max. Tc (°C)	1 @ 75°	1 @ 75°	1.5 @ 40°	2 @ 100°	3 @ 125°	6 @ 95°	6 @ 95°	12 @ 150°	12 @ 150°
IFSM (A)	30	50	50	50	150	150	400	200	240
Notes	①	①		②③	②	⑤	⑦	⑤	⑤†
Case Style	DO-41	DO-39	DO-39	DO-39	C-12	DO-4	C-15	DO-4	DO-4
PRV	PART NUMBERS								
50 Volts	1N4001	10D05	1N4816	20D05	—	1N1341	60S05	1N1199	1N1199A
100 Volts	1N4002	10D1	1N4817	20D1	30S1	1N1342	60S1	1N1200	1N1200A
150 Volts	—	—	—	—	—	1N1343	—	1N1201	1N1201A
200 Volts	1N4003	10D2	1N4818	20D2	30S2	1N1344	60S2	1N1202	1N1202A
300 Volts	—	10D3	1N4819	20D3	30S3	1N1345	60S3	1N1203	1N1203A
400 Volts	1N4004	10D4	1N4820	20D4	30S4	1N1346	60S4	1N1204	1N1204A
500 Volts	—	10D5	1N4821	20D5	30S5	1N1347	60S5	1N1205	1N1205A
600 Volts	1N4005	10D6	1N4822	20D6	30S6	1N1348	60S6	1N1206	1N1206A
700 Volts	—	—	1N5052	—	—	—	—	1N3670	1N3670A
800 Volts	1N4006	10D8	1N5053	20D8	30S8	—	60S8	1N3671	1N3671A
900 Volts	1N4007	10D10	1N5054	20D10	—	—	—	1N3672	1N3672A
1000 Volts	—	—	—	—	30S10	—	60S10	1N3673	1N3673A

IF (AV) (A) @ Max. Tc (°C)	35 @ 140°	40 @ 140°	60 @ 115°	70 @ 125°	100 @ 140°	150 @ 150°	150 @ 150°	250 @ 135°	275 @ 120°	300 @ 120°
IFSM (A)	500	500	700	1,200	1,600	3,000	3,000	4,500	5,000	5,000
Notes	⑤	⑤	⑤	⑤	⑤	⑤	⑤	⑦	⑤	⑤
Case Style	DO-5	DO-5	DO-5	DO-5	DO-8	DO-30	DO-30	B-13	B-13	B-13
PRV	PART NUMBERS									
50 Volts	1N1183	40HF5	1N2128	—	—	1N3111	—	1N2054	1N4044	—
100 Volts	1N1184	40HF10	1N2129	70H10A	1N3288	1N3085	150L10A	1N2055	1N4045	300U10A
150 Volts	1N1185	40HF15	1N2130	70H15A	—	—	150L15A	1N2056	1N4046	300U15A
200 Volts	1N1186	40HF20	1N2131	70H20A	1N3289	1N3086	150L20A	1N2057	1N4047	300U20A
250 Volts	—	—	1N2132	70H25A	—	—	150L25A	1N2058	1N4048	300U25A
300 Volts	1N1187	40HF30	1N2133	70H30A	1N3290	1N3087	150L30A	1N2059	1N4049	300U30A
350 Volts	—	—	1N2134	—	—	—	—	1N2060	—	—
400 Volts	1N1188	40HF40	1N2135	70H40A	1N3291	1N3088	150L40A	1N2061	1N4050	300U40A
450 Volts	—	—	1N2136	—	—	—	—	1N2062	—	—
500 Volts	1N1189	40HF50	1N2137	70H50A	1N3292	1N3089	150L50A	1N2063	1N4051	300U50A
600 Volts	1N1190	40HF60	1N2138	70H60A	1N3293	1N3090	150L60A	1N2064	1N4052	300U60A
700 Volts	1N3765	40HF70	—	70H70A	—	—	150L70A	1N2065	1N4053	300U70A
800 Volts	1N3766	40HF80	—	70H80A	1N3294	1N3091	150L80A	1N2066	1N4054	300U80A
900 Volts	1N3767	40HF90	—	70H90A	—	—	150L90A	1N2067	1N4055	300U90A
1000 Volts	1N3768	40HF100	—	70H100A	1N3295	1N3092	150L100A	1N2068	1N4056	300U100A
1200 Volts	—	—	—	70H120	1N3296	1N5182	150L120	—	—	300U120



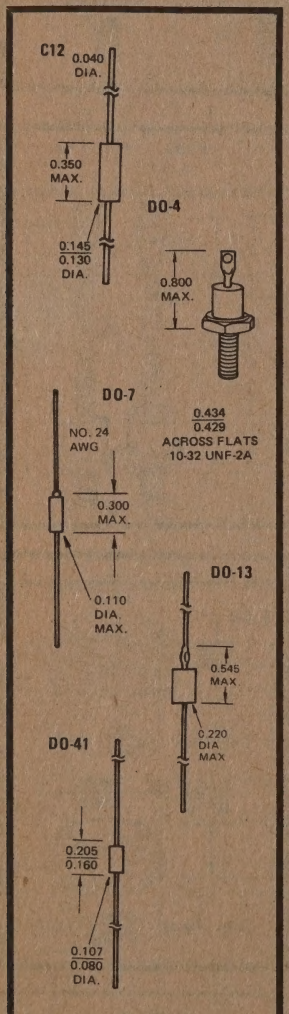
① Ambient temperature.
② Lead temperature, measured ⅜-inch from body.
③ 20A Series also available.
⑤ Cathode-to-Stud. For anode-to-stud, add "R" to base number.
⑦ Note that thermal resistance is lower and operating temperatures higher on "Reverse Polarity" devices.
† JAN types available.

SILICON RECTIFIERS (Cont.)



$I_{F(AV)}$ (A) @ Max. T_C (°C)	470 @ 105°	800 @ 105°
I_{FSM} (A)	6,250	8,000
Notes	—	—
Case Style	DO-200AA	DO-200AB
PRV	PART NUMBERS	
1200 Volts	471PDA120	801PDB120
1400 Volts	471PDA140	801PDB140
1600 Volts	471PDA160	801PDB160
1800 Volts	471PDA180	801PDB180
2000 Volts	471PDA200	801PDB200
2100 Volts	—	801PDB210
2200 Volts	—	801PDB220
2300 Volts	—	801PDB230
2400 Volts	—	801PDB240

ZENER VOLTAGE REGULATORS

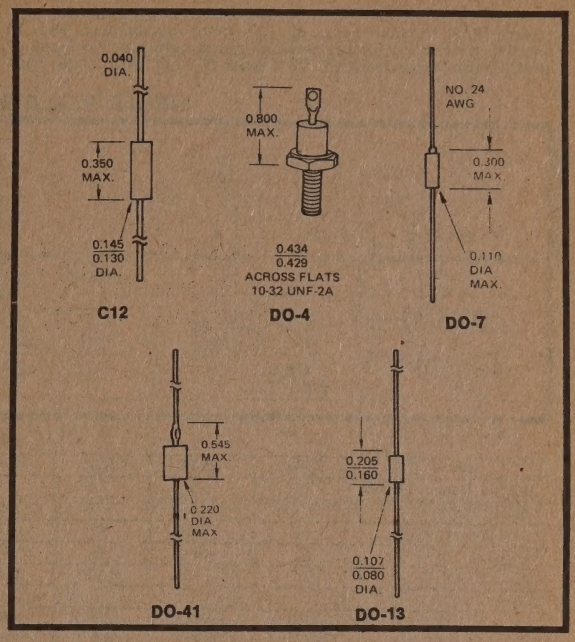


Power Rating	250mW		400mW		400mW		500mW	
Max Op. Temp (°C)	200°		175°		175°		200°	
Tolerance (%)	5, 10%		5, 10%		5, 10, 20%		5, 10, 20%	
Notes	①		①†		②		②	
Case Style	DO-7		DO-7		DO-7		DO-7	
V_z	Part No.	I_{zt} (mA)	Part No.	Izt (mA)	Part No.	Izt (mA)	Part No.	Izt (mA)
2.4	—	—	1N4370	20	—	—	1N5221	20
(2.5)	—	—	—	—	—	—	1N5222	20
2.7	—	—	1N4371	20	—	—	1N5223	20
(2.8)	—	—	—	—	—	—	1N5224	20
3.0	—	—	1N4372	20	—	—	1N5225	20
3.3	—	—	1N746	20	—	—	1N5226	20
3.6	—	—	1N747	20	—	—	1N5227	20
3.9	—	—	1N748	20	—	—	1N5228	20
4.3	—	—	1N749	20	—	—	1N5229	20
4.7	—	—	1N750	20	—	—	1N5230	20
5.1	—	—	1N751	20	—	—	1N5231	20
5.6	1N708	25	1N752	20	—	—	1N5232	20
(6.0)	—	—	—	—	—	—	1N5233	20
6.2	1N709	25	1N753	20	—	—	1N5234	20
6.8	1N710	25	1N754	20	1N957	18.5	1N5235	20
7.5	1N711	25	1N755	20	1N958	16.5	1N5236	20
8.2	1N712	25	1N756	20	1N959	15.0	1N5237	20
(8.7)	—	—	—	—	—	—	1N5238	20
9.1	1N713	12	1N757	20	1N960	14.0	1N5239	20
10	1N714	12	1N758	20	1N961	12.5	1N5240	20
11	1N715	12	—	—	1N962	11.5	1N5241	20
12	1N716	12	1N759	20	1N963	10.5	1N5242	20
13	1N717	12	—	—	1N964	9.5	1N5243	9.5
(14)	—	—	—	—	—	—	1N5244	9.0
15	1N718	12	—	—	1N965	8.5	1N5245	8.5
16	1N719	12	—	—	1N966	7.8	1N5246	7.8
(17)	—	—	—	—	—	—	1N5247	7.4
18	1N720	12	—	—	1N967	7.0	1N5248	7.0
(19)	—	—	—	—	—	—	1N5249	6.6
20	1N721	4	—	—	1N968	6.2	1N5250	6.2
22	1N722	4	—	—	1N969	5.6	1N5251	5.6
24	1N723	4	—	—	1N970	5.2	1N5252	5.2
(25)	—	—	—	—	—	—	1N5253	5.0
27	1N724	4	—	—	1N971	4.6	1N5254	4.6
(28)	—	—	—	—	—	—	1N5255	4.5
30	1N725	4	—	—	1N972	4.2	1N5256	4.2
33	—	—	—	—	1N973	3.8	1N5257	3.8
36	—	—	—	—	1N974	3.4	1N5258	3.4
39	—	—	—	—	1N975	3.2	1N5259	3.2
43	—	—	—	—	1N976	3.0	1N5260	3.0
47	—	—	—	—	1N977	2.7	1N5261	2.7
51	—	—	—	—	1N978	2.5	1N5262	2.5
56	—	—	—	—	1N979	2.2	1N5263	2.2
(60)	—	—	—	—	—	—	1N5264	2.1
62	—	—	—	—	1N980	2.0	1N5265	2.0
68	—	—	—	—	1N981	1.8	1N5266	1.8
75	—	—	—	—	1N982	1.7	1N5267	1.7
82	—	—	—	—	1N983	1.5	1N5268	1.5
(87)	—	—	—	—	—	—	1N5269	1.4
91	—	—	—	—	1N984	1.4	1N5270	1.4
100	—	—	—	—	1N985	1.3	1N5271	1.3

① Add "A" for 5% tolerance. ② Add "A" for 10%, "B" for 5% tolerance. †JAN types available.
( ) Vz ratings are nominal values.

ZENER VOLTAGE REGULATORS (Cont.)

Power Rating	1W		1W		5W	
Max. Op. Temp. (°C)	175°		200°		200°	
Tolerance (%)	5, 10, 20%		5, 10%		5, 10, 20%	
Notes	②†		①		②	
Case Style	DO-13		DO-41		C-12	
Vz	Part No.	Izt (mA)	Part No.	Izt (mA)	Part No.	Izt (mA)
3.3	—	—	1N4728	76	1N5333	380
3.6	—	—	1N4729	69	1N5334	350
3.9	—	—	1N4730	64	1N5335	320
4.3	—	—	1N4731	58	1N5336	290
4.7	—	—	1N4732	53	1N5337	260
5.1	—	—	1N4733	49	1N5338	240
5.6	—	—	1N4734	45	1N5339	220
(6.0)	—	—	—	—	1N5340	200
6.2	—	—	1N4735	41	1N5341	200
6.8	1N3016	37	1N4736	37	1N5342	175
7.5	1N3017	34	1N4737	34	1N5343	175
8.2	1N3018	31	1N4738	31	1N5344	150
(8.7)	—	—	—	—	1N5345	150
9.1	1N3019	28	1N4739	28	1N5346	150
10	1N3020	25	1N4740	25	1N5347	125
11	1N3021	23	1N4741	23	1N5348	125
12	1N3022	21	1N4742	21	1N5349	100
13	1N3023	19	1N4743	19	1N5350	100
(14)	—	—	—	—	1N5351	100
15	1N3024	17	1N4744	17	1N5352	75
16	1N3025	15.5	1N4745	15.5	1N5353	75
(17)	—	—	—	—	1N5354	70
18	1N3026	14.0	1N4746	14.0	1N5355	65
(19)	—	—	—	—	1N5356	65
20	1N3027	12.5	1N4747	12.5	1N5357	65
22	1N3028	11.5	1N4748	11.5	1N5358	50
24	1N3029	10.5	1N4749	10.5	1N5359	50
(25)	—	—	—	—	1N5360	50
27	1N3030	9.5	1N4750	9.5	1N5361	50
(28)	—	—	—	—	1N5362	50
30	1N3031	8.5	1N4751	8.5	1N5363	40
33	1N3032	7.5	1N4752	7.5	1N5364	40
36	1N3033	7.0	1N4753	7.0	1N5365	30
39	1N3034	6.5	1N4754	6.5	1N5366	30
43	1N3035	6.0	1N4755	6.0	1N5367	30
47	1N3036	5.5	1N4756	5.5	1N5368	25
51	1N3037	5.0	1N4757	5.0	1N5369	25
56	1N3038	4.5	1N4758	4.5	1N5370	20
(60)	—	—	—	—	1N5371	20
62	1N3039	4.0	1N4759	4.0	1N5372	20
68	1N3040	3.7	1N4760	3.7	1N5373	20
75	1N3041	3.3	1N4761	3.3	1N5374	20
82	1N3042	3.0	1N4762	3.0	1N5375	15
(87)	—	—	—	—	1N5376	15
91	1N3043	2.8	1N4763	2.8	1N5377	15
100	1N3044	2.5	1N4764	2.5	1N5378	12
110	1N3045	2.3	1ZT110	2.3	—	—
120	1N3046	2.0	1ZT120	2.0	—	—
130	1N3047	1.9	1ZT130	1.9	—	—
150	1N3048	1.7	1ZT150	1.7	—	—
160	1N3049	1.6	1ZT160	1.6	—	—
180	1N3050	1.4	1ZT180	1.4	—	—
200	1N3051	1.2	1ZT200	1.2	—	—



Power Rating	10W		10W		10W	
Max. Op. Temp. (°C)	175°		175°		175°	
Tolerance (%)	5, 10%		5, 10, 20%		5, 10%	
Notes	① ④ †		① ③		② ③ †	
Case Style	DO-4		DO-4		DO-4	
Vz	Part No.	Izt (mA)	Part No.	Izt (mA)	Part No.	Izt (mA)
9.1	—	—	1N1808	500	1N2973	275
10	1N2498	500	1N1351	500	1N2974	250
11	1N2499	500	1N1352	500	1N2975	230
12	1N2500	500	1N1353	500	1N2976	210
13	1N1816	500	1N1354	500	1N2977	190
(14)	—	—	—	—	1N2978	180
15	1N1817	500	1N1355	500	1N2979	170
16	1N1818	500	1N1356	500	1N2980	155
(17)	—	—	—	—	1N2981	145
18	1N1819	500	1N1357	150	1N2982	140
(19)	—	—	—	—	1N2983	130
20	1N1820	250	1N1358	150	1N2984	125
22	1N1821	250	1N1359	150	1N2985	115
24	1N1822	250	1N1360	150	1N2986	105
(25)	—	—	—	—	1N2987	100
27	1N1823	250	1N1361	150	1N2988	95
30	1N1824	250	1N1362	150	1N2989	85
33	1N1825	150	1N1363	150	1N2990	85
36	1N1826	150	1N1364	150	1N2991	70
39	1N1827	150	1N1365	150	1N2992	65
43	1N1828	150	1N1366	150	1N2993	60
45	—	—	—	—	1N2994	55
47	1N1829	150	1N1367	150	1N2995	55
50	—	—	—	—	1N2996	50
51	1N1830	150	1N1368	150	1N2997	50
52	—	—	—	—	1N2998	50
56	1N1831	150	1N1369	150	1N2999	45
62	1N1832	50	1N1370	50	1N3000	40
68	1N1833	50	1N1371	50	1N3001	37
75	1N1834	50	1N1372	50	1N3002	33
82	1N1835	50	1N1373	50	1N3003	30
91	1N1836	50	1N1374	50	1N3004	28
100	1N2008	50	1N1375	50	1N3005	25
105	—	—	—	—	1N3006	25
110	1N2009	50	1N1809	50	1N3007	23
120	1N2010	50	1N1810	50	1N3008	20
130	1N2011	50	1N1811	50	1N3009	19
(140)	—	—	—	—	1N3010	18
150	1N2012	50	1N1812	50	1N3011	17
160	—	—	1N1813	50	1N3012	16
175	—	—	—	—	1N3013	14
180	—	—	1N1814	50	1N3014	14
200	—	—	1N1815	50	1N3015	12

Power Rating	10W		10W		10W	
Max. Op. Temp. (°C)	175°		175°		175°	
Tolerance (%)	5, 10%		5, 10, 20%		5, 10%	
Notes	① ④†		① ③		② ③†	
Case Style	DO-4		DO-4		DO-4	
Vz	Part No.	Izt (mA)	Part No.	Izt (mA)	Part No.	Izt (mA)
3.9	1N3993	640	—	—	—	—
4.3	1N3994	580	—	—	—	—
4.7	1N3995	530	—	—	—	—
5.1	1N3996	490	—	—	—	—
5.6	1N3997	445	—	—	—	—
6.2	1N3998	405	—	—	—	—
6.8	1N3999	370	1N1805	1000	1N2970	370
7.5	1N4000	335	1N1806	1000	1N2971	335
8.2	—	—	1N1807	1000	1N2972	305

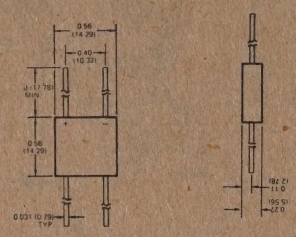
① Add "A" for 5% tolerance.
② Add "A" for 10%, "B" for 5% tolerance.
③ Polarity—Anode-to-stud; add "R" for cathode-to-stud.
④ Polarity—See ③ except 1N3993-1N4000, cathode-to-stud only.
† JAN types available.

International Rectifier Product Guide

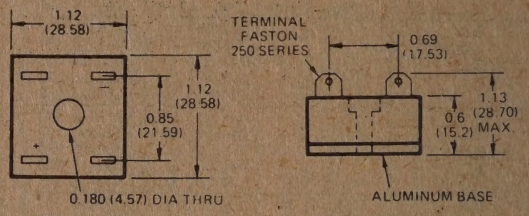
MOLDED POWER CIRCUIT ASSEMBLIES

International Rectifier offers a wide range of compact, easy to handle, molded circuit assemblies. Listed here are two types of single phase diode bridges. Case style D-2 has wire leads, case style D-17A has terminals, an aluminum base for better heat conduction and a mounting hole.

SINGLE PHASE DIODE BRIDGES



D-2



D-17A

SERIES	18DB	22DB	75JB	100JB	150JB	250JB	300JB	400JB	500JB
Idc (A) Output Current	1.8	2.2	7.5	10	15	25	30	40	50
@ T_C (°C)	50①	50①	75	75	75	75	75	75	75
I_{FSM} (surge) (A)	50	50	75	100	150	300	350	500	600
Circuit	B	B	B	B	B	B	B	B	B
Case Style	D-2	D-2	D-17A	D-17A	D-17A	D-17A	D-17A	D-17A	D-17A
V_{RRM}	PART NUMBERS								
50	18DB05A	22DB05A	75JB05L	100JB05L	150JB05L	250JB05L	300JB05L	400JB05L	500JB05L
100	18DB1A	22DB1A	75JB1L	100JB1L	150JB1L	250JB1L	300JB1L	400JB1L	500JB1L
200	18DB2A	22DB2A	75JB2L	100JB2L	150JB2L	250JB2L	300JB2L	400JB2L	500JB2L
300	18DB3A	22DB3A	75JB3L	100JB3L	150JB3L	250JB3L	300JB3L	400JB3L	500JB3L
400	18DB4A	22DB4A	75JB4L	100JB4L	150JB4L	250JB4L	300JB4L	400JB4L	500JB4L
500	18DB5A	22DB5A	75JB5L	100JB5L	150JB5L	250JB5L	300JB5L	400JB5L	500JB5L
600	18DB6A	22DB6A	75JB6L	100JB6L	150JB6L	250JB6L	300JB6L	400JB6L	500JB6L
700	18DB7A	22DB7A	—	—	—	—	—	—	—
800	18DB8A	22DB8A	—	—	—	—	—	—	—
1000	18DB10A	22DB10A	—	—	—	—	—	—	—

① Ambient Temperature (T_A)

SELENIUM RECTIFIERS

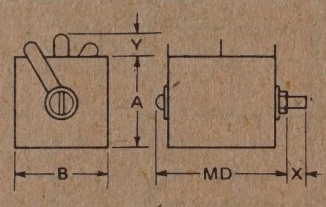


Fig. 3

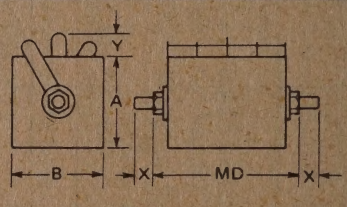


Fig. 4

Listed are the basic specifications for selected selenium rectifiers. IR offers an extensive selection of standard selenium devices including: power stack, diodes, voltage suppressors (Klip-Sels) and contact protectors.

STANDARD STACKS

Output					Dimensions (Inches)					
DC Volts	DC Amp	AC Volts	IR Part No.	Fig.	A	B	MD	X	Y	Stud
0	0.5	36	J14C04	3	1.0	1.0	1.12	.38	.44	8-32
	1.5	36	J14C1	3	1.5	1.5	1.12	.38	.44	8-32
to	5.0	36	J14C5	3	3.0	3.0	1.12	.75	.63	⅜-16
	10.0	36	J14C8	3	4.0	4.0	1.88	.75	1.12	⅜-16
14	20.0	36	J14C17	3	6.0	5.0	2.12	.75	1.25	⅜-16
0	0.5	36	J29B04	4	1.0	1.0	1.5	.38	.44	8-32
	1.5	36	J29B1	4	1.5	1.5	1.5	.38	.44	8-32
to	5.0	36	J29B5	4	3.0	3.0	2.63	.75	.63	⅜-16
	10.0	36	J29B8	4	4.0	4.0	2.63	.75	1.12	⅜-16
29	20.0	36	J29B17	4	6.0	5.0	3.25	.75	1.25	⅜-16
0	0.5	72	J58B04	4	1.0	1.0	2.25	.38	.44	8-32
to	1.5	72	J58B1	4	1.5	1.5	2.25	.38	.44	8-32
58	5.0	72	J58B5	4	3.0	3.0	4.19	.75	.63	⅜-16

Output					Dimensions (Inches)					
DC Volts	DC Amp	AC Volts	IR Part No.	Fig.	A	B	MD	X	Y	Stud
0										
to	10.0	72	J58B8	4	4.0	4.0	4.19	.75	1.12	⅜-16
58	20.0	72	J58B17	4	6.0	5.0	5.63	.75	1.25	⅜-16
0	0.5	144	J116B04	4	1.0	1.0	3.81	.38	.44	8-32
	1.5	144	J116B1	4	1.5	1.5	3.81	.38	.44	8-32
to	5.0	144	J116B5	4	3.0	3.0	7.19	.75	.63	⅜-16
	10.0	144	J116B8	4	4.0	4.0	7.19	.75	1.12	⅜-16
116	20.0	144	J116B17	4	6.0	5.0	10.25	.75	1.25	⅜-16
0	0.5	180	J135B04	4	1.0	1.0	4.56	.38	.44	8-32
	1.5	180	J135B1	4	1.5	1.5	4.56	.38	.44	8-32
to	5.0	180	J135B5	4	3.0	3.0	8.69	.75	.63	⅜-16
	10.0	180	J135B8	4	4.0	4.0	8.69	.75	1.12	⅜-16
135	20.0	180	J135B17	4	6.0	5.0	12.56	.75	1.25	⅜-16

SELENIUM RECTIFIERS (Cont.)

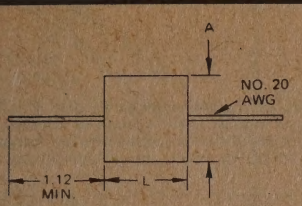


Fig. 11

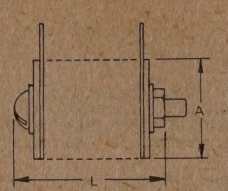


Fig. 12

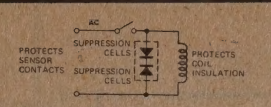


Fig. 13

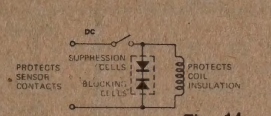


Fig. 14

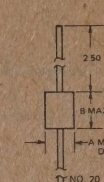


Fig. 15

KLIP-SELS (AC Types)

SOLID STATE DEVICE		SUPPRESSOR		FOR INDIVIDUAL RECTIFIER RATED THRU 3 AMP		FOR INDIVIDUAL RECTIFIER RATED THRU 16 AMP		FOR INDIVIDUAL RECTIFIER RATED THRU 60 AMP		FOR INDIVIDUAL RECTIFIER RATED THRU 250 AMP	
				PEAK CURRENT 0.25A		PEAK CURRENT 1.0A		PEAK CURRENT 3.0A		PEAK CURRENT 15A	
Voltage Rating (VRRM)	Transient Voltage Rating* (VRSM	Max. Operating Voltage	Max. Clamping Voltage @ Peak Current (Vpk)	Fig. 11 (A=.57" max. dia.) IR Part No.	L Dim. (max.)	Fig. 11 (A=.70" max. dia.) IR Part No.	L Dim. (max.)	Fig. 12 (A=1" Sq.) IR Part No.	L Dim. (max.)	Fig. 12 (A=2" Sq. Cells) IR Part No.	L Dim. (max.) ±.06"
100	150	52	140	KY2DPF	0.63"	KZ2DPF	0.63"	KSA2DAF	1.50"	KSL2DAF	1.75"
150	250	78	210	KY3DPF	0.63"	KZ3DPF	0.63"	KSA3DAF	1.62"	KSL3DAF	1.93"
200	300	104	280	KY4DPF	0.63"	KZ4DPF	0.63"	KSA4DAF	1.75"	KSL4DAF	2.06"
250	350	130	350	KY5DPF	0.63"	KZ5DPF	0.63"	KSA5DAF	1.87"	KSL5DAF	2.25"
300	425	156	420	KY6DPF	0.88"	KZ6DPF	0.88"	KSA6DBF	2.00"	KSL6DBF	2.37"
400	525	182	490	KY7DPF	0.88"	KZ7DPF	0.88"	KSA7DBF	2.12"	KSL7DBF	2.53"
500	650	234	630	KY9DPF	0.88"	KZ9DPF	0.88"	KSA9DBF	2.34"	KSL9DBF	2.81"
600	800	260	700	KY10DPF	0.88"	KZ10DPF	0.88"	KSA10DBF	2.46"	KSL10DBF	2.96"
700	925	312	840	KY12DPF	0.88"	KZ12DPF	0.88"	KSA12DBF	2.71"	KSL12DBF	3.28"
800	1050	364	980	KY14DPF	1.63"	KZ14DPF	1.63"	KSA14DPF	2.93"	KSL14DBF	3.56"
900	1175	416	1120	KY16DPF	1.63"	KZ16DPF	1.63"	KSA16DBF	3.18"	KSL16DBF	3.87"
1000	1300	468	1260	KY18DPF	1.63"	KZ18DPF	1.63"	KSA18DBF	3.43"	KSL18DBF	4.15"
1200	1600	520	1400	KY20DPF	1.63"	KZ20DPF	1.63"	KSA20DBF	3.65"	KSL20DBF	4.46"

KLIP-SELS (DC Types)

100	150	44	132	KYP2DPF	0.63"	KZP2DPF	0.63"	KSAP2DAF	1.28"	KSLP6DAF	1.50"
150	250	66	198	KYP3DPF	0.63"	KZP3DPF	0.63"	KSAP3DAF	1.34"	KSLP3DAF	1.56"
200	300	88	264	KYP4DPF	0.63"	KZP4DPF	0.63"	KSAP4DAF	1.40"	KSLP4DAF	1.62"
250	350	110	330	KYP5DPF	0.63"	KZP5DPF	0.63"	KSAP5DAF	1.46"	KSLP5DAF	1.71"
300	420	132	396	KYP6DPF	0.63"	KZP6DPF	0.63"	KSAP6DBF	1.50"	KSLP6DBF	1.78"
400	525	154	462	KYP7DPF	0.63"	KZP7DPF	0.63"	KSAP7DBF	1.59"	KSLP7DBF	1.87"
500	650	198	594	KYP9DPF	0.63"	KZP9DPF	0.63"	KSAP9DBF	1.68"	KSLP9DBF	2.00"
600	800	220	660	KYP10DPF	0.63"	KZP10DPF	0.63"	KSAP10DBF	1.75"	KSLP10DBF	2.09"
600	800	264	792	KYP12DPF	0.88"	KZP12DPF	0.88"	KSAP12DBF	1.87"	KSLP12DBF	2.25"
700	925	286	858	KYP13DPF	0.88"	KZP13DPF	0.88"	KSAP13DBF	1.93"	KSLP13DBF	2.31"
800	1050	330	990	KYP15DPF	0.88"	KZP15DPF	0.88"	KSAP15DBF	2.06"	KSLP15DBF	2.46"
900	1175	374	1122	KYP17DPF	0.88"	KZP17DPF	0.88"	KSAP17DBF	2.18"	KSLP17DBF	2.62"
1000	1300	418	1254	KYP19DPF	0.88"	KZP19DPF	0.88"	KSAP19DBF	2.28"	KSLP19DBF	2.75"
1200	1600	484	1452	KYP22DPF	0.88"	KZP22DPF	0.88"	KSAP22DBF	2.46"	KSLP22DBF	3.00"

*Not Standardized. Check device specifications.

CONTACT PROTECTORS

AC TYPE (See Fig. 13)

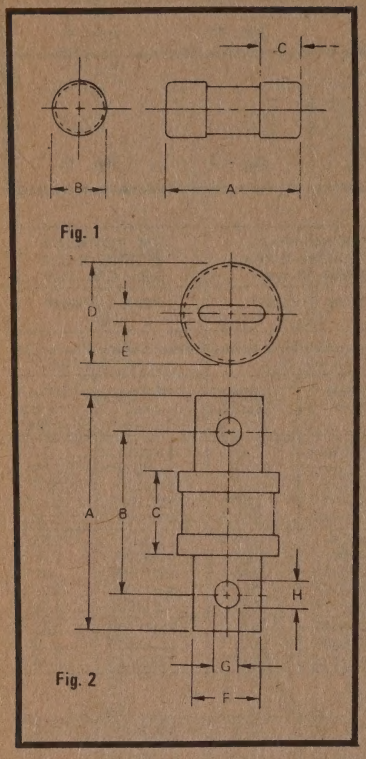
Working Volts (VAC)	Max. Coil Current	IR Part No.	Dimension Fig. 15 A	B
Max.	(Amp)		(Max.)	(Max.)
26	.20	S1V1P	.380	.620
52	.20	S2V2P	.380	.620
78	.20	S3V3P	.380	.620
104	.20	S4V4P	.380	.620
130	.20	S5V5P	.380	.620
156	.20	S6V6P	.380	.990
26	.40	S1Y1P	.500	.620
52	.40	S2Y2P	.500	.620
78	.40	S3Y3P	.500	.620
104	.40	S4Y4P	.500	.620
130	.40	S5Y5P	.500	.620
156	.40	S6Y6P	.500	.990
26	.60	S1Z1P	.640	.754
52	.60	S2Z2P	.640	.754
78	.60	S3Z3P	.640	.754
104	.60	S4Z4P	.640	.754
130	.60	S5Z5P	.640	.754
156	.60	S6Z6P	.640	.990
26	.90	S1X1P	1.060	.620
52	.90	S2X2P	1.060	.620
78	.90	S3X3P	1.060	.620
104	.90	S4X4P	1.060	.620
130	.90	S5X5P	1.060	.620
156	.90	S6X6P	1.060	.990
26	1.2	S1W1P	1.380	.620
52	1.2	S2W2P	1.380	.620
78	1.2	S3W3P	1.380	.620
104	1.2	S4W4P	1.380	.620
130	1.2	S5W5P	1.380	.620
156	1.2	S6W6P	1.380	.990

DC TYPE (See Fig. 14)

Working Volts (VDC)		Max. Coil Current	IR Part No. ✦	Dimension Fig. 15 A	B
Min.	Max.	(Amp)		(Max)	(Max)
15	22	.25	S1V1P	.380	.620
23	44	.25	S2V1P	.380	.620
45	66	.25	S3V2P	.380	.620
67	88	.25	S4V2P	.380	.620
89	110	.25	S5V2P	.380	.620
111	132	.25	S6V2P	.380	.620
133	154	.25	S7V2P	.380	.620
15	22	.60	S1Y1P	.500	.620
23	44	.60	S2Y1P	.500	.620
45	66	.60	S3Y2P	.500	.620
67	88	.60	S4Y2P	.500	.620
89	110	.60	S5Y2P	.500	.620
111	132	.60	S6Y2P	.500	.620
133	154	.60	S7Y2P	.500	.620
15	22	.90	S1Z1P	.640	.754
23	44	.90	S2Z1P	.640	.754
45	66	.90	S3Z2P	.640	.754
67	88	.90	S4Z2P	.640	.754
89	110	.90	S5Z2P	.640	.754
111	132	.90	S6Z2P	.640	.754
133	154	.90	S7Z2P	.640	.754
15	22	1.4	S1X1P	1.060	.620
23	44	1.4	S2X1P	1.060	.620
45	66	1.4	S3X2P	1.060	.620
67	88	1.4	S4X2P	1.060	.620
89	110	1.4	S5X2P	1.060	.620
111	132	1.4	S6X2P	1.060	.620
133	154	1.4	S7X2P	1.060	.620
15	22	2.0	S1W1P	1.380	.620
23	44	2.0	S2W1P	1.380	.620
45	66	2.0	S3W2P	1.380	.620
67	88	2.0	S4W2P	1.380	.620
89	110	2.0	S5W2P	1.380	.620
111	132	2.0	S6W2P	1.380	.620
133	154	2.0	S7W2P	1.380	.620

✦ The terminal marked in red, or the end with polarity marking, should be connected to the positive side of circuit.

SEMICONDUCTOR FUSES



International Rectifier's fast-acting semiconductor protective fuses employ a high-grade alumina ceramic body to prevent charring and arcing under operating conditions. All-welded construction rather than soldering is used to prevent internal fatigue from changing fuse parameters. These quality fast-acting fuses are competitively priced.

Max. V_{RMS} (V)	130	250	500	600	600	700
Max. Arc Voltage (V)	220	410	850	1,050	1,050	1,200
Nominal RMS Current (A)	PART NUMBERS					
.5	SF13X5	SF25X5	—	SF60C5	SF60X5	—
10	SF13X10	SF25X10	—	SF60C10	SF60X10	SF70P10
15	SF13X15	SF25X15	—	SF60C15	SF60X15	SF70P15
20	SF13X20	SF25X20	—	SF60C20	SF60X20	SF70P20
25	SF13X25	SF25X25	—	SF60C25	SF60X25	SF70P25
30	SF13X30	SF25X30	—	SF60C30	SF60X30	SF70P30
35	SF13X35	—	SF50P35	SF60C35	SF60X35	SF70P35
40	SF13X40	SF25X40	SF50P40	SF60C40	SF60X40	SF70P40
45	—	—	SF50P45	SF60C45	—	—
50	SF13X50	SF25X50	SF50P50	SF60C50	SF60X50	SF70P50
60	SF13X60	SF25X60	SF50P60	SF60C60	SF60X60	SF70P60
70	SF13X70	SF25X70	SF50P70	SF60C70	SF60X70	SF70P70
80	SF13X80	SF25X80	SF50P80	SF60C80	SF60X80	SF70P80
90	—	—	SF50P90	SF60C90	SF60X90	SF70P90
100	SF13X100	SF25X100	SF50P100	SF60C100	SF60X100	SF70P100
125	SF13X125	SF25X125	SF50P125	SF60C125	SF60X125	SF70P125
150	SF13X150	SF25X150	SF50P150	SF60C150	SF60X150	SF70P150
175	—	SF25X175	SF50P175	SF60C175	SF60X175	SF70P175
200	SF13X200	SF25X200	SF50P200	SF60C200	SF60X200	SF70P200
225	—	SF25X225	—	SF60C225	—	—
250	SF13X250	SF25X250	SF50P250	SF60C250	SF60X250	SF70P250
300	SF13X300	SF25X300	SF50P300	SF60C300	SF60X300	SF70P300
350	SF13X350	SF25X350	SF50P350	SF60C350	SF60X350	—
400	SF13X400	SF25X400	SF50P400	SF60C400	SF60X400	SF70P400
450	—	SF25X450	SF50P450	SF60C450	SF60X450	—
500	SF13X500	SF25X500	SF50P500	SF60C500	SF60X500	SF70P500
550	—	—	SF50P550	—	—	—
600	SF13X600	SF25X600	SF50P600	SF60C600	SF60X600	SF70P600
700	—	—	SF50P700	SF60C700	—	SF70P700
800	SF13X800	—	SF50P800	SF60C800	—	SF70P800

SEMICONDUCTOR FUSE DIMENSIONS All Dimensions in Inches

PART NUMBER	FIG.	A	B	C	D	E	F	G	H
SF13X5 to 30	1	1.500	0.406	0.375	—	—	—	—	—
SF13X35 to 60	1	2.00	0.812	0.594	—	—	—	—	—
SF13X70 to 400	2	2.656	2.062	1.156	1.000	0.125	0.750	0.312	0.438
SF13X500 to 800	2	3.500	2.438	1.250	1.500	0.250	1.000	0.406	0.406
SF25X5 to 30	1	2.000	0.562	0.500	—	—	—	—	—
SF25X40 to 60	2	3.188	2.438	1.562	0.812	0.125	0.719	0.344	0.406
SF25X70 to 200	2	3.125	2.375	1.625	1.218	0.188	1.000	0.344	0.406
SF25X225 to 600	2	3.844	2.781	1.578	1.531	0.250	1.000	0.406	0.469
SF50P35 to 60	2	3.188	2.438	1.563	0.818	0.125	0.719	0.344	0.406
SF50P70 to 100	2	3.625	2.875	2.125	0.947	0.125	0.750	0.313	0.375
SF50P125 to 200	2	3.625	2.875	2.125	1.218	0.188	1.000	0.344	0.406
SF50P250 to 400	2	4.344	3.281	2.094	1.525	0.245	1.000	0.406	0.469
SF50P450 to 600	2	4.469	3.406	2.219	2.000	0.250	1.500	0.406	0.500
SF50P700 to 800	2	6.469	4.469	2.219	2.500	0.375	2.000	0.531	0.720
SF60C5 to 30	2	2.875	2.500	1.875	0.563	0.063	0.406	0.250	0.250
SF60C35 to 60	2	4.375	3.625	2.734	0.813	0.125	0.719	0.344	0.406
SF60C70 to 100	2	5.000	3.875	2.875	0.938	0.125	0.750	0.406	0.625
SF60C125 to 200	2	5.500	4.000	2.906	1.531	0.250	1.000	0.406	0.781
SF60C225 to 400	2	6.250	4.750	3.000	2.000	0.250	1.500	0.563	0.625
SF60C450 to 800	2	6.250	4.750	3.063	2.500	0.250	2.000	0.563	0.625
SF60X5 to 30	1	5.000	0.813	0.625	—	—	—	—	—
SF60X35 to 60	2	4.375	3.625	2.750	0.813	0.125	0.719	0.344	0.406
SF60X70 to 100	2	4.406	3.656	2.906	1.000	0.125	0.750	0.313	0.375
SF60X125 to 200	2	4.406	3.656	2.906	1.219	0.188	1.000	0.344	0.406
SF60X250 to 400	2	5.094	4.032	2.844	1.532	0.250	1.000	0.406	0.469
SF60X450 to 600	2	5.094	4.032	2.844	2.000	0.250	1.500	0.406	0.500
SF70P10 to 30	1	2.000	0.563	0.500	—	—	—	—	—
SF70P35 to 60	2	4.325	3.625	2.750	0.818	0.125	0.719	0.344	0.406
SF70P70 to 100	2	4.406	3.656	2.906	0.947	0.125	0.750	0.313	0.375
SF70P125 to 200	2	5.063	4.032	2.844	1.525	0.245	1.000	0.406	0.469
SF70P250 to 400	2	5.063	4.032	2.844	2.000	0.250	1.500	0.406	0.500
SF70P500 to 800	2	7.094	5.094	2.844	2.500	0.375	2.000	0.531	0.720

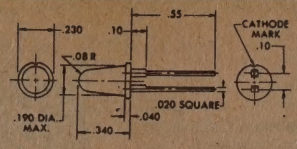
Chicago Miniature LED's

CHICAGO MINIATURE/DRAKE

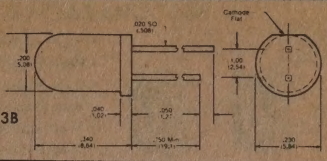
GALLIUM ARSENIDE PHOSPHIDE LIGHT EMITTING DIODES

- Easily Visible
- Highly Reliable
- Low Power Consumption

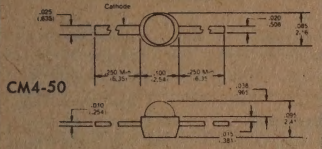
CM4-20



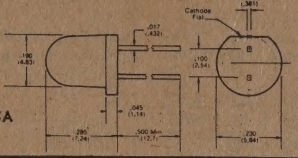
CM4-43B



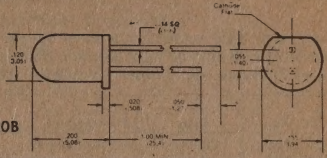
CM4-50



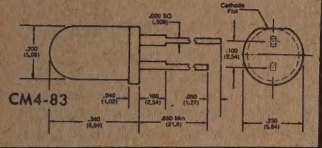
CM4-73A



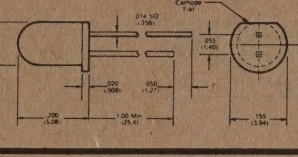
CM4-80B



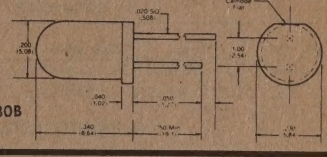
CM4-83



CM4-44B



CM4X-80B

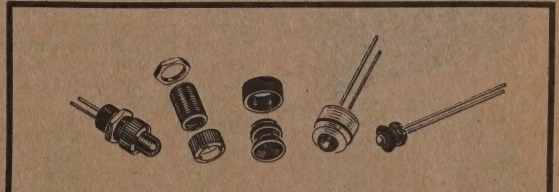


Stock No.	Type	Lens Tint	Lens Diffusion	Light Color	Peak Wavelength Typical	Luminous Intensity @ I_F = 20mA Guaranteed Minimum	Luminous Intensity @ I_F = 20mA Typical	Viewing Angle	1-99	100-999	1000-Up
67F4500	CM4-20	Clear	Transparent	Red	660 nm	0.6 mcd	2.0 mcd	90°			
67F4501	CM4-21	Clear	Diffused	Red	660 nm	0.4 mcd	1.6 mcd	90°			
67F4502	CM4-22	Red	Transparent	Red	660 nm	0.6 mcd	2.0 mcd	90°	.52	.35	.32
67F4503	CM4-23	Red	Diffused	Red	660 nm	0.1 mcd	0.4 mcd	180°			
27F073	CM4-24	Red	Diffused	Red	660 nm	0.9 mcd	3.0 mcd	60°			
27F074	CM4-25	Red	Diffused	Red	660 nm	0.4 mcd	1.6 mcd	90°			
27F089	CM4-282B	Red	Transparent	Red	635 nm	17.0 mcd	40.0 mcd	28°	1.05	.84	.69
27F092	CM4-283B	Red	Diffused	Red	635 nm	1.7 mcd	8.0 mcd	24°	.95	.75	.63
27F093	CM4-284B	Red	Diffused	Red	635 nm	1.2 mcd	4.0 mcd	65°	.95	.75	.63
27F094	CM4-382B	Green	Transparent	Green	565 nm	5.0 mcd	15.0 mcd	28°	1.05	.84	.69
27F095	CM4-383B	Green	Diffused	Green	565 nm	0.6 mcd	3.0 mcd	24°	.95	.75	.63
27F097	CM4-384B	Green	Diffused	Green	565 nm	0.5 mcd	1.5 mcd	65°	.95	.75	.63
27F098	CM4-482B	Orange	Transparent	Orange	635 nm	17.0 mcd	40.0 mcd	28°	1.05	.84	.69
27F108	CM4-483B	Orange	Diffused	Orange	635 nm	1.7 mcd	8.0 mcd	24°	.95	.75	.63
27F109	CM4-484B	Orange	Diffused	Orange	635 nm	1.2 mcd	4.0 mcd	65°	.95	.75	.63
27F110	CM4-582B	Yellow	Transparent	Yellow	585 nm	16.0 mcd	45.0 mcd	28°	1.05	.84	.69
27F129	CM4-583B	Yellow	Diffused	Yellow	585 nm	3.0 mcd	10.0 mcd	24°	.95	.75	.63
27F132	CM4-584B	Yellow	Diffused	Yellow	585 nm	2.5 mcd	6.0 mcd	65°	.95	.75	.63
27F141	CM4-244B	Red	Diffused	Red	635 nm	1.0 mcd	5.0 mcd	90°	.84	.67	.52
27F142	CM4-344B	Green	Diffused	Green	565 nm	0.3 mcd	1.0 mcd	90°	.84	.67	.52
27F144	CM4-444B	Orange	Diffused	Orange	635 nm	1.0 mcd	5.0 mcd	90°	.84	.67	.52
27F145	CM4-544B	Yellow	Diffused	Yellow	585 nm	0.8 mcd	4.0 mcd	90°	.84	.67	.52
67F4507	CM4-83	Red	Diffused	Red	660 nm	1.0 mcd	2.0 mcd	24°	.34	.23	.21
27F146	CM4-80B	Clear	Transparent	Red	660 nm	0.4 mcd	2.0 mcd	70°	.52	.35	.32
27F157	CM4-81B	Clear	Diffused	Red	660 nm	0.3 mcd	1.6 mcd	80°	.52	.35	.32
27F163	CM4-84B-0	Red	Diffused	Red	660 nm	0.3 mcd	0.8 mcd	80°	.27	.20	.17
27F173	CM4-84B	Red	Diffused	Red	660 nm	0.8 mcd	1.6 mcd	80°	.52	.35	.32
27F174	CM4-84B-2	Red	Diffused	Red	660 nm	1.6 mcd	2.0 mcd	80°	.60	.52	.44
27F175	CM4-85B	Dark Red	Diffused	Red	660 nm	0.2 mcd	0.8 mcd	110°	.52	.35	.32
27F176	CM4-86B	Red	Diffused	Red	660 nm	0.1 mcd	0.6 mcd	150°	.52	.35	.32
67F4506	CM4-73A	Red	Diffused	Red	660 nm	0.8 mcd	2.0 mcd	70°	.43	.29	.26
67F4585	CM4-50	Clear	Transparent	Red	660 nm	0.5 mcd	1.4 mcd	90°	.29	.20	.18
67F4586	CM4-53	Red	Diffused	Red	660 nm	0.4 mcd	1.0 mcd	90°	.25	.17	.15
67F4505	CM4-43B	Red	Diffused	Red	660 nm	0.3 mcd	1.0 mcd	90°	.58	.38	.35

LED PANEL MOUNTING HARDWARE

For mounting in panel thickness up to .125" (CM-4-Series) or up to .187" (4999 Series). Ideal for array designs. Easily mounted from panel front.

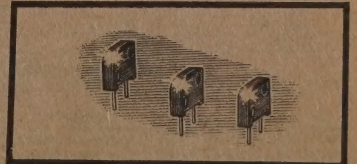
Stk. No.	Type	Color	Size	Shape	1-9	10-24	25-99
27F177	CM4-5B	Black	T-1¾	Taper.	.05	.05	.05
27F181	CM4-5C	Clear	T-1¾	Taper.			
27F185	CM4-6B	Black	T-1¾	Cylin.			
27F191	CM4-6C	Clear	T-1¾	Cylin.			
27F199	CM4-7B	Black	T-1	Cylin.			
27F200	4999-002	Silver	T-1¾	Taper.	.24	.24	.21
27F201	4999-003	Black	T-1¾	Taper.			



STATUS FAULT INDICATOR

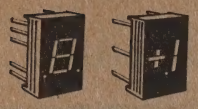
Features solid state, low power, long life, shock resistance and reliability. Wide effective field of indication. Readily visible from above as well as forward. Current limiting resistor included. Pin spacing-.300 inch-compatible with standard DIP pin spacing. Compatible with solid state driving circuits, DTL and TTL. Tinned copper base alloy leads. Polycarbonate body. Mounting centers; .100". CM/D6310-002-106R requires external current limiting resistor. Electro-optical at 25°C. Both are red.

Stk. No.	Type CM/D	Volt.	Curr.	1-9	10-24	25-99
27F204	6310-002-106R	1.7V	40 mA	1.46	1.34	1.21
27F212	6311-002-106R	5.0V	16 mA	1.24	1.14	1.07



DIALIGHT Readouts And Displays

.300" CHARACTER HEIGHT



- .300" High Characters
- High Brightness
- Low Power Requirements
- Standard 14 Pin DIP
- Available With Left And Right Decimal
- Single-Plane Wide Angle Visibility
- Compatible With TTL And DTL Circuits

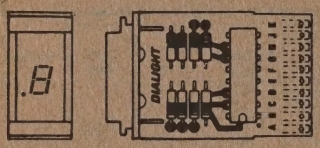
Solid state LED readout, character height .300". Standard 14 pin DIP. Available with left and right decimal. Compatible with most TTL and DTL circuits. Typical static forward voltage: 1.7V.

Stk. No.	Type	Description	1-9	10-24	25-99	100-249
60F1159	745-0014	Numeric Display	3.50	3.25	3.25	2.60
60F1160	745-0015	+/−1 Display	3.50	3.25	3.25	2.60

CONNECTOR

Stk. No.	Type	Description	1-9	10-24	25-99	100-249
25F1447	501-0701-009	For Use With Above Displays	1.31	1.22	1.08	.94

NUMERIC DISPLAY



Displays feature a bright, highly legible character in a 7 segment format, .300" in height. Decimal point included. User has the option of hard wiring to the board or using edge card connectors.

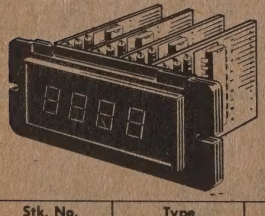
Stock No.	Type	Description	1-9	10-24	25-99	100-249
60F1161	740-3006	With Decoder Driver	10.87	10.87	7.65	6.93
60F1162	740-3008	+/− Display On PC Board	10.87	10.87	7.65	6.93

BEZELS FOR 740 SERIES

Stylish black bezels for simplified panel mounting of multi-digit groupings. Bezel itself must be snapped together and readout will slide into it.

Stk. No.	Type	# Readouts That Will Fit	1-9	10-24	25-99	100-249
60F1163	743-1002	2	2.84	2.66	2.49	2.13
60F1164	743-1003	3	3.15	2.96	2.77	2.39
60F1165	743-1004	4	3.46	3.26	3.05	2.65
60F1166	743-1005	5	3.77	3.56	3.33	2.91
60F1167	743-1006	6	4.08	3.86	3.61	3.17
60F1168	743-1007	7	4.39	4.16	3.89	3.43
60F1169	743-1008	8	4.70	4.46	4.17	3.69
60F1170	743-1009	9	5.01	4.76	4.45	3.95
60F1171	743-1010	10	5.32	5.06	4.73	4.21

COMPLETE ASSEMBLIES



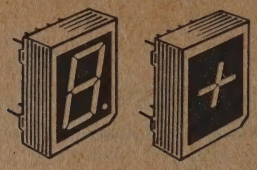
Displays with decoder driver are supplied with stylish black bezel for simplified panel mounting of multi-digit groupings. Displays feature a bright, highly legible character in a 7 segment format, .300" high character. User has the option of hard wiring to the board or using edge card connectors.

Stk. No.	Type	Characters	Each
60F1172	749-1501-001	1	13.71
60F1173	749-1502-001	2	24.58
60F1174	749-1503-001	3	35.76
60F1175	749-1504-001	4	46.94
60F1176	749-1505-001	5	58.12
60F1177	749-1506-001	6	69.30
60F1178	749-1507-001	7	80.48
60F1179	749-1508-001	8	91.66
60F1180	749-1509-001	9	102.84
60F1181	749-1510-001	10	113.02

EDGE CARD CONNECTORS

Stk. No.	Type	Description	1-9	10-24	25-99	100-249
60F1182	501-0700-005	Solder Connections	1.64	1.53	1.40	1.31
60F1183	501-0700-009	PC or Wire Wrap	1.64	1.53	1.40	1.31

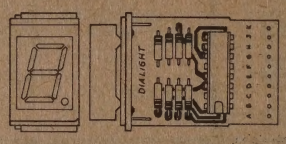
.600" CHARACTER HEIGHT

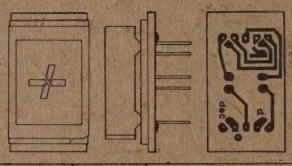


- GaP Red LED
- Large Character—.600"
- Common Anode Construction
- Seven Segment Format With Decimal Point
- Low Power Requirement: 10mA per Segment

Solid state LED readout, large character — .600". Common anode construction. Seven segment format with decimal point. Low power requirement, typically 10mA per segment. Typical static forward voltage: 2.0V.

Stk. No.	Type	Description	1-9	10-24	25-99	100-249
60F1184	730-6001	Numeric Display	5.50	4.20	4.00	3.45
60F1185	730-6005	+/− Display	6.60	5.10	4.80	4.15





NUMERIC DISPLAY

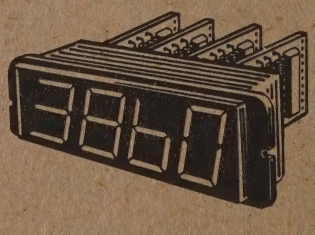
Hybrid Readout display is made up of high efficiency GaP chips arranged in a large seven segment format, .600" in height. Decimal point included. Operate with standard IC power supply levels. Immune to shock and vibration. Excellent display characteristics; uniform segments, wide viewing angle, high contrast ratio. User has the option of hard wiring to the board or using edge card connectors.

Stk. No.	Type	Description	1-9	10-24	25-99	100-249
60F1186	730-6007	With Decoder Driver	14.75	11.35	10.80	9.35
60F1187	730-6010	+/− Display On PC Board	9.95	7.65	7.30	6.35

BEZELS FOR 730 SERIES

Stk. No.	Type	# Readouts That Will Fit	1-9	10-24	25-99	100-249
60F1188	733-6002	2	2.84	2.66	2.49	2.13
60F1189	733-6003	3	3.15	2.96	2.77	2.39
60F1190	733-6004	4	3.46	3.26	3.05	2.65
60F1191	733-6005	5	3.77	3.56	3.33	2.91
60F1192	733-6006	6	4.08	3.86	3.61	3.17
60F1193	733-6007	7	4.39	4.16	3.89	3.43
60F1194	733-6008	8	4.70	4.46	4.17	3.69
60F1195	733-6009	9	5.01	4.76	4.45	3.95
60F1196	733-6010	10	5.32	5.06	4.73	4.21

COMPLETE ASSEMBLIES



Displays with decoder driver are supplied with stylish black bezel for simplified panel mounting of multi-digit groupings. Displays feature a bright, highly legible character in a large 7 segment format, .600" high character. User has the option of hard wiring to the board or using edge card connectors.

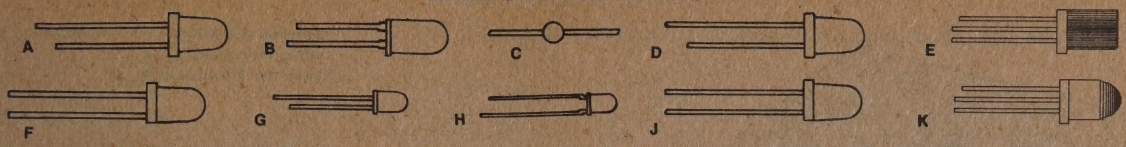
Stk. No.	Type	Characters	Each
60F1197	739-0260-601	2	35.20
60F1198	739-0360-601	3	47.40
60F1199	739-0460-601	4	62.46
60F1200	739-0560-601	5	77.52
60F1201	739-0660-601	6	92.58
60F1202	739-0760-601	7	107.64
60F1203	739-0860-601	8	122.70
60F1204	739-0960-601	9	137.76
60F1205	739-1060-601	10	152.82

NEWARK For All Your Electronic Needs

Discrete LEDs And Displays

DIALIGHT

SOLID STATE LED LAMPS



Stk. No.	Type 521	Fig.	Package	Lens	Typ. Fwd. Volt. (mA)	1-9	10-24	25-99	100-249
25F1420	9165**	D	T-1¾	Red Diff.	1.7 at 20	.50	.50	.50	.37
25F1457	9166**	D	T-1¾	Clear Diff.	1.7 at 20	.50	.50	.50	.37
25F864	9179*	B	T-1¾	Red Diff.	1.6 at 20	.50	.50	.50	.37
25F865	9183*	B	T-1¾	Red Diff.	5.0 at 15	.75	.75	.75	.60
25F866	9185†	C	T-¾	Red Clear	1.6 at 20	.45	.45	.45	.25
25F867	9186†	C	T-¾	Red Diff.	1.6 at 20	.45	.45	.45	.25
25F868	9189	G	T-1	Red Diff.	1.6 at 20	.29	.29	.29	.19
25F1460	9200†	A	T-1¾	Red Diff.	1.9 at 20	.28	.28	.28	.21
25F869	9202**	F	T-1¾	Green Clear	2.0 at 20	.99	.99	.99	.75
25F870	9203**	F	T-1¾	Green Diff.	2.0 at 20	.99	.99	.99	.75
25F871	9204**	F	T-1¾	Yellow Clear	2.0 at 20	.99	.99	.99	.75
25F872	9205**	F	T-1¾	Yellow Diff.	2.0 at 20	.99	.99	.99	.75
25F873	9206	G	T-1	Green Diff.	2.0 at 20	.99	.99	.99	.75
25F874	9207	G	T-1	Yellow Diff.	1.9 at 10	.99	.99	.99	.75
25F875	9216	H	T-1	Red Diff.	1.6 at 20	.29	.29	.29	.19
25F876	9217*	J	T-1¾	Red Diff.	1.8 at 20	.30	.30	.30	.21
92F877	9244**	K	T-1¾	Red & Green		2.89	2.24	2.24	1.73
25F878	9245**	E	T-1¾	Red & Green		2.89	2.24	2.24	1.73

- **High Luminous Intensity**
- **Low Power Consumption**

521 Series. High luminous intensity. Low power consumption. IC compatible. Vibration/shock resistant. Solid state reliability, life measured in years. Wide viewing angle. Many applications including panel lighting, circuit status indicators, numeric or alphanumeric displays, or visual indicators. *Long profile. †Axial leads.

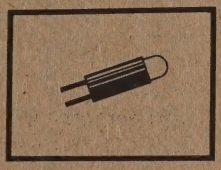
HOLDER

Mounting clip for items at left marked with (**).

Stk. No.	Type	1-9	10-24	25-99	100-249
25F879	515-0005	.08	.08	.07	.07

549 SERIES

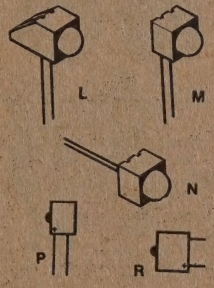
LED Bi-Pin lamp was developed to be directly interchangeable with its T-1¾ incandescent equivalent. LED combined with a built-in resistor (for current limiting) and pins molded in a plastic case substantially improves the life and reliability over an incandescent lamp. Molded case includes a flat on one side for indexing to establish correct polarity.



Stk. No.	Type	Lens	Volts	1-9	10-24	25-99	100-249
25F880	549-0101	Red Diff.	1.7	.94	.85	.77	.70
25F881	549-0104	Red Diff.	5	1.26	1.14	1.03	.93

550 AND 555 SERIES

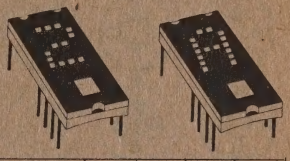
550 Series indicators are designed for use in a wide variety of applications where solid state compatibility and ease in assembly and mounting are required. Such applications could include P/C board and panel mounting. A large LED lamp with a high light level makes these units convenient for back panel illumination use a T-1¾ LED. 555 Series LED logic state/fault indicators are extremely versatile devices and lend themselves to a wide range of applications. Typically they might be used as fault indicators for trouble shooting complex circuits. *With integral resistor for operation at 5V. **For higher brightness, can be operated at 6V @ 20 mA. Use a T-¾ LED.



Stk. No.	Type	Color	Fig.	Typ. Fwd. Volt.	Typ. Lum.	1-9	10-24	25-99	100-249
25F882	550-0204	Green	N	2.2	0.8	1.19	1.19	1.19	.88
25F883	550-0304	Yellow	N	2.2	0.8	1.19	1.19	1.19	.88
25F884	550-0404	Red	N	1.9	2.0	.59	.59	.59	.45
25F885	550-0504*	Red	N	1.9	2.0	.89	.89	.89	.73
25F886	550-0205	Green	M	2.2	0.8	1.19	1.19	1.19	.88
25F887	550-0305	Yellow	M	2.2	0.8	1.19	1.19	1.19	.88
25F888	550-0405	Red	M	1.9	2.0	.59	.59	.59	.45
25F889	550-0505*	Red	M	1.9	2.0	.89	.89	.89	.73
25F890	550-0206	Green	L	2.2	0.8	1.19	1.19	1.19	.88
25F891	550-0306	Yellow	L	2.2	0.8	1.19	1.19	1.19	.88
25F892	550-0406	Red	L	1.9	2.0	.59	.59	.59	.45
45F493	550-0506*	Red	L	1.9	2.0	.89	.89	.89	.73
25F893	555-2007	Red Diff.	P	5.3mA	....	1.11	1.01	.92	.84
25F894	555-3007	Red Diff.	R	5.3mA	....	1.22	1.11	1.01	.92
25F895	555-2003	Red Diff.	P	5.6mA	....	1.11	1.01	.92	.84
25F896	555-3003	Red Diff.	R	5.6mA	....	1.22	1.11	1.01	.92
25F897	555-2004	Red Diff.	P	5-16mA	....	1.11	1.01	.92	.84
25F898	555-3004	Red Diff.	R	5-16mA	....	1.22	1.11	1.01	.92
25F899	555-2005	Red Diff.	P	10-14mA	....	1.11	1.01	.92	.84
25F900	555-3005	Red Diff.	R	10-14mA	....	1.22	1.11	1.01	.92
25F901	555-2006	Red Diff.	P	14-10mA	....	1.11	1.01	.92	.84
25F902	555-3006	Red Diff.	R	14-10mA	....	1.22	1.11	1.01	.92

HEXADECIMAL DISPLAY

Solid-state visible hexadecimal display with integral TTL MSI circuit chip with latch, decoder, and driver to accept, store, and display 4-bit binary data. 0.270-inch-high character. Left-and-right-hand decimals. Separate LED and logic power supplies may be used. Operates from 5-volt or 6-volt supply.



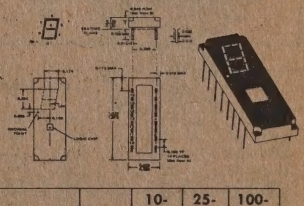
Stk. No.	Type	Description	1-9	10-24	25-99	100-249
25F903	745-0007	Hexadecimal Display	12.00	9.20	9.20	8.50

CONNECTOR

25F1447	501-0701-009	For Use With 745-0007 Display	1.31	1.22	1.08	.94

NUMERIC DISPLAY

Solid-state visible displays with integral TTL MSI circuit chip with latch, decoder, and driver. 0.270-inch-high character. Left hand decimal point. Supply voltage, VCC: continuous 5.5V. 745-0008 for use in all systems requiring a display of BCD data. 745-0009 for use in all systems where the data to be displayed is the pulse count.



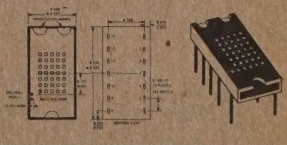
Stk. No.	Type	Description	1-9	10-24	25-99	100-249
25F904	745-0008	BCD Display	12.00	9.20	9.20	8.50
25F905	745-0009	Pulse Count Display	12.00	9.20	9.20	8.50

CONNECTOR

25F908	501-0702-009	For Use With Numeric Displays	1.31	1.22	1.08	.94

5x7 DOT MATRIX ALPHA-NUMERIC DISPLAY

Solid-state visible dot matrix alpha-numeric display with clear transparent plastic encapsulation. 0.300" high character. 5x7 array with X-Y select and decimal. Compatible with UASCII and EBCDIC codes. Left hand decimal point. Typical static forward voltage: 1.6V.



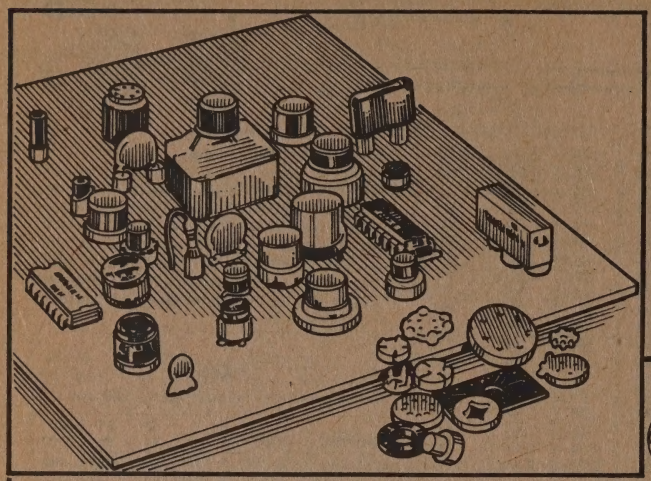
Stk. No.	Type	Description	1-9	10-24	25-99	100-249
25F1443	745-0005	Dot Matrix Display	11.00	7.75	7.75	6.60

CONNECTOR

25F1447	501-0701-009	For Use With 745-0005 Display	1.49	1.35	1.21	1.05

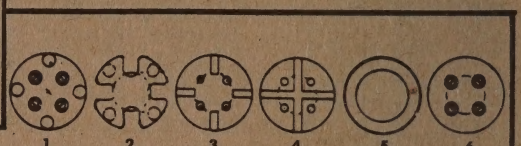
Waldom/Bivar Permanent PERMOPADS™

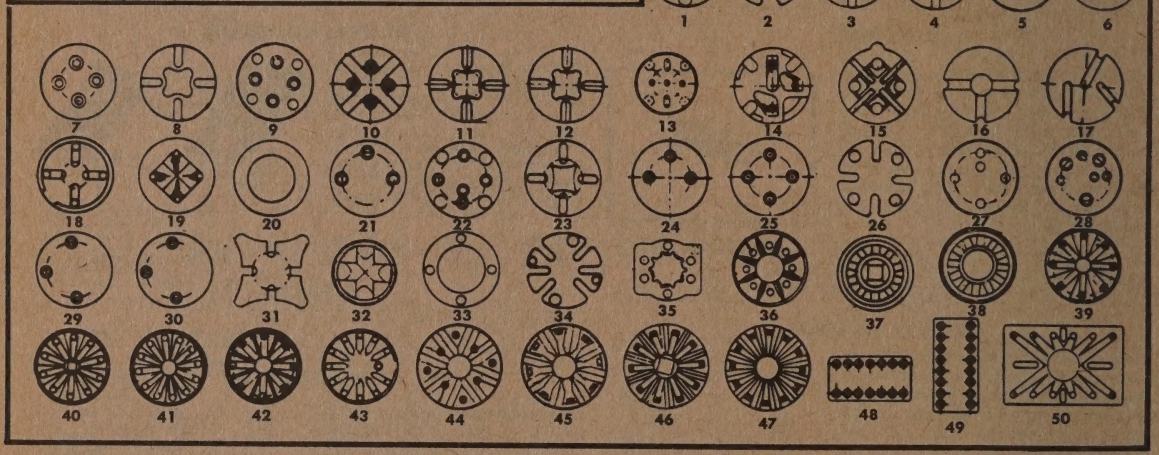
PERMANENT MOUNTING SPACERS



- Improve Reliability
- Reduce Production Costs
- Nylon Per MIL-M-20693

For protecting, locating, fixturing, spacing, mounting and reinforcing transistors, integrated circuits and other printed circuit components. Give protective support, shock mounting, added insulation, greater heat dissipation, cleanliness and improved neatness. Molded from nylon per MIL-M-20693. Available in a multitude of configurations.





Stock No.	Type No.	Fig.	O.D. "	Thick. "	Lead Spacing Entry	Lead Spacing Exit	Per 100 100-499	Per 100 500-Up
33F1700	100-095	1	.200	.095	.100	.100	4.35	3.35
33F1701	101-096	2	.200	.096	.100	.100		
33F1702	102-125	3	.250	.125	.100	.100		
33F1703	111-125	4	.250	.125	.100	.100		
33F1704	103-080	5	.225	.080	.100	.100		
33F1705	104-060	6	.200	.060	.100	.100		
33F1706	105-021	7	.250	.021	.100	.100		
33F1707	106-045	8	.270	.045	.100	.100		
33F1708	107-180	9	.200	.180	.100	.100		
33F1709	108-021	10	.225	.021	.100	.100		
33F1710	109-045	11	.200	.045	.100	.100		
33F1711	110-030	12	.200	.030	.100	.100		
33F1712	112-040	13	.230	.040	.100	.100		
33F1713	200-170	14	.225	.170	.100	.200	4.70	3.65
33F1714	201-150	15	.310	.150	.100	.200		
33F1715	202-150	16	.250	.150	.100	.200		
33F1716	203-150	17	.250	.150	.100	.200		
33F1717	204-125	18	.270	.125	.100	.200		
33F1718	205-085	19	.225	.085	.100	.200		
33F1719	500-080	20	.365	.080	.200	.200	4.70	3.65
33F1720	501-075	21	.345	.075	.200	.200		
33F1721	502-120	22	.345	.120	.200	.200		
33F1722	503-075	23	.345	.075	.200	.200		
33F1723	504-038	24	.345	.038	.200	.200		
33F1724	511-038	25	.345	.038	.200	.200		
33F1725	505-120	26	.350	.120	.200	.200		
33F1726	506-038	27	.350	.038	.200	.200		
33F1727	507-100	28	.340	.100	.200	.200		
33F1728	508-075	29	.281	.075	.200	.200		
33F1729	510-110	30	.281	.110	.200	.200		
33F1730	509-060	31	.312	.060	.200	.200		
33F1731	512-115	32	.230	.115	.200	.200		

Stock No.	Type No.	Fig.	No. Leads	O.D. "	Thick. "	Lead Spacing Entry	Lead Spacing Exit	Per 100 100-499	Per 100 500-Up
33F1732	600-080	33	. . . .	.365	.080	.2/.23	.2/.23	4.70	3.65
33F1733	601-120	34	6	.350	.120	.2/.23	.2/.23	5.50	4.25
33F1734	608-090	35	10	.390	.090	.2/.23	.2/.23		
33F1735	605-085	36	8	.370	.085	.2/.23	.2/.23		
33F1736	606-075	37	10	.370	.075	.2/.23	.2/.23		
33F1737	607-075	38	12	.370	.075	.2/.23	.2/.23		
33F1738	700-130	39	8	.500	.130	.2/.23	.4	8.40	6.70
33F1739	701-130	40	10	.500	.130	.2/.23	.4		
33F1740	702-130	41	12	.500	.130	.2/.23	.4		
33F1741	707-120	42	8	.450	.120	.2/.23	.4		
33F1742	708-275	43	12	.500	.275	.2/.23	.4		
33F1743	703-250	44	8	.500	.250	.2/.23	.4	9.05	7.25
33F1744	704-250	45	8	.500	.250	.2/.23	.4		
33F1745	705-250	46	10	.500	.250	.2/.23	.4		
33F1746	706-250	47	12	.500	.250	.2/.23	.4		

Stock No.	Type No.	Fig.	No. Leads	O.D. "	Thick. "	Lead Spacing Entry	Lead Spacing Exit	Per 100 100-499	Per 100 500-Up
33F1747	814-060	48	14	.450	.060	.100	.100	8.40	6.70
33F1748	814-080	48	14	.450	.080	.100	.100		
33F1749	814-100	48	14	.450	.100	.100	.100		
33F1750	816-060	49	16	.450	.060	.100	.100		
33F1751	816-080	49	16	.450	.080	.100	.100		
33F1752	816-100	49	16	.450	.100	.100	.100		
33F1753	808-187	50	8	.385	.187	.2/.23	DIP	9.05	7.25
33F1754	810-187	50	10	.385	.187	.2/.23	DIP		
33F1755	812-187	50	12	.385	.187	.2/.23	DIP		

Semiconductor Coolers

WAKEFIELD DELTA DIVISION

Mounting dimensions for Series 300, 400, 500, 600, 680, GN and WN extrusions, and Series MN.

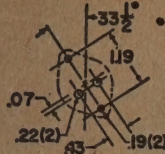


Fig. A—TO-3

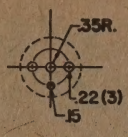
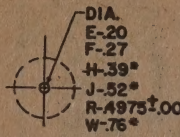
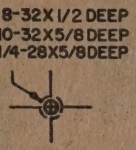


Fig. B—TO-6 & 36

Fig. C—2N1015 ETC.



K-BLANK NO HOLES



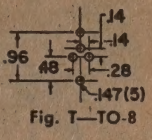
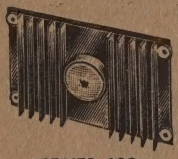
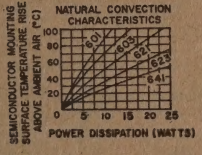


Fig. T—TO-8

Fig. 1

Fig. 2





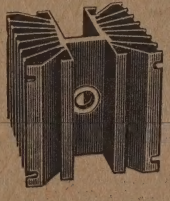
SERIES 600 CIRCUIT BOARD COOLERS

600 SERIES CIRCUIT BOARD COOLERS

Externally mounted applications. Models 601 and 603 especially designed to accommodate the TO-8. Models 621, 623 and 641 accept all standard transistor case styles and case sizes up to 1¼". Shpg. wt., 16 oz.

Stk. No.	Type	Fig.	Inches H	W	D	1-24	25-49	50-99	100-249
58F536	601K	1	1.25	2.24	.56	1.26	1.01	.80	.68
58F537	603K	1	2.00	2.24	.56	1.43	1.14	.95	.80
58F482	621A	2	1.50	4.81	.46	1.53	1.22	.97	.82
58F538	621K	2	1.50	4.81	.46	1.53	1.22	.97	.82
58F480	623A	2	3.00	4.81	.46	2.26	1.81	1.45	1.26
58F539	623K	2	3.00	4.81	.46	2.26	1.81	1.45	1.26
58F467	641A	1	3.00	4.12	1.00	2.35	1.88	1.51	1.27
58F540	641K	1	3.00	4.12	1.00	2.35	1.88	1.51	1.27

SERIES 400 EXTRUSIONS



465, 476

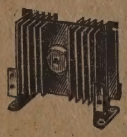
486, 489

Type 465 accepts 1⅛" hex high power rectifiers and SCR's; 476 accepts 1¼" hex rectifiers and SCR's; 486 and 489 accept 1¾" hex SCR's. Tapped ¼-20. Weight, 1.8 to 5.8 lbs.

Stk. No.	Type	Inches H	W	D	1-24	25-49	50-99	100-249
58F419	465-J	5.00	4.00	4.00	7.29	6.34	5.59	5.33
58F420	465-K	5.00	4.00	4.00	6.53	5.68	5.00	4.72
58F1005	476-J	6.00	5.00	5.00	9.86	8.57	7.50	7.16
58F422	476-K	6.00	5.00	5.00	8.92	7.76	6.81	6.42
58F421	476-W	6.00	5.00	5.00	9.86	8.57	7.50	7.16
58F425	486-K	6.00	6.25	6.25	14.36	12.49	11.01	.....
58F428	489-K	9.00	6.25	6.25	20.76	18.05	15.81	.....

VERTICAL MOUNTING BRACKETS

Meets vibration requirements of Mil 202B. Two brackets required per sink. To insulate, use Teflon insulator #103. Heat sinks 402 and 403 use #111, 421 uses #113. Wt., 10 oz.



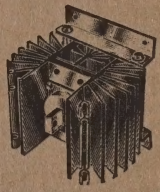
Stk. No.	Type	Pkgs. of 2 1-99	100-499
58F525	111	.24	.19
58F526	113	.34	.29

SERIES 680 CIRCUIT BOARD COOLERS

Provides optimum natural convection cooling per unit volume occupied above the circuit board. Mounting in any position is possible, since the cooler permits free air flow in any direction. High thermal conductivity aluminum alloy. Temp. rise: 680-.5, 90°C at 10 watts; 680-.75, 90°C at 13 watts; 680-1.0, 90°C at 15 watts; 680-1.25, 100°C at 21 watts. All have 1.81" sq. base with 1.50" between mtg. holes. 1.3 to 1.9 oz.

Stk. No.	Type	Hgt. (in.)	1-49	50-99	100-499
58F401	680-.5A	1.03"	1.17	1.12	.96
58F400	680-.5B	1.03"			
58F1008	680-.5G1	1.03"			
58F399	680-.5K	1.03"			
58F398	680-.75A	1.05"	1.23	1.17	1.00
58F396	680-.75K	1.05"			
58F395	680-1.0A	1.16"	1.33	1.23	1.07
58F394	680-1.0B	1.16"			
58F1010	680-1.0G1	1.16"			
58F393	680-1.0K	1.16"			
58F392	680-1.25A	1.21"	1.38	1.30	1.10
58F391	680-1.25B	1.21"			
58F1011	680-1.25G1	1.21"			
58F390	680-1.25K	1.21"			

SERIES 490 KING-SIZE HEAT SINKS



- **Aluminum Alloy**
- **Mounts & cools multicell 240/650 amp rectifiers**
- **Four mtg. lugs per end**

Designed to mount and cool multicell 240/650 amp rectifiers. Takes square plate types as large as 3½" x 3½". Type 490-12, under natural convection conditions, will permit case temperature rise of only 110°C at 600 watts dissipation, with 3½" sq. rectifier. Aluminum alloy; black anodized finish. Four mounting lugs on each end. Type no. suffix indicates mounting (see specs above).

Stk. No.	Type	Dimensions (in.)	1-24	25-49	50-99
58F409	490-3.5-K	3.5x9.25x6.75	13.82	12.02	10.55
58F1014	490-3.5-Z	3.5x9.25x6.75	13.28	11.55	10.12
58F408	490-6-K	6.0x9.25x6.75	21.77	18.93	16.55
58F1017	490-6-Z	6.0x9.25x6.75	20.84	18.12	15.83
58F407	490-12-K	12.0x9.25x6.75	37.33	32.46	28.53
58F403	109	1.5x7.5x1.5	Fiberglass Mtg. 1.72 ea.		

TYPE 120 THERMAL COMPOUND

Used between semiconductor and heat sink, or for thermoelectric modules. Zinc oxide crystals in a silicon grease will increase thermal conductivity between semiconductor and heat sink.

Stk. No.	Type	Quantity	1-9	10-24	25-49	50-99
58F470	120-2	2 oz.	2.35	2.21	1.94	1.85
58F372	120-5	5 oz. tube	3.86	3.56	3.22	2.95
58F471	120-8	8 oz.	6.31	5.91	5.21	4.59
58F402	120-80	5 lb.	29.95	29.27	.....	.....

DELTA DIVISION **WAKEFIELD**

Semiconductor Coolers

200 Series

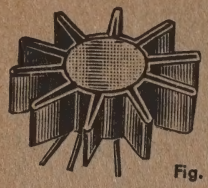


Fig. 1

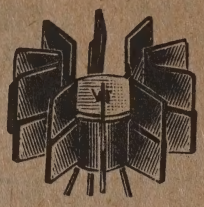


Fig. 2

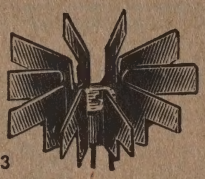


Fig. 3

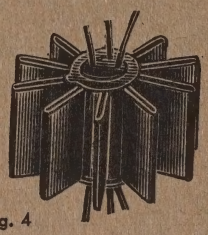
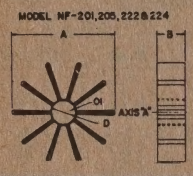


Fig. 4



200 SERIES FEATHERWEIGHT COOLERS

Flexin design. Spring action provides maximum contact of large area to assure repeatable thermal performance. Black copper.

Stk. No.	Type	Fig.	Inches A	Inches B	Fits Case Dia.	Each 1-199	Each 200-499	Each 500-999	Each 1000-4900
58F527	201CB	1	.64	.19	.161/.195	**.23**	**.20**	**.18**	**.16**
58F388	202CB	1	.49	.20	.161/.195	**.21**	**.17**	**.16**	**.15**
58F528	203CB	2	.64	.38	.161/.195	**.33**	**.28**	**.25**	**.23**
58F387	204CB	1	.55	.20	.275/.335	**.21**	**.17**	**.16**	**.15**
58F529	205CB	1	.72	.19	.275/.335	**.23**	**.20**	**.18**	**.16**
58F530	207CB	2	.72	.38	.275/.335	**.33**	**.28**	**.25**	**.23**
58F531	209CB	3	1.26	.44	.275/.335	**.37**	**.31**	**.28**	**.26**
58F441	211CB	1	.82	.19	.444/.524	**.33**	**.28**	**.25**	**.23**
58F442	213CB	2	.82	.38	.444/.524	**.36**	**.30**	**.27**	**.26**
58F443	215CB	3	1.38	.44	.444/.524	**.36**	**.30**	**.27**	**.26**
58F499	222CB	4	.64	.38	.161/.195	**.32**	**.27**	**.25**	**.23**
58F498	224CB	4	.72	.44	.275/.335	**.37**	**.31**	**.28**	**.26**

58F532. 160 tool for Models 201, 2, 3, 4, 5, 7, 9.....2.00
58F389. 161 Installation tool for Models 211, 213, 215.....2.00

300 Series

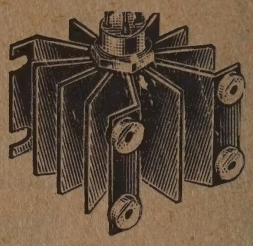
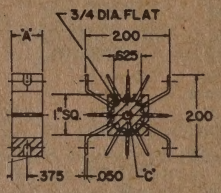
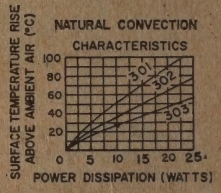


Fig. 5





300 SERIES RADIAL RECTIFIER COOLERS

Radial fin coolers for rectifier or stud mounting transistor applications. Adaptable to stack arrangements. Uses standard teflon insulating washers. Accommodates press-fitted and stud-mounted rectifiers and transistors up to 1⅛" hex case. Semiconductor mounting surface and one mounting foot unanodized. Type no. suffix indicates mtg. accommodations.

Stk. No.	Type	Fig.	Inches H	Inches W	Inches D	1-24	25-49	50-99	100-249
58F533	301K	5	.75	2.00	2.00	**1.68**	**1.34**	**1.10**	**.92**
58F496	301M	5	.75	2.00	2.00	**2.03**	**1.62**	**1.41**	**1.16**
58F495	301N	5	.75	2.00	2.00	**2.03**	**1.62**	**1.41**	**1.16**
58F494	301R	5	.75	2.00	2.00	**2.03**	**1.62**	**1.41**	**1.16**
58F534	302K	5	1.50	2.00	2.00	**2.03**	**1.62**	**1.31**	**1.09**
58F493	302M	5	1.50	2.00	2.00	**2.68**	**2.14**	**1.73**	**1.43**
58F492	302N	5	1.50	2.00	2.00	**2.68**	**2.14**	**1.73**	**1.43**
58F535	303K	5	3.00	2.00	2.00	**2.35**	**1.88**	**1.49**	**1.26**
58F1002	303M	5	3.00	2.00	2.00	**3.11**	**2.49**	**2.02**	**1.67**
58F487	303N	5	3.00	2.00	2.00	**3.11**	**2.49**	**2.02**	**1.67**
58F486	303R	5	3.00	2.00	2.00	**3.11**	**2.49**	**2.02**	**1.67**

400 Series

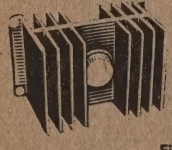


Fig. 6

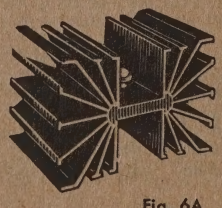
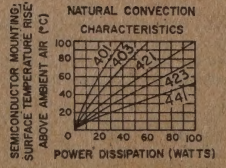


Fig. 6A

Fig. 7



400 SERIES NATURAL CONVECTION COOLERS

Type 401 has thermal resistance of 1.8°C W at medium power. **Type 413,** 1.4°C/W natural convection, 0.3°C W moderate air flow. Type 433, 70°C rise at 100 W power dissipation.
Type 441 with 400 sq. in. cooling area, 55°C/W at high power levels.
Type 423, 0.8°C/W at higher power levels.
Type no. suffix refers to mounting specs: see chart on preceding page.

Stk. No.	Type	Fig.	Inches H	Inches W	Inches D	1-24	25-49	50-99	100-249
58F500	401A	6	1.50	4.81	1.25	**1.75**	**1.38**	**1.10**	**.92**
58F501	401B	6	1.50	4.81	1.25	**2.08**	**1.64**	**1.31**	**1.09**
58F502	401K	6	1.50	4.81	1.25	**1.75**	**1.38**	**1.10**	**.92**
58F503	403A	6	3.00	4.81	1.25	**2.57**	**2.02**	**1.62**	**1.34**
58F504	403B	6	3.00	4.81	1.25	**2.90**	**2.28**	**1.81**	**1.49**
58F505	403K	6	3.00	4.81	1.25	**2.57**	**2.02**	**1.62**	**1.34**
58F1003	413A	6	3.00	4.75	.....	**4.03**	**3.17**	**2.56**	**2.14**
58F1004	413K	6	3.00	4.75	.....	**4.03**	**3.17**	**2.56**	**2.14**
58F506	421A	6	3.00	4.81	1.25	**3.67**	**2.89**	**2.32**	**1.92**
58F507	421B	6	3.00	4.81	2.63	**4.03**	**3.17**	**2.51**	**2.10**
58F508	421K	6	3.00	4.81	2.63	**3.67**	**2.89**	**2.32**	**1.92**
58F509	423A	6	5.50	4.81	2.63	**5.92**	**4.66**	**3.71**	**3.10**
58F510	423B	6	5.50	4.81	2.63	**6.26**	**4.93**	**3.91**	**3.31**
58F511	423K	6	5.50	4.81	2.63	**5.92**	**4.66**	**3.71**	**3.10**
58F334	433K	6A	5.50	4.37	3.00	**7.45**	**5.87**	**4.72**	**3.91**
58F521	441K	7	5.50	4.75	4.50	**9.78**	**7.70**	**6.17**	**5.13**

SERIES 170 INSULATING WAFERS

For TO-3 transistors. Features thermally conductive dielectric coating providing excellent thermal path between the case and heat sink. Coating on transistor side only, including edges, hole, I.D. **Sold in packages of 10.**

Stock No.	Type	Finish	For Case	Per Package of 10 1-9	10-49	50-99	100-499
58F177	170 DC	Delta Coat 151H	TO-3	.86	.74	.70	.57
58F1337	171 DC	Delta Coat 151H	TO-3				
58F1338	172 DC	Delta Coat 151H	TO-66				
58F176	170 HC	Hard Coat	TO-3	1.06	.92	.85	.71
58F1339	171 HC	Hard Coat	TO-3				
58F1340	172 HC	Hard Coat	TO-66				

TYPE 690 CIRCUIT BOARD HEAT SINKS

Designed to give the most power dissipation per unit cost. Dissipation of 10-20 watts is obtainable. Made of 1100 alloy aluminum in mounting patterns for TO-3 or TO-66 JEDEC packages. Available plain (suffix P) or black anodized (suffix B).

Stock No.	Type	Fits Case	Size, Inches W x H	Each 1-99	200-999	1000-2499	2500-4900
58F1310	690-3-P	TO-3	1.81x1.31	.34	.30	.28	.26
58F1311	690-66-P	TO-66	1.81x1.31	.34	.30	.28	.26
58F1312	690-3-B	TO-3	1.81x1.31	.46	.38	.34	.30
58F1313	690-66-B	TO-66	1.81x1.31	.46	.38	.34	.30

TYPE 695 CIRCUIT BOARD HEAT SINKS

Designed to accept semiconductor in Jedec DO-4 case, with threaded studs up to 10-32. Made of 1100 .414 aluminum with up to 5 watts heat dissipation for low power stud devices. Available plain (suffix P) or with black anodized finish (suffix B).

Stock No.	Type	Size, Inches W x H	Each 1-199	200-999	1000-2499	2500-4900
58F1314	695-1-P	1.33x.484	.18	.14	.13	.12
58F1315	695-1-B	1.33x.484	.26	.21	.19	.17

TEFLON INSULATORS

Insulates heat sinks from chassis, eliminating mica insulators between sink and semiconductor. ⅛ to 3½ oz.

101

103

Stock No.	Type	For Type	Read.	Each 1-499	500-999	1000-4999	5000-9900
58F519	101	501	3				
		502, 530, 504, 505	4	.19	.16	.15	.14
58F518	103	301	2				
		401	3				
		302, 303, 403, 421, 431	4				
		423, 433, 621, 623, 641	4	.08	.07	.06	.06
58F469	105	441, 1244, 1245, 1541	4	.29	.24	.23	.22
58F412	107	Same as 103	2	.29	.24	.23	.22

"BLIND" NYLON INSULATOR FASTENERS

102

104

106

Type 102: Fastener-washer pair quickly mounts and electrically isolates most Series 400 and 600 heat sinks. Size, 7/16" O.D. x 1/16" thick; for .187" panel hole in .063" max. panel thickness. **Type 104:** Screw mount with #8 sheet metal or machine screw; screw length, 5/8" plus panel thickness. **Type 106:** Larger screw mount type; screw length, ¾" plus panel thickness. **Sold in packages of 100.**

Stock No.	Type	For Sink Type	Price Per Package of 100 1-4	5-9	10-49	50-99
58F139	102	Same as 103	4.34	3.62	3.42	3.23
58F160	104	Same as 103	3.64	3.03	2.79	2.67
58F161	106	Same as 105	5.99	4.99	4.59	4.34

SERIES 260 CUP CLIPS FOR TO-5 AND TO-18

260-10SH5B Stud Mtg. for TO-5

260-4SH18E Stud Mtg. for TO-18

26X-4T5 Tapped Base

260-P18 Plain Base

Beryllium copper cup clips with brass bases for TO-5 case style transistors except (*) for TO-18. "E" suffix are epoxy insulated. "B" suffix are beryllium oxide insulated for applications requiring low stray capacity. No suffix are non-insulated and are soldered together with 63/67 tin lead alloy. Max. temperature is 300°F. Size: 0.29" I.D. cup, hex base .37" across flats for TO-5; .170" I.D. with .25" hex for TO-18. **Sold in packages of 10.**

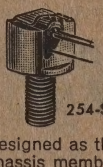
Stock No.	Type	Base	Price Per Package of 10 1-19	20-49	50-99	100-490
58F178	260-P5	Plain, .112"	3.34	2.67	2.31	2.09
58F179	*260-P18	Plain, .089"	3.34	2.67	2.31	2.09
58F1056	*260-2TH18E	2-56 tapped	9.01	7.21	6.26	5.73
58F184	260-4T5	4-40 tap; chamfer	6.33	5.06	4.37	4.02
58F185	260-4T5E	4-40 tap; chamfer	7.98	6.38	5.47	4.98
58F1057	260-4TH5B	4-40 tapped	14.85	11.88	10.26	9.46
58F1058	260-4TH5E	4-40 tapped	7.98	6.38	5.47	4.98
58F1060	*260-4SH18B	4-40 stud	14.85	11.88	10.26	9.46
58F187	*260-4SH18E	4-40 stud	9.01	7.21	6.26	5.73
58F1061	260-6SH5	6-32 stud	9.01	7.21	6.26	5.73
58F1062	260-6SH5E	6-32 stud	11.36	9.09	7.82	7.23
58F188	260-6SH5B	6-32 stud	14.85	11.88	10.26	9.46
58F1063	*260-6SH18	6-32 stud	7.05	5.64	4.88	4.49
58F1064	*260-6SH18B	6-32 stud	14.85	11.88	10.26	9.46
58F1065	*260-6SH18E	6-32 stud	9.01	7.21	6.26	5.73
58F189	260-10SH5B	10-32 stud	14.85	11.88	10.26	9.46
58F1067	260-10SH5E	10-32 stud	9.01	7.21	6.26	5.73

SERIES 256 BRASS CLIPS

Clips as electrostatic shields and or thermal retainers. For one or two plastic transistors. .20" dia. Dual clip maintains 2 transistors at the same temperature. Material: ½ hard brass. *256-DM is beryllium copper.

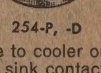
Stock No.	Type	Hgt. x Length	Per Package of 100 1-9	10-24	25-49	50-99
58F175	256-D	.20" x .31"	2.12	1.80	1.66	1.56
58F1068	*256-DM	.19" x .24"	1.91	1.62	1.50	1.39

THERMAL RETAINERS FOR TO-5 CASES


254-S

254-S1

254-T


254-P, -D

Designed as thermal links from TO-5 transistor case to cooler or chassis member acting as heat sink. Provides heat sink contact at bottom of case flange for best cooling. Ideal for Kovar header case. Made of Zamak 3, with chromate conversion finish. Type 254-S1 has built-in electrical isolation, with stud mount of 6061-T6 aluminum with gold iridite finish.

Stock No.	Type	Mounting	Per Package of 10 1-9	10-24	25-49	50-99
58F381	254-S	Stud	2.96	2.54	2.36	2.08
58F382	254-S1	Stud	2.96	2.54	2.36	2.08
58F383	254-T	Tapped hole	4.35	3.73	3.45	3.06
58F384	254-P	Plain	.89	.77	.71	.63
58F385	254-D	Plain; 4-40 tapped	3.21	2.77	2.56	2.26

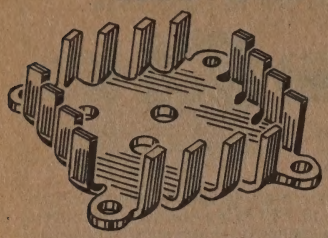
THERMALLY CONDUCTIVE ADHESIVE

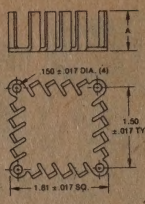
Type 152. High conductivity adhesive used: As general adhesive, for bonding semi-conductors to chassis heat sinks, fabricating heat sinks or thermal links, for permanent bonding of all materials with highly thermal conductive interface. Porous and nonporous surfaces. Excellent dielectric strength. Bond shear strength, 1" overlap psi, 30 immersion in water unaffected. Temp. range −70°F to +300°F.

Stk. No.	Type	Size	1-9	10-24	25-49	50-99
58F345	152-1-A	1 oz.	3.34	2.93	2.86	2.64
58F386	152-K-A	7½ oz.	7.01	6.49	6.01	5.57

Semiconductor Coolers

SERIES 689 SLANTED FIN COOLERS

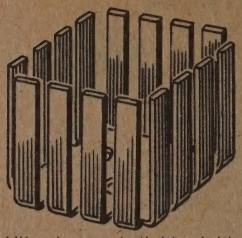


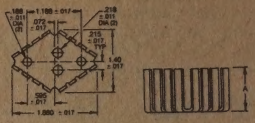


Low-cost one-piece heat sinks for circuit-board applications requiring high thermal efficiency. Interchanges directly with other TO-3 heat sinks. Air movement from any direction is diverted to the center of the heat sink to create turbulence and improve heat transfer. Last digit of Type No. indicates hole pattern: '2' for a standard TO-3, '3' for TO-66. Digits after series number indicates height in inches.

Stock No.	Type	1-199	200-999	1000-2499	2500-4999
58F136	689—.5B2	.39	.34	.32	.29
58F137	689—.5B3	.39	.34	.32	.29
58F138	689—.75B2	.44	.39	.36	.32
58F139	689—.75B3	.44	.39	.36	.32
58F140	689—1.0B2	.49	.42	.39	.35
58F141	689—1.0B3	.49	.42	.39	.35
58F142	689—1.25B2	.53	.46	.43	.39
58F143	689—1.25B3	.53	.46	.43	.39

SERIES 635 SPACE SAVER COOLERS





Ultra low-cost, lightweight heat sinks for circuit-board applications. One-piece design conforms to diamond shape of the TO-3, TO-66 and TO-220 packages for minimum space usage in high-density appl. Directly interchangeable with other TO-3 heat sinks. Last digit of Type No. indicates hole pattern: '2' for standard TO-3, '3' for a TO-66. Digits after series no. indicates height in inches.

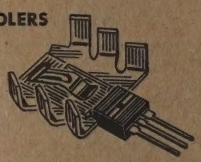
Stock No.	Type	Each 1-199	200-999	1000-2499	2500-4999
58F1341	635—.5B2	.26	.23	.21	.19
58F1345	635—.5B3	.26	.23	.21	.19
58F1342	635—.75B2	.30	.26	.24	.22
58F1346	635—.75B3	.30	.26	.24	.22
58F1343	635—1.0B2	.33	.28	.26	.24
58F1347	635—1.0B3	.33	.28	.26	.24
58F1344	635—1.25B2	.36	.31	.29	.26
58F1348	635—1.25B3	.36	.31	.29	.26

HEAT SINK FOR TO-92 TRANSISTOR

Type 292. Heat Sink accommodates most TO-92 plastic transistors for heat dissipation. Natural convection characteristics show that for power dissipation of .20 watts, collector lead temperature rise above ambient is 18°C. Made of type 6061-T6 Aluminum or copper with black "C" finish, or plain.

Stock No.	Type	Material	Finish	Each 1-499	500-999	1000-4999	5000-9999
58F1021	292AP	Alum.	Plain	.03	.03	.02	.02
58E373	292AB	Alum.	Black	.11	.09	.08	.06
58F162	292CP	Copper	Plain	.09	.07	.06	.05
58F1022	292CB	Copper	Black	.12	.09	.08	.06

SERIES 291 CLIP-COOLERS



Clip-on, one-piece construction. Aluminum black finish. **Type No.** code: Series No., Height (inches), Finish and Mtg. Style.

C1—Clip-on for TO-202
C2—Clip-on for TO202 and TO220
H—Clrnce hole for TO202, TO220

Stock No.	Type	1-499	500-999	1000-4999	5000-9999
58F152	291—.36ABC1	.14	.11	.10	.09
58F153	291—.80ABC1	.15	.12	.10	.10
58F154	291—.36ABC2	.14	.11	.10	.09
58F155	291—.80ABC2	.15	.12	.10	.10
58F156	291—.36ABH	.14	.11	.10	.09
58F157	291—.80ABH	.15	.12	.10	.10

TYPE 296 HEAT SINK FOR TO-5 TRANSISTORS

296-1 296-2 296-3 296-4

Heat Sink snaps onto TO-5 transistor, uses minimum amount of PC board layout space. Material: 6061T6 aluminum, or copper. Plain or Black finish. Use type 120 thermal joint compound.

ALUMINUM

Stock No.	Type	Wing Height	Finish	Each 1-499	500-999	1000-4999	5000-9999
58F163	296-1-AP	¼"	Plain	.04	.03	.03	.02
58F1028	296-1-AB	¼"	Black	.08	.06	.05	.04
58F164	296-2-AP	½"	Plain	.04	.03	.03	.02
58F1024	296-2-AB	½"	Black	.08	.07	.06	.05
58F165	296-3-AP	¾"	Plain	.04	.04	.03	.03
58F1025	296-3-AB	¾"	Black	.11	.09	.07	.06
58F166	296-4-AP	1"	Plain	.05	.04	.03	.03
58F1026	296-4-AB	1"	Black	.11	.09	.07	.06

COPPER

Stock No.	Type	Wing Height	Finish	Each 1-499	500-999	1000-4999	5000-9999
58F1028	296-1-CB	¼"	Black	.18	.14	.12	.10
58F1030	296-2-CB	½"	Black	.24	.20	.16	.13
58F1032	296-3-CB	¾"	Black	.31	.25	.21	.17
58F1034	296-4-CB	1"	Black	.39	.31	.26	.21

SERIES 630 HEAT SINKS FOR TO-3 AND TO-66

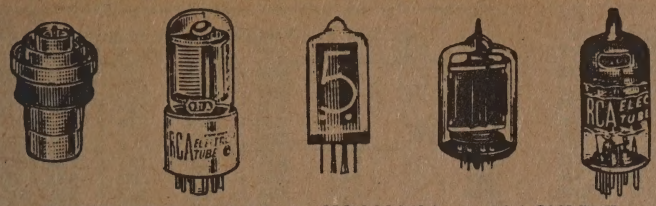
631 632 633

Provides maximum cooling per unit cost. Suffix -3 in Type No. indicates unit is for TO-3 transistor; suffix -66, for TO-66 transistor. Made of type 1100-H14 aluminum, .062" thick. Black anodized (suffix B) or plain (suffix P) finish. Temperature rise for 5 watts: type 631, 68°C; type 632, 57°C; 633, 45°C.

Stock No.	Type	Height	Finish	EACH 1-199	200-999	1000-2499	2500-4999
58F1035	631-3-B	1"	Black	.20	.16	.14	.13
58F167	631-3-P	1"	Plain	.09	.07	.06	.06
58F1036	631-66-B	1"	Black	.20	.16	.14	.13
58F168	631-66-P	1"	Plain	.09	.07	.06	.06
58F1037	632-3-B	2"	Black	.23	.19	.16	.15
58F169	632-3-P	2"	Plain	.13	.10	.09	.08
58F1038	632-66-B	2"	Black	.23	.19	.16	.15
58F170	632-66-P	2"	Plain	.13	.10	.09	.08
58F1039	633-3-B	3"	Black	.27	.22	.19	.18
58F171	633-3-P	3"	Plain	.16	.13	.11	.11
58F1040	633-66-B	3"	Black	.27	.22	.19	.18

Receiving, Industrial & Special Purpose Tubes

NATIONAL ELECTRONICS • GENERAL ELECTRIC



RAYTHEON • RCA • SYLVANIA • MACHLETT

LARGEST STOCKS OF MAJOR BRANDS

Whatever your tube needs — standard receiving, industrial or special purpose types — Newark can quickly fill your order. We can ship OEM quantities at OEM prices directly from stock. Just order by tube type and we will ship one of the leading manufacturer's tubes to fill your order.

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
0A2	2.09	1.89	1.79	1.68	....
0A2WA	5.85	5.26	5.00	4.68	....
0A2WAJAN	4.81	4.33	4.11	3.85	....
0A3	2.70	2.43	2.31	2.16	....
0A3A	3.27	2.95	2.80	2.62	....
0A4G	5.12	4.61	4.38	4.10	....
0B2	2.48	2.23	2.12	1.98	....
0B2WA	4.61	4.15	3.94	3.69	....
GB-0B2WA	4.61	4.15	3.94	3.69	....
0B2WAJAN	3.96	3.57	3.39	3.17	....
0B3	3.63	3.27	3.11	2.91	....
0B3A/0B3	3.50	3.15	2.99	2.80	....
0C2	3.22	2.90	2.75	2.57	....
0C3	2.75	2.48	2.35	2.20	....
0C3A	3.26	2.94	2.79	2.61	....
0C3A/0C3	2.58	2.32	2.20	2.06	....
0C3W	13.64	12.28	11.66	10.92	....
0D3	2.53	2.28	2.17	2.03	....
0D3A	2.96	2.67	2.53	2.37	....
0D3A/0D3	2.46	2.21	2.10	1.97	....
0D3W	13.86	12.48	11.85	11.09	....
0Z4A/0Z4	4.46	4.02	3.80	3.57	3.13
1AD2A	3.40	3.06	2.89	2.72	2.38
1AD4	11.81	10.63	10.09	9.45	....
1AY2A	3.96	3.57	3.37	3.17	2.78
1BC2	2.74	2.47	2.33	2.20	1.92
1BC2A	2.96	2.67	2.52	2.37	2.08
1BH2A	3.26	2.94	2.78	2.61	2.29
1C21	9.07	8.16	7.75	7.26	....
1DG3A	4.54	4.09	3.86	3.64	3.18
1D-K27	2.72	2.45	2.32	2.18	1.91
1EP1	58.10	52.29	49.65	46.48	....
1EP11	56.98	51.29	48.70	45.59	....
1G3GTA/1B3GT	3.34	3.01	2.84	2.68	2.34
C1K/6014	19.69	17.73	16.83	15.76	....
1K3A/1J3	3.38	3.05	2.88	2.71	2.37
1L4	5.04	4.54	4.29	4.04	3.53
1L6	8.88	8.00	7.55	7.11	6.22
1LA6	6.00	5.40	5.10	4.80	4.20
1P21	74.69	67.23	63.83	59.76	....
1P22	25.58	23.02	21.86	20.46	....
1P28	28.77	25.89	24.59	23.02	....
1P28/V1	46.26	41.63	39.53	37.01	....
1P28A	38.34	34.51	32.76	30.67	....
1P29	14.85	13.37	12.69	11.88	....
1P37	16.02	14.42	13.69	12.82	....
1P39	10.62	9.56	9.08	8.50	....
1P40	13.81	12.43	11.80	11.05	....
1P42	40.21	36.19	34.36	32.17	....
1R5	5.44	4.90	4.63	4.36	3.81
1S5	2.78	2.51	2.37	2.23	1.95
1T4	4.44	4.00	3.78	3.56	3.11
1U4	4.00	3.60	3.40	3.20	2.80
1U5	4.42	3.98	3.76	3.54	3.10
1V2	1.90	1.71	1.62	1.52	1.33
1X2C	3.06	2.76	2.61	2.45	2.15
1X2C/1BX2	3.50	3.15	2.98	2.80	2.45
2AF4B/2DZ4	4.02	3.62	3.42	3.22	2.82
2AP1A	55.44	49.90	47.38	44.36	....
2AS2A	3.40	3.06	2.89	2.72	2.38
2AV2	2.50	2.25	2.13	2.00	1.75
2BJ2	4.76	4.29	4.05	3.81	3.34
2BP1	46.20	41.58	39.48	36.96	....
2BU2/2AH2	3.40	3.06	2.89	2.72	2.38
2C39B	109.40	98.46	93.49	87.52	....
2C39WA/C	30.25	27.23	25.85	24.20	....
2C39WA/G	46.20	41.58	39.48	36.96	....
2C40A	92.73	83.46	79.25	74.19	....

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
2C43	70.84	63.76	60.54	56.68	....
2C51	5.83	5.25	4.99	4.67	....
2CN3A	3.54	3.19	3.01	2.84	2.48
2CW4	6.64	5.98	5.65	5.32	4.65
2CY5	4.98	4.49	4.24	3.99	3.49
2D21	2.48	2.23	2.12	1.98	....
2DS4	6.64	5.98	5.65	5.32	4.65
2E24	15.07	13.57	12.88	12.06	....
2E26	6.99	6.29	5.97	5.59	....
2EG4	6.64	5.98	5.65	5.32	4.65
2EN5	2.12	1.91	1.81	1.70	1.49
2FS5	5.56	5.01	4.73	4.45	3.90
2GK5/2FQ5A	3.36	3.03	2.86	2.69	2.36
2GU5	5.28	4.76	4.49	4.23	3.70
2HM5/2HA5	2.88	2.60	2.45	2.31	2.02
2HQ5	3.74	3.37	3.18	3.00	2.62
RK2K25	88.00	79.20	....	....	....
RK2K28	148.50	133.65	....	....	....
2K26	74.80	67.32	....	....	....
2X2A	7.92	7.13	6.77	6.34	....
C3J/AL	25.19	22.68	21.53	20.16	....
C3J/L	25.41	22.87	21.72	20.33	....
NL-C3J/L	25.41	22.87	21.72	20.33	....
NL-C3J/AL	25.19	22.68	21.53	20.16	....
NL-C3J/AL-NE	31.46	28.32	26.89	25.17	....
C3J/5632	21.29	19.16	18.19	17.03	....
C3JA/5684	21.45	19.31	18.33	17.16	....
3A3C	3.18	2.87	2.71	2.55	2.23
3A4	4.55	4.09	3.89	3.64	....
3A5	6.60	5.94	5.64	5.28	....
3AF4A/3DZ4	3.94	3.55	3.35	3.16	2.76
3AP1A	73.92	66.53	63.17	59.14	....
3AQP1	46.20	41.58	39.48	36.96	....
3AT2B	3.52	3.17	3.00	2.82	2.47
3AU6	2.52	2.27	2.15	2.02	1.77
3AW2A	3.20	2.88	2.72	2.56	2.24
3B4WA	8.71	7.84	7.44	6.97	....
RK3B22/1C	18.98	17.08	16.22	15.18	....
3B24W	16.12	14.51	13.78	12.90	....
RK3B24W	14.80	13.32	12.65	11.84	....
RK3B24WA	14.80	13.32	12.65	11.84	....
RK3B24WB	14.80	13.32	12.65	11.84	....
3B28	15.81	14.23	13.51	12.65	....
3BC5/3CE5	2.72	2.45	2.32	2.18	1.91
3BL2A	3.24	2.92	2.76	2.60	2.27
3BN2A	3.12	2.81	2.66	2.50	2.19
3BN4	2.74	2.47	2.33	2.20	1.92
3BN6	4.42	3.98	3.76	3.54	3.10
3BP1A	84.25	75.83	72.00	67.40	....
3BU8/3GS8	4.24	3.82	3.61	3.40	2.97
3BW2/3BS2A/3BT2	3.34	3.01	2.84	2.68	2.34
3BY6	2.58	2.33	2.20	2.07	1.81
3BZ6	3.24	2.92	2.76	2.60	2.27
3C23	15.79	14.21	13.49	12.63	....
3CA3A	3.88	3.50	3.30	3.11	2.72
3CB6/3CF6	2.30	2.07	1.96	1.84	1.61
3CN3B	3.56	3.21	3.03	2.85	2.50
3CU3A	3.86	3.48	3.29	3.09	2.71
3CX3	3.56	3.21	3.03	2.85	2.50
3CZ3A	3.38	3.05	2.88	2.71	2.37
3CZ3	3.38	3.05	2.88	2.71	2.37
3D22A	69.30	62.37	59.22	55.44	....
3DB3/3CY3	3.48	3.14	2.96	2.79	2.44
3DC3	3.46	3.12	2.95	2.77	2.43
3DF3	4.12	3.71	3.51	3.30	2.89
3DG4	5.80	5.22	4.93	4.64	4.06
3DJ3	3.34	3.01	2.84	2.68	2.34
3DK6	3.30	2.97	2.81	2.64	2.31

Receiving, Industrial & Special Purpose Tubes

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
3DT6A	3.58	3.23	3.05	2.87	2.51
3E29	30.91	27.82	26.42	24.73	....
3EA5	2.50	2.25	2.13	2.00	1.75
3EH7/XF183	2.12	1.91	1.81	1.70	1.49
3EJ7/XF184	2.12	1.91	1.81	1.70	1.49
3ER5	3.38	3.05	2.88	2.71	2.37
3FS5	4.70	4.23	4.00	3.76	3.29
3GK5	3.04	2.74	2.59	2.44	2.13
3HM5/3HA5	3.00	2.70	2.55	2.40	2.10
3HQ5	4.46	4.02	3.80	3.57	3.13
3HS8	3.42	3.08	2.91	2.74	2.40
3JC6A	4.40	3.96	3.74	3.52	3.08
3KP1	73.92	66.53	63.17	59.14	....
3KT6	2.92	2.63	2.49	2.34	2.05
3RP1	33.88	30.50	28.96	27.11	....
3RP1A	44.66	40.20	38.17	35.73	....
3WP1	69.30	62.37	59.22	55.44	....
3V4	4.70	4.23	4.00	3.76	3.29
4-125A/4D21	61.33	55.20	52.41	49.06	....
4-250A/5D22	70.79	63.71	60.49	56.63	....
4AU6	4.06	3.66	3.46	3.25	2.85
4AV6	2.32	2.09	1.98	1.86	1.63
4BS8	3.08	2.78	2.62	2.47	2.16
4BQ7A/4BZ7	3.90	3.51	3.32	3.12	2.73
4BU8/4GS8	3.90	3.51	3.32	3.12	2.73
4BZ6	3.02	2.72	2.57	2.42	2.12
4BZ6/4JH6	3.02	2.72	2.57	2.42	2.12
4CB6	2.34	2.11	1.99	1.88	1.64
4CS6	4.04	3.64	3.44	3.24	2.83
4CX250B	42.90	38.61	36.66	....	....
4DE6	2.36	2.13	2.01	1.89	1.66
4DK6	2.96	2.67	2.52	2.37	2.08
4DT6A	3.32	2.99	2.83	2.66	2.33
4E27A/5-125B	110.00	99.00	94.00	....	....
4EH7/LF183	2.86	2.58	2.44	2.29	2.01
4EJ7/LF184	2.86	2.58	2.44	2.29	2.01
4ES8/XCC189	3.52	3.17	3.00	2.82	2.47
4EW6	2.08	1.88	1.77	1.67	1.46
4GJ7/XCF801	2.34	2.11	1.99	1.88	1.64
4GK5	4.16	3.75	3.54	3.33	2.92
4GM6	2.50	2.25	2.13	2.00	1.75
4GX7	3.60	3.24	3.06	2.88	2.52
4HA7/4HC7	3.80	3.42	3.23	3.04	2.66
4HM5/4HA5	2.50	2.25	2.13	2.00	1.75
4HM6	2.42	2.18	2.06	1.94	1.70
4HQ5	3.60	3.24	3.06	2.88	2.52
4HS8	3.22	2.90	2.74	2.58	2.26
4JC6A	4.60	4.14	3.91	3.68	3.22
4JD6	4.02	3.62	3.42	3.22	2.82
4KE8	4.90	4.41	4.17	3.92	3.43
4KT6	3.68	3.32	3.13	2.95	2.58
4LJ8	3.54	3.19	3.01	2.84	2.48
4X150A	38.50	34.65	32.90	30.80	....
4X500A	173.80	....	....	....	....
5ABP1	83.49	75.15	71.35	66.80	....
5ADP1	83.49	75.15	71.35	66.80	....
5ADP31	83.49	75.15	71.35	66.80	....
5AN8	4.14	3.73	3.52	3.32	2.90
5AQ5	3.74	3.37	3.18	3.00	2.62
5AR4/GZ34	4.60	4.14	3.91	3.68	3.22
5AS4A	2.64	2.38	2.25	2.12	1.85
5AS8	3.06	2.76	2.61	2.45	2.15
5AT8	3.92	3.53	3.34	3.14	2.75
PL5B1	4.60	....	....	....	....
PL5B2	4.60	....	....	....	....
5B8	4.00	3.60	3.40	3.20	2.80
5BC3	2.46	2.22	2.10	1.97	1.73
5BC3A	2.64	2.38	2.25	2.12	1.85
5BE8	2.26	2.04	1.93	1.81	1.59
5BK7A	3.52	3.17	3.00	2.82	2.47
5BP1-A	98.67	88.81	84.32	78.94	....
5BR8/5FV8	4.28	3.86	3.64	3.43	3.00
5BT8	2.12	1.91	1.81	1.70	1.49
PL5C1	4.60	....	....	....	....
5CG8	3.50	3.15	2.98	2.80	2.45
5CL8A	4.38	3.95	3.73	3.51	3.07
5CP1A	83.49	75.15	71.35	66.80	....
5CQ8	3.80	3.42	3.23	3.04	2.66
5DH8	4.94	4.45	4.20	3.96	3.46
5DJ4	2.52	2.27	2.15	2.02	1.77
5EA8	5.68	5.12	4.83	4.55	3.98
5EU8	3.10	2.79	2.64	2.48	2.17
5EW6	4.02	3.62	3.42	3.22	2.82
5FG7	4.84	4.36	4.12	3.88	3.39
5GJ7/LCF801	2.20	1.98	1.87	1.76	1.54

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
5GM6	2.86	2.58	2.44	2.29	2.01
5GS7	2.16	1.95	1.84	1.73	1.52
5GX7	3.58	3.23	3.05	2.87	2.51
5HB7	2.42	2.18	2.06	1.94	1.70
5HG8/LCF86	2.88	2.60	2.45	2.31	2.02
5HZ6	2.54	2.29	2.16	2.04	1.78
5JK6	3.16	2.85	2.69	2.53	2.22
5KD8	3.14	2.83	2.67	2.52	2.20
5KE8	5.30	4.77	4.51	4.24	3.71
5KZ8	4.24	3.82	3.61	3.40	2.97
5LJ8	3.46	3.12	2.95	2.77	2.43
5MB8	3.24	2.92	2.76	2.60	2.27
5R4GA	3.36	3.03	2.86	2.69	2.36
5R4GB	3.55	3.19	3.03	2.84	....
5R4GYB	3.55	3.19	3.03	2.84	....
5R4WGA	11.61	10.45	9.92	9.29	....
5U4G	4.48	4.04	3.81	3.59	3.14
5U4GB	2.44	2.20	2.08	1.96	1.71
5U4GB/5AS4A	2.64	2.38	2.25	2.12	1.85
5U8	5.12	4.61	4.36	4.10	3.59
5U9/LCF201	3.30	2.97	2.81	2.64	2.31
5UP1	55.44	49.90	47.38	44.36	....
5UP7	45.82	41.24	39.16	36.66	....
5UP31	56.98	51.29	48.70	45.59	....
5V3A/5AU4	3.32	2.99	2.83	2.66	2.33
5V4GA	4.76	4.29	4.05	3.81	3.34
5X8	3.22	2.90	2.74	2.58	2.26
5Y3GT	2.96	2.67	2.52	2.37	2.08
GB-5Y3WGTA	5.28	4.76	4.52	4.23	....
5Z3	4.80	4.32	4.08	3.84	3.36
NL-C6J	42.35	38.12	36.19	33.88	....
NL-C6J/K	44.99	40.50	38.45	36.00	....
NL-C6J/KP	41.14	37.03	35.16	32.92	....
NL-C6J/L	40.15	36.14	34.31	32.12	....
C6J/5C21	42.35	38.12	36.19	33.88	....
C6JA/5685	43.18	38.86	36.90	34.54	....
6A8	10.60	9.54	9.01	8.48	7.42
6AB4	3.44	3.10	2.93	2.76	2.41
6AC7	6.96	6.27	5.92	5.57	4.88
6AC7WA	10.78	9.71	9.22	8.63	....
6AC10	3.70	3.33	3.15	2.96	2.59
6AD10	7.86	7.08	6.69	6.29	5.51
6AF3	4.90	4.41	4.17	3.92	3.43
6AF4	5.30	4.77	4.51	4.24	3.71
6AF4A	5.30	4.77	4.51	4.24	3.71
6AF6G	7.12	6.41	6.06	5.70	4.99
6AF9	4.56	4.11	3.88	3.65	3.20
6AF11	4.86	4.38	4.14	3.89	3.41
6AG5	4.68	4.22	3.98	3.75	3.28
6AG7	8.84	7.96	7.52	7.08	6.19
6AG9	6.18	5.57	5.26	4.95	4.33
6AH6	7.54	6.79	6.41	6.04	5.28
6AH6WA	9.08	8.17	7.76	7.26	....
6AH6WAJAN	9.08	8.17	7.76	7.26	....
6AH9	4.14	3.73	3.52	3.32	2.90
6AJ5	4.57	4.11	3.91	3.66	....
6AK5/EF95	4.32	3.89	3.68	3.46	3.03
6AK5WB	7.48	6.74	6.40	5.99	....
6AK6	2.88	2.60	2.45	2.31	2.02
6AK8/EABC80	2.28	2.06	1.94	1.83	1.60
6AL3/EY88	1.96	1.77	1.67	1.57	1.38
6AL5	2.92	2.63	2.49	2.34	2.05
6AL11	5.68	5.12	4.83	4.55	3.98
6AM4	8.70	7.83	7.40	6.96	6.09
6AM8A	5.90	5.31	5.02	4.72	4.13
6AN4	4.28	3.86	3.64	3.43	3.00
6AN5	5.28	4.76	4.52	4.23	....
6AN5WA	12.38	11.14	10.58	9.90	....
6AN5WAJAN	12.38	11.14	10.58	9.90	....
6AN8A	4.10	3.69	3.49	3.28	2.87
6AQ5A/6HG5	2.88	2.60	2.45	2.31	2.02
6AQ5A	2.66	2.40	2.27	2.13	1.87
6AQ5A/6HG5	3.04	2.74	2.59	2.44	2.13
6AQ6	2.68	2.42	2.28	2.15	1.88
6AQ7GT	4.38	3.95	3.73	3.51	3.07
6AQ8/ECC85	2.20	1.98	1.87	1.76	1.54
6AR5	1.72	1.55	1.47	1.38	1.21
6AR6	7.43	6.69	6.35	5.94	....
6AR8	6.08	5.48	5.17	4.87	4.26
6AR11	5.16	4.65	4.39	4.13	3.62
6AS5	4.38	3.95	3.73	3.51	3.07
6AS6	5.92	5.33	5.06	4.74	....
6AS7G	8.27	7.44	7.06	6.61	....
6AS7GA	8.20	7.38	7.01	6.56	....
6AS8	5.58	5.03	4.75	4.47	3.91

Receiving, Industrial & Special Purpose Tubes

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6AS11	6.60	5.94	5.61	5.28	4.62
6AT6	1.62	1.46	1.38	1.30	1.14
6AT8A	4.58	4.13	3.90	3.67	3.21
6AU4GTA	4.22	3.80	3.59	3.38	2.96
6AU5GT	6.46	5.82	5.50	5.17	4.53
6AU6A	2.94	2.65	2.50	2.36	2.06
6AU6WB	5.45	4.91	4.66	4.36	....
6AU8A	4.82	4.34	4.10	3.86	3.38
6AV5GA	5.66	5.10	4.82	4.53	3.97
6AV6	3.24	2.92	2.76	2.60	2.27
6AV11	3.72	3.35	3.17	2.98	2.61
6AW8A	4.02	3.62	3.42	3.22	2.82
6AX3	2.96	2.67	2.52	2.37	2.08
6AX4GTB	3.40	3.06	2.89	2.72	2.38
6AX5GT	4.70	4.23	4.00	3.76	3.29
6AY3B	3.24	2.92	2.76	2.60	2.27
6AZ8	6.16	5.55	5.24	4.93	4.32
6B8	6.84	6.16	5.82	5.48	4.79
6B10	3.92	3.53	3.34	3.14	2.75
6BA6/EF93	3.00	2.70	2.55	2.40	2.10
6BA7	7.76	6.99	6.60	6.21	5.44
6BA8A	5.68	5.12	4.83	4.55	3.98
6BA11	3.86	3.48	3.29	3.09	2.71
6BC4	5.60	5.04	4.76	4.48	3.92
6BC5/6CE5	2.86	2.58	2.44	2.29	2.01
6BC7	3.24	2.92	2.76	2.60	2.27
6BC8/6BZ8	4.74	4.27	4.03	3.80	3.32
6BD6	1.90	1.71	1.62	1.52	1.33
6BD11	4.90	4.41	4.17	3.92	3.43
6BE3	3.92	3.53	3.34	3.14	2.75
6BE3/6BZ3	4.50	4.05	3.83	3.60	3.15
6BE6	3.32	2.99	2.83	2.66	2.33
6BF5	2.74	2.47	2.33	2.20	1.92
6BF6	2.20	1.98	1.87	1.76	1.54
6BF11	5.62	5.06	4.78	4.50	3.94
6BG6G	9.22	8.30	7.84	7.38	6.46
6BG6GA	7.38	6.65	6.28	5.91	5.17
6BH6	3.40	3.06	2.89	2.72	2.38
6BH8	3.92	3.53	3.34	3.14	2.75
6BH11	3.80	3.42	3.23	3.04	2.66
6BJ3	2.78	2.51	2.37	2.23	1.95
6BJ6	3.54	3.19	3.01	2.84	2.48
6BJ7	2.70	2.43	2.30	2.16	1.89
6BJ8	3.70	3.33	3.15	2.96	2.59
6BK4C/6EL4A	6.72	6.05	5.72	5.38	4.71
6BK5	7.80	7.02	6.63	6.24	5.46
6BK7B	4.42	3.98	3.76	3.54	3.10
6BL6	143.00	128.70	....	....	....
6BL7GTA	5.84	5.26	4.97	4.68	4.09
6BL8/ECF80	2.16	1.95	1.84	1.73	1.52
6BM6	143.00	128.70	....	....	....
RK-6BM6	143.00	128.70	....	....	....
6BM8/ECL82	2.20	1.98	1.87	1.76	1.54
6BN4A	4.32	3.89	3.68	3.46	3.03
6BN6/6KS6	4.22	3.80	3.59	3.38	2.96
6BN8	3.34	3.01	2.84	2.68	2.34
6BN11	5.26	4.74	4.48	4.21	3.69
6BQ5/EL84	3.52	3.17	3.00	2.82	2.47
6BQ6GTB/6CU6	6.18	5.57	5.26	4.95	4.33
6BQ7/6EZ7	4.46	4.02	3.80	3.57	3.13
6BQ7A/6BZ7	4.70	4.23	4.00	3.76	3.29
6BR8A/6FV8A	4.54	4.09	3.86	3.64	3.18
6BS3A	3.24	2.92	2.76	2.60	2.27
6BS8	5.70	5.13	4.85	4.56	3.99
6BU8	4.42	3.98	3.76	3.54	3.10
6BV8	3.50	3.15	2.98	2.80	2.45
6BV11	5.06	4.56	4.31	4.05	3.55
6BW4	2.46	2.22	2.10	1.97	1.73
6BW8	4.80	4.32	4.08	3.84	3.36
6BW11	5.08	4.58	4.32	4.07	3.56
6BX6/EF80	3.36	3.03	2.86	2.69	2.36
6BX7GT	7.50	6.75	6.38	6.00	5.25
6BY5GA	3.08	2.78	2.62	2.47	2.16
6BY6	4.52	4.07	3.85	3.62	3.17
6BY8	2.34	2.11	1.99	1.88	1.64
6BY11	4.04	3.64	3.44	3.24	2.83
6BZ6	2.64	2.38	2.25	2.12	1.85
6BZ6/6JH5	2.42	2.18	2.06	1.94	1.70
6C4	3.54	3.19	3.01	2.84	2.48
6C4W	3.85	3.47	3.29	3.08	....
6C4WA	3.85	3.47	3.29	3.08	....
6C5	6.28	5.66	5.34	5.03	4.40
6C9	4.70	4.23	4.00	3.76	3.29
6C10	3.98	3.59	3.39	3.19	2.79
6CA4	3.44	3.10	2.93	2.76	2.41

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6CA5	2.56	2.31	2.18	2.05	1.80
6CA7/EL34	4.38	3.95	3.73	3.51	3.07
6CB5A	7.76	6.99	6.60	6.21	5.44
6CB6A/6CF6	2.84	2.56	2.42	2.28	1.99
6CD6GA	6.08	5.48	2.17	4.87	4.26
6CE3/6CD3/6DT3	2.94	2.65	5.50	2.36	2.06
6CG3/6BW3/6DQ3	3.10	2.79	2.64	2.48	2.17
6CG8A	3.40	3.06	2.89	2.72	2.38
6CH8	4.90	4.41	4.17	3.92	3.43
6CJ3/6CH3	2.98	2.69	2.54	2.39	2.09
6CL3/6CK3	3.18	2.87	2.71	2.55	2.23
6CL6	4.66	4.20	3.97	3.73	3.27
6CL8A	4.38	3.95	3.73	3.51	3.07
6CM3	4.32	3.89	3.68	3.46	3.03
6CM6	3.62	3.26	3.08	2.90	2.54
6CM7	4.38	3.95	3.73	3.51	3.07
6CM8	3.32	2.99	2.83	2.66	2.33
6CN7	4.70	4.23	4.00	3.76	3.29
6CQ8	4.24	3.82	3.61	3.40	2.97
6CR6	2.12	1.91	1.81	1.70	1.49
6CS6	4.10	3.69	3.49	3.28	2.87
6CS7	2.92	2.63	2.49	2.34	2.05
6CU5	4.04	3.64	3.44	3.24	2.83
6CU8	3.80	3.42	3.23	3.04	2.66
6CW4	6.58	5.93	5.60	5.27	4.61
6CW5/EL86	2.30	2.07	1.96	1.84	1.61
6CX8	5.86	5.28	4.99	4.69	4.11
6CY5	4.98	4.49	4.24	3.99	3.49
6CY7	3.46	3.12	2.95	2.77	2.43
6CZ5	4.40	3.96	3.74	3.52	3.08
6D4	4.95	4.46	4.23	3.96	....
6D6	5.36	4.83	4.56	4.29	3.76
6D10	5.04	4.54	4.29	4.04	3.53
6DB5	3.62	3.26	3.08	2.90	2.54
6DC6	3.48	3.14	2.96	2.79	2.44
6DE4/6CQ4	3.64	3.28	3.10	2.92	2.55
6DE6	2.86	2.58	2.44	2.29	2.01
6DE7	4.94	4.45	4.20	3.96	3.46
6DG6GT	4.02	3.62	3.42	3.22	2.82
6DJ8	3.12	2.81	2.67	2.50	....
6DJ8/ECC88	3.14	2.83	2.68	2.51	....
6DK6	3.76	3.39	3.20	3.01	2.64
6DL5/EL95	2.26	2.04	1.93	1.81	1.59
6DM4A/6DA4	3.24	2.92	2.76	2.60	2.27
6DN3	3.00	2.70	2.55	2.40	2.10
6DN7	5.46	4.92	4.65	4.37	3.83
6DQ5	7.06	6.36	6.01	5.65	4.95
6DR7	5.70	5.13	4.85	4.56	3.99
6DS4	6.58	5.93	5.60	5.27	4.61
6DS5	2.52	2.27	2.15	2.02	1.77
6DT5	3.12	2.81	2.66	2.50	2.19
6DT6A	3.24	2.92	2.76	2.60	2.27
6DT8	4.06	3.66	3.46	3.25	2.85
6DV4	9.48	8.54	8.06	7.59	6.64
6DW4B	2.98	2.69	2.54	2.39	2.09
6DX8/ECL84	1.98	1.79	1.69	1.59	1.39
6DZ4	5.30	4.77	4.51	4.24	3.71
6DZ4/6AF4A	4.96	4.47	4.22	3.97	2.48
6E5	6.96	6.27	5.92	5.57	4.88
6EA8	3.10	2.79	2.64	2.48	2.17
6EB8	5.14	4.63	4.37	4.12	3.60
6EC4A/EY500	3.30	2.97	2.81	2.64	2.31
6EH4A	7.26	6.54	6.18	5.81	5.09
6EH5	2.80	2.52	2.38	2.24	1.96
6EH7/EF183	4.62	4.16	3.95	3.70	....
6EH8	3.04	2.74	2.59	2.44	2.13
6EJ4A	8.68	7.82	7.38	6.95	6.08
6EJ7/EF184	3.06	2.76	2.61	2.45	2.15
6EM5	3.50	3.15	2.98	2.80	2.45
6EM7/6EA7	4.44	4.00	3.78	3.56	3.11
6EN4	7.42	6.68	6.31	5.94	5.20
6EQ7	3.82	3.44	3.25	3.06	2.68
6ER5	3.28	2.96	2.79	2.63	2.30
6ES5	2.14	1.93	1.82	1.72	1.50
6ES8/ECC189	3.78	3.41	3.22	3.03	2.65
6ET7	3.76	3.39	3.20	3.01	2.64
6EU7	3.62	3.26	3.08	2.90	2.54
6EU8	3.22	2.90	2.74	2.58	2.26
6EV5	3.32	2.99	2.83	2.66	2.33
6EW6	2.82	2.54	2.40	2.26	1.98
6EW7	5.10	4.59	4.34	4.08	3.57
6EY6	4.22	3.80	3.59	3.38	2.96
6EZ5	6.46	5.82	5.50	5.17	4.53
6EZ8	3.14	2.83	2.67	2.52	2.20
6F6	7.46	6.72	6.35	5.97	5.23

Receiving, Industrial & Special Purpose Tubes

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6F6GT	5.10	4.59	4.34	4.08	3.57
6FD7	4.52	4.07	3.85	3.62	3.17
6FG7	4.88	4.40	4.15	3.91	3.42
6FH5	3.90	3.51	3.32	3.12	2.73
6FH8	5.42	4.88	4.61	4.34	3.80
5GH8A	3.72	3.35	3.17	2.98	2.61
6FJ7	3.46	3.12	2.95	2.77	2.43
6FM7	4.16	3.75	3.54	3.33	2.92
6FM8	3.52	3.17	3.00	2.82	2.47
6FQ7/6CG7	2.58	2.33	2.20	2.07	1.81
6FS5	4.46	4.02	3.80	3.57	3.13
6FV6	3.68	3.32	3.13	2.95	2.58
6FV8A/6BR8A	4.76	4.29	4.05	3.81	3.34
6FW5	4.56	4.11	3.88	3.65	3.20
6FY5	2.26	2.04	1.93	1.81	1.59
6FY5/EC97	2.26	2.04	1.93	1.81	1.59
6FY7	3.04	2.74	2.59	2.44	2.13
6G11	6.76	6.09	5.75	5.41	4.74
6GB5/EL500	3.24	2.92	2.76	2.60	2.27
6GC5	5.56	5.01	4.73	4.45	3.90
6GE5	4.28	3.86	3.64	3.43	3.00
6GF5	3.32	2.99	2.83	2.66	2.33
6GF7A	4.20	3.78	3.57	3.36	2.94
6GH8A	2.84	2.56	2.42	2.28	1.99
6GJ5	4.26	3.84	3.63	2.99	....
6GJ5A	5.74	5.17	4.88	4.60	4.02
6GJ7/ECF801	2.20	1.98	1.87	1.76	1.54
6GK5/6FQ5A	3.68	3.32	3.13	2.95	2.58
6GM8	2.92	2.63	2.49	2.34	2.05
6GK5/6FQ5A	3.94	3.55	3.35	3.16	2.76
6GK6	2.76	2.49	2.35	2.21	1.94
6GL7	4.62	4.16	3.93	3.70	3.24
6GM5	2.32	2.09	1.98	1.86	1.63
6GM6	3.30	2.97	2.81	2.64	2.31
6GN8	5.14	4.63	4.37	4.12	3.60
6GQ7	3.84	3.46	3.27	3.08	2.69
6GS7	2.96	2.67	2.52	2.37	2.08
6GT5A	6.38	5.75	5.43	5.11	4.47
6GU5	3.78	3.41	3.22	3.03	2.65
6GU7	3.30	2.97	2.81	2.64	2.31
6GV5	6.74	6.07	5.73	5.40	4.72
6GV8/ECL85	3.52	3.17	3.00	2.82	2.47
6GW6/6DQ6B	4.24	3.82	3.61	3.40	2.97
6GW8/ECL86	2.50	2.25	2.13	2.00	1.75
6GX7	3.92	3.53	3.34	3.14	2.75
6GY5	4.02	3.62	3.42	3.22	2.82
6GY6/6GX6	4.35	....	....	....	....
6GY8	5.68	5.12	4.83	4.55	3.98
6H6	6.12	5.51	5.21	4.90	4.29
6H6JAN	5.82	5.24	4.95	4.66	4.08
6HB5	4.02	3.62	3.42	3.22	2.82
6HB6/6HA6	4.46	4.02	3.80	3.57	3.13
6HB7	3.04	2.74	2.59	2.44	2.13
6F5	7.32	6.59	6.23	5.86	5.13
6HF5	8.10	7.29	6.89	6.48	5.67
6HF8	5.56	5.01	4.73	4.45	3.90
6HG5	2.88	2.60	2.45	2.31	2.02
6HG8/ECF86	2.56	2.31	2.18	2.05	1.80
6HJ8	3.08	2.78	2.62	2.47	2.16
6HK5	2.68	2.42	2.28	2.15	1.88
6HL8	3.14	2.83	2.67	2.52	2.20
6HM5/6HA5	3.24	2.92	2.76	2.60	2.27
6HQ5	4.00	3.60	3.40	3.20	2.80
6HR6	5.70	5.13	4.85	4.56	3.95
6HS5	5.82	5.24	4.95	4.66	4.08
6HS6	5.70	5.13	4.85	4.56	3.99
6HJ8	2.92	2.63	2.49	2.34	2.05
6HS8	4.28	3.86	3.64	3.43	3.00
6HU6/EM87	3.34	3.01	2.84	2.68	2.34
6HV5A	7.02	6.32	5.97	5.62	4.92
6HZ5/6JD5	6.80	6.12	5.78	5.44	4.76
6HZ6	2.52	2.27	2.15	2.02	1.77
6J4	9.92	8.92	8.47	7.93	....
GB-6J4WA	7.92	7.13	6.77	6.34	....
6J5	4.54	4.09	3.86	3.64	3.18
6J5GT	5.70	5.13	4.85	4.56	3.99
6J6A	4.96	4.47	4.22	3.97	3.48
6J6WA	8.31	7.48	7.10	6.65	....
6J7	8.76	7.89	7.45	7.01	6.14
6J9	4.50	4.05	3.83	3.60	3.15
6JB5/6HE5	4.04	3.64	3.44	3.24	2.83
6JB6A	4.76	4.29	4.05	3.81	3.34
6JC6A	3.52	3.17	3.00	2.82	2.47
6JC8	2.88	2.60	2.45	2.31	2.02
6JD5	6.80	6.12	5.78	5.44	4.76

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6JD6	3.92	3.53	3.34	3.14	2.75
6JE6C/6LQ6	7.54	6.79	6.41	6.04	5.28
6JE8	3.40	3.06	2.89	2.72	2.38
6JF6	5.90	5.31	5.02	4.72	4.13
6JG5	3.96	3.57	3.37	3.17	2.78
6JG6A	5.72	5.15	4.87	4.58	4.01
6JH5	6.32	5.69	5.38	5.06	4.43
6JH8	5.38	4.85	4.58	4.31	3.77
6JK6	3.32	2.99	2.83	2.66	2.33
6JK8	3.20	2.88	2.72	2.56	2.24
6JM6A	3.16	2.85	2.69	2.53	2.22
6JN6	4.34	3.91	3.69	3.48	3.04
6JN8	3.20	2.88	2.72	2.56	2.24
6JQ6	3.32	2.99	2.83	2.66	2.33
6JR6	7.58	6.83	6.45	6.07	5.31
6JS6C	5.86	5.28	4.99	4.69	4.11
6JT6A	6.18	5.57	5.26	4.95	4.33
6JT8	6.60	5.94	5.64	5.28	....
6JU6	6.08	5.48	5.17	4.87	4.26
6JU8A	3.48	3.14	2.96	2.79	2.44
6JV8	4.82	4.34	4.10	3.86	3.38
6JW8/ECF802	2.64	2.38	2.25	2.12	1.85
6JZ6	4.28	3.86	3.64	3.43	3.00
6K6GT	5.40	4.86	4.59	4.32	3.78
6K7	4.78	4.31	4.07	3.83	3.35
6K8	11.30	10.17	9.61	9.04	7.91
6K11	6.50	5.85	5.53	5.20	4.55
6K11/6Q11	3.90	3.51	3.32	3.12	2.73
6KA8	3.84	3.46	3.27	3.08	2.69
6KD6	6.68	6.02	5.68	5.35	4.68
6KE8	4.82	4.34	4.10	3.86	3.38
6KM6	6.68	6.02	5.68	5.35	4.68
6KM8	2.20	1.98	1.87	1.76	1.54
6KN6	6.34	5.71	5.39	5.08	4.44
6KN8/6RHH8	5.34	4.81	4.54	4.28	3.74
6KR8	3.98	3.59	3.39	3.19	2.79
6KT6	3.82	3.44	3.25	3.06	2.68
6KT8	4.30	3.87	3.66	3.44	3.01
6KU8	3.32	2.99	2.83	2.66	2.33
6KV6A	8.06	7.26	6.86	6.45	5.65
6KV8	5.72	5.15	4.87	4.58	4.01
6KY8A	7.42	6.68	6.31	5.94	5.20
6KZ8	3.24	2.92	2.76	2.60	2.27
6L6	10.44	9.40	8.88	8.36	7.31
6L6GC	5.50	4.95	4.68	4.40	3.85
6L6WGB	6.71	6.04	5.74	5.37	....
6L7	10.78	9.71	9.17	8.63	7.55
6LB6	7.26	6.54	6.18	5.81	5.09
6LB8	3.76	3.39	3.20	3.01	2.64
6LC8	4.92	4.43	4.19	3.94	3.45
6LE8	4.86	4.38	4.14	3.89	3.41
6LF8	4.64	4.18	3.95	3.72	3.25
6LJ6A/6LH6A	6.58	5.93	5.60	5.27	4.61
6LJ8	3.48	3.14	2.96	2.79	2.44
6LM8	3.84	3.46	3.27	3.08	2.69
6LN8/LCF80	2.06	1.86	1.76	1.65	1.45
6LQ6/6JE6C	6.60	5.94	5.61	5.28	4.62
6LQ8	5.68	5.12	4.83	4.55	3.98
6LR6	6.18	5.57	5.26	4.95	4.33
6LR8	5.06	4.56	4.31	4.05	3.55
6LT8	3.50	3.15	2.98	2.80	2.45
6LU8	3.78	3.41	3.22	3.03	2.65
6LX8/LCF802	2.24	2.02	1.91	1.80	1.57
6LY8	3.30	2.97	2.81	2.64	2.31
6M11	5.90	5.31	5.02	4.72	4.13
6MB8	3.24	2.92	2.76	2.60	2.27
6MD8	4.64	4.18	3.95	3.72	3.25
6ME6	6.14	5.53	5.22	4.92	4.30
6ME8	5.24	4.72	4.46	4.20	3.67
6MF8	4.20	3.78	3.57	3.36	2.94
6MG8	2.30	2.07	1.96	1.84	1.61
6MJ6/6LQ6/6JE6C	7.02	6.32	5.97	5.62	4.92
6MJ8	5.38	4.85	4.58	4.31	3.77
6MK8A	5.18	4.67	4.41	4.15	3.63
6MN8	4.68	4.22	3.98	3.75	3.28
6MQ8	2.96	2.67	2.52	2.37	2.08
6MU8	4.54	4.09	3.86	3.64	3.18
6N7	4.66	4.20	3.97	3.73	3.27
6N7GT	8.20	7.38	6.97	6.56	5.74
6RP22	6.40	5.76	5.44	5.12	4.48
6S4A	4.62	4.16	3.93	3.70	3.24
6SA7	4.38	3.95	3.73	3.51	3.07
6SB7Y	3.82	3.44	3.25	3.06	2.68
6SC7	5.30	4.77	4.51	4.24	3.71
6SF5	6.16	5.55	5.24	4.93	4.32

Receiving, Industrial & Special Purpose Tubes

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6SF7	8.28	7.46	7.04	6.63	5.80
6SG7	4.92	4.43	4.19	3.94	3.45
6SH7	6.92	6.23	5.89	5.54	4.85
6SJ7	5.24	4.72	4.46	4.20	3.67
6SJ7GT	4.36	3.93	3.71	3.49	3.06
6SJ7WGT	5.01	4.51	4.28	4.01	....
6SJ7Y	3.11	2.80	2.66	2.49	....
6SK7	6.08	5.48	5.17	4.87	4.26
6SL7GT	4.90	4.41	4.17	3.92	3.43
6SL7WGT	4.18	3.77	3.58	3.35	....
6SN7GTB	3.40	3.06	2.89	2.72	2.38
GB-6SN7WGT	4.02	3.62	3.44	3.22	....
6SN7WGTA	5.94	5.35	5.08	4.76	....
6SQ7	5.40	4.86	4.59	4.32	3.78
6SQ7GT	4.96	4.47	4.22	3.97	3.48
6SR7	8.32	7.49	7.08	6.66	5.83
6T8A	4.96	4.47	4.22	3.97	3.48
6T9	3.72	3.35	3.17	2.98	2.61
6T10	4.44	4.00	3.78	3.56	3.11
6U5	7.22	6.50	6.14	5.78	5.06
6U8A/6AX8/6KD8	3.50	3.15	2.98	2.80	2.45
6U8A/6KD8	3.06	2.76	2.61	2.45	2.15
6U9/ECF201	3.36	3.03	2.86	2.69	2.36
6U10	3.20	2.88	2.72	2.56	2.24
6V3A	3.32	2.99	2.83	2.66	2.33
6V6	8.06	7.26	6.86	6.45	5.65
6V6GTA	4.12	3.71	3.51	3.30	2.89
6W4GTA	2.86	2.58	2.44	2.29	2.01
6W6GT	5.04	4.54	4.29	4.04	3.53
6X4	3.26	2.94	2.78	2.61	2.29
6X4W	4.07	3.67	3.48	3.26	....
6X4WA	4.07	3.67	3.48	3.26	....
GB-6X4WA	4.07	3.67	3.48	3.26	....
6X5GT	3.32	2.99	2.83	2.66	2.33
6X5WGT	4.18	3.77	3.58	3.35	....
GB-6X5WGT	4.18	3.77	3.58	3.35	....
6X8A	4.10	3.69	3.49	3.28	2.87
6X9/ECF200	3.30	2.97	2.81	2.64	2.31
6Y6GA	4.08	3.68	3.47	3.27	2.86
6Y6GA/6Y6G	4.84	4.36	4.12	3.88	3.39
6Y6GT	2.88	2.60	2.45	2.31	2.02
6Y9	3.74	3.37	3.18	3.00	2.62
6Y9/EFL200	3.74	3.37	3.18	3.00	2.62
6Z10/6J10	5.16	4.65	4.39	4.13	3.62
7AU7	2.68	2.42	2.28	2.15	1.88
7C5	2.58	....	....	....	....
7EY6	3.40	3.06	2.89	2.72	2.38
7HG8/PCF86	2.56	2.31	2.18	2.05	1.80
7KY6	4.38	3.95	3.73	3.51	3.07
7TP4	100.21	90.19	85.64	80.17	....
7VP1	77.42	69.68	66.16	61.94	....
8AC10	4.68	4.22	3.98	3.75	3.28
8AR11	5.28	4.76	4.49	4.23	3.70
8AU8	2.64	2.38	2.25	2.12	1.85
8AW8A	4.68	4.22	3.98	3.75	3.28
8B8	4.14	3.73	3.52	3.32	2.90
8B10	3.84	3.46	3.27	3.08	2.69
8BA8A	3.74	3.37	3.18	3.00	2.62
8BA11	4.80	4.32	4.08	3.84	3.36
8BM11	4.92	4.43	4.19	3.94	3.45
8BN8	2.56	2.31	2.18	2.05	1.80
8BQ5	3.24	2.92	2.76	2.60	2.27
8BQ11	4.24	3.82	3.61	3.40	2.97
8BU11	4.92	4.43	4.19	3.94	3.45
8CM7	2.06	1.86	1.76	1.65	1.45
8CS7	3.14	2.83	2.67	2.52	2.20
8CW5/XL86	1.90	1.71	1.62	1.52	1.33
8CX8	4.06	....	....	....	....
8EM5	3.20	2.88	2.72	2.56	2.24
8FQ7/8CG7	2.38	2.15	2.03	1.91	1.67
8GJ7/PCF801	2.38	2.15	2.03	1.91	1.67
8GN8/8EB8	3.78	3.41	3.22	3.03	2.65
8GU7	3.56	3.21	3.03	2.85	2.50
8JU8A	2.90	2.61	2.47	2.32	2.03
8JV8	3.68	3.32	3.13	2.95	2.58
8KA8	5.10	4.59	4.34	4.08	3.57
8LC8	4.68	4.22	3.98	3.75	3.28
8LT8	3.16	2.85	2.69	2.53	2.22
8NP4	65.45	58.91	55.93	52.36	....
8QP4	69.30	62.37	59.22	55.44	....
9A8/PCF80	2.00	1.80	1.70	1.60	1.40
9AH9	4.04	3.64	3.44	3.24	2.83
9AQ8/PCC85	4.96	4.47	4.22	3.97	3.48
9AU7	2.32	2.09	1.98	1.86	1.63
9BJ11	6.88	6.20	5.85	5.51	4.82

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
9GH8A	3.58	3.23	3.05	2.87	2.51
9GV8	2.58	2.33	2.20	2.07	1.81
9GV8/XCL85	2.58	2.33	2.20	2.07	1.81
9JW8/PCF802	2.68	2.42	2.28	2.15	1.88
9KC6	3.02	2.72	2.57	2.42	2.12
9KX6	4.38	3.95	3.73	3.51	3.07
9KZ8	2.44	2.20	2.08	1.96	1.71
9LA6	3.50	3.15	2.98	2.80	2.45
9U8A	3.24	2.92	2.76	2.60	2.27
10BQ5	2.24	2.02	1.91	1.80	1.57
10C8	5.44	4.90	4.63	4.36	3.81
10CW5/LL86	2.18	1.97	1.86	1.75	1.53
10DE7	4.80	4.32	4.08	3.84	3.36
10DX8/LCL84	2.06	1.86	1.76	1.65	1.45
10EG7	3.32	2.99	2.83	2.66	2.33
10EM7	3.70	3.33	3.15	2.96	2.59
10EW7	4.14	3.73	3.52	3.32	2.90
10GF7A	4.42	3.98	3.76	3.54	3.10
10GK6	3.58	3.23	3.05	2.87	2.51
10GN8	3.78	3.41	3.22	3.03	2.65
10GV8/LCL85	2.72	2.45	2.32	2.18	1.91
10HF8	5.28	4.76	4.49	4.23	3.70
10JA8/10LZ8	4.56	4.11	3.88	3.65	3.20
10JT8	5.48	4.94	4.66	4.39	3.84
10JY8	3.20	2.88	2.72	2.56	2.24
10KR8	4.38	3.95	3.73	3.51	3.07
10KU8	3.68	3.32	3.13	2.95	2.58
10LB8	3.56	3.21	3.03	2.85	2.50
10LE8	4.72	4.25	4.02	3.78	3.31
10LW8	4.62	4.16	3.93	3.70	3.24
10T10	5.48	4.94	4.66	4.39	3.84
10Z10	4.90	4.41	4.17	3.92	3.43
11AF9	2.84	2.56	2.42	2.28	1.99
11AR11	5.28	4.76	4.49	4.23	3.70
11BM8	3.98	3.59	3.39	3.19	2.79
11BQ11	5.28	4.76	4.49	4.23	3.70
11BT11	6.46	5.82	5.50	5.17	4.53
11CA11	7.74	6.97	6.58	6.20	5.42
11CY7	5.68	5.12	4.83	4.55	3.98
11DS5	3.58	3.23	3.05	2.87	2.51
11FY7	3.24	2.92	2.76	2.60	2.27
11HM7	4.58	4.13	3.90	3.67	3.21
11JE8	3.34	3.01	2.84	2.68	2.34
11KV8	4.74	4.27	4.03	3.80	3.32
11LQ8	4.62	4.16	3.93	3.70	3.24
11LT8	4.46	4.02	3.80	3.57	3.13
11Y9/LFL200	3.32	2.99	2.83	2.66	2.33
12A6	9.89	8.91	8.46	7.92	....
12AB5	3.18	2.87	2.71	2.55	2.23
12AD6	3.12	2.81	2.66	2.50	2.19
12AE6A	2.42	2.18	2.06	1.94	1.70
12AE10	5.68	5.12	4.83	4.55	3.98
12AF3/BR3/RK19	3.34	3.01	2.84	2.68	2.34
12AF6	2.16	1.95	1.84	1.73	1.52
12AL5	3.20	2.88	2.72	2.56	2.24
12AL11	7.04	6.34	5.99	5.64	4.93
12AQ5	3.80	3.42	3.23	3.04	2.66
12AT6	2.42	2.18	2.06	1.94	1.70
12AT7/ECC81	3.06	2.76	2.61	2.45	2.15
12AT7WA	5.01	4.51	4.28	4.01	....
12AT7WB	5.27	4.75	4.51	4.22	....
12AU6	3.08	2.78	2.62	2.47	2.16
12AU7A/ECC82	2.76	2.49	2.35	2.21	1.94
12AV5GA	4.78	4.31	4.07	3.83	3.35
12AV6	2.18	1.97	1.86	1.75	1.53
12AV7	4.52	4.07	3.85	3.62	3.17
12AW6	2.70	2.43	2.30	2.16	1.89
12AX3	2.62	2.36	2.23	2.10	1.84
12AX4GTB	3.04	2.74	2.59	2.44	2.13
12AX7A/ECC83	2.54	2.29	2.16	2.04	1.78
12AY3A	2.54	2.29	2.16	2.04	1.78
12AX7WA	7.15	6.44	6.11	5.72	....
12AY3A/12BS3A	2.54	2.29	2.16	2.04	1.78
12AY7	4.54	4.08	3.88	3.63	....
12AY7JAN	3.96	3.57	3.39	3.17	....
12AZ7A	3.72	3.35	3.17	2.98	2.61
12B4A	3.98	3.59	3.39	3.19	2.79
12BA6	2.42	2.18	2.06	1.94	1.70
12BA7	4.84	4.36	4.12	3.88	3.39
12BD6	1.48	1.34	1.26	1.19	1.04
12BE3	2.98	2.69	2.54	2.39	2.09
12BE6	2.40	2.16	2.04	1.92	1.68
12BF11	5.32	4.79	4.53	4.26	3.73
12BH7A	3.56	3.21	3.03	2.85	2.50
12BK5	2.60	2.34	2.21	2.08	1.82

Receiving, Industrial & Special Purpose Tubes

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
12BL6	3.04	2.74	2.59	2.44	2.13
12BQ6GA/12CU6	3.70	3.33	3.15	2.96	2.59
12BQ6GTB/12CU6	3.70	3.33	3.15	2.96	2.59
12BR3/12R-K19	2.50	2.25	2.13	2.00	1.75
12BR7	2.72	2.45	2.32	2.18	1.91
12BS3A/12DW4A	3.34	3.01	2.84	2.68	2.34
12BT3	2.74	2.47	2.33	2.20	1.92
12BV11	4.94	4.45	4.20	3.96	3.46
12BW4	2.74	2.47	2.33	2.20	1.92
12BY7A/BV7/DQ7	3.06	2.76	2.61	2.45	2.15
12BZ6	4.26	3.84	3.63	3.41	2.99
12CA5	3.62	3.26	3.08	2.90	2.54
12CL3	3.08	2.78	2.62	2.47	2.16
12CN5	2.20	....	....	....	....
12CR6	2.04	1.84	1.74	1.64	1.43
12CT3	4.66	4.20	3.97	3.73	3.27
12CT8	5.74	5.17	4.88	4.60	4.02
12CX6	1.88	1.70	1.60	1.51	1.32
12D4	2.58	2.33	2.20	2.07	1.81
12DB5	2.48	2.24	2.11	1.99	1.74
12DS7	4.10	3.69	3.49	3.28	2.87
12DT5	2.56	2.31	2.18	2.05	1.80
12DT8	3.14	2.83	2.67	2.52	2.20
12ED5	2.00	1.80	1.70	1.60	1.40
12EK6/12DZ6/EA6	2.72	2.45	2.32	2.18	1.91
12FK6	1.76	1.59	1.50	1.41	1.24
12FM6	1.66	1.50	1.42	1.33	1.17
12FQ7	2.90	2.61	2.47	2.32	2.03
12FX5	2.86	2.58	2.44	2.29	2.01
12FX8A	2.78	2.51	2.37	2.23	1.95
12GA6	1.72	1.55	1.47	1.38	1.21
12GC6	4.00	3.60	3.40	3.20	2.80
12GE5	4.54	4.09	3.86	3.64	3.18
12GT5	4.56	4.11	3.88	3.65	3.20
12GW6/12DQ6B	4.48	4.04	3.81	3.59	3.14
12HE7	5.82	5.24	4.95	4.66	4.08
12HG7/12GN7A	4.40	3.96	3.74	3.52	3.08
12HL7	3.84	3.46	3.27	3.08	2.69
12J8	4.44	4.00	3.78	3.56	3.11
12JB6A	5.88	5.30	5.00	4.71	4.12
12JN6	3.40	3.06	2.89	2.72	2.38
12JN8	2.54	2.29	2.16	2.04	1.78
12JQ6	4.04	3.64	3.44	3.24	2.83
12JT6A	4.34	3.91	3.69	3.48	3.04
12L6GT	3.14	2.83	2.67	2.52	2.20
12MD8	3.80	3.42	3.23	3.04	2.66
12Q7GT	3.36	3.03	2.86	2.69	2.36
12R5	2.42	2.18	2.06	1.94	1.70
12SA7	4.90	4.41	4.17	3.92	3.43
12SG7	5.12	4.61	4.36	4.10	3.59
12SH7	7.82	7.04	6.65	6.26	5.48
12SJ7	4.92	4.43	4.19	3.94	3.45
12SK7	4.62	4.16	3.93	3.70	3.24
12SL7GT	4.94	4.45	4.20	3.96	3.46
12SN7GTA	3.74	3.37	3.18	3.00	2.62
12SQ7	4.82	4.34	4.10	3.86	3.38
12SQ7GT	3.12	2.81	2.66	2.50	2.19
12U7	3.52	3.17	3.00	2.82	2.47
12V6GT	4.12	3.71	3.51	3.30	2.89
12W6GT	4.28	3.86	3.64	3.43	3.00
12X4	2.02	1.82	1.72	1.62	1.42
13CW4	8.08	7.28	6.87	6.47	5.66
13DE7	3.94	3.55	3.35	3.16	2.76
13DR7	5.58	5.03	4.75	4.47	3.91
13EM7	5.38	4.85	4.58	4.31	3.77
13EM7/15EA7	5.90	5.31	5.02	4.72	4.13
13FD7	4.12	3.71	3.51	3.30	2.89
13FM7/15FM7	3.50	3.15	2.98	2.80	2.45
13GB5/XL500	3.24	2.92	2.76	2.60	2.27
13GF7A	4.12	3.71	3.51	3.30	2.89
13JZ8	6.26	5.64	5.33	5.01	4.39
13V10	7.40	6.66	6.29	5.92	5.18
13Z10/13J10	5.48	4.94	4.66	4.39	3.84
14BL11	6.66	6.00	5.67	5.33	4.67
14BR11	5.28	4.76	4.49	4.23	3.70
14GT8	4.56	4.11	3.88	3.65	3.20
15AF11	4.46	4.02	3.80	3.57	3.13
15BD11A	4.80	4.32	4.08	3.84	3.36
15CW5/PL84	1.86	1.68	1.59	1.49	1.31
15DQ8/PCL84	2.86	2.58	2.44	2.29	2.01
15FY7	3.22	2.90	2.74	2.58	2.26
15KY8A	5.76	5.19	4.90	4.61	4.04
15MF8	4.06	3.66	3.46	3.25	2.85
C16J/5665	83.05	74.75	70.97	66.44	....
16A8/PCL82	2.62	2.36	2.23	2.10	1.84

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
16AK9	8.14	7.33	6.92	6.52	5.70
16AQ3/XY88	2.04	1.84	1.74	1.64	1.43
16BX11	4.82	4.34	4.10	3.86	3.38
16GK6	2.52	2.27	2.15	2.02	1.77
16GY5	4.24	3.82	3.61	3.40	2.97
17AB10/17X10	4.80	4.32	4.08	3.84	3.36
17AX3	2.26	2.04	1.93	1.81	1.59
17AX4GTA	3.12	2.81	2.66	2.50	2.19
17AY3A	3.24	2.92	2.76	2.60	2.27
17BB14	6.30	5.67	5.36	5.04	4.41
17BE3/17BZ3	3.24	2.92	2.76	2.60	2.27
17BF11	4.72	4.25	4.02	3.78	3.31
17BR3/17RK19	2.62	2.36	2.23	2.10	1.84
17BS3A/17DW4A	3.00	2.70	2.55	2.40	2.10
17BW3	2.54	2.29	2.16	2.04	1.78
17C9	5.46	4.92	4.65	4.37	3.83
17CK3	3.48	3.14	2.96	2.79	2.44
17CT3	2.14	1.93	1.82	1.72	1.50
17CU5/17C5	2.68	2.42	2.28	2.15	1.88
17D4	3.54	3.19	3.01	2.84	2.48
17DE4	2.84	2.56	2.42	2.28	1.99
17DM4A	3.54	3.19	3.01	2.84	2.48
17DWP4	66.00	....	....	....	....
17EW8/HCC85	2.06	1.86	1.76	1.65	1.45
17GE5	3.78	3.41	3.22	3.03	2.65
17GJ5A	5.30	4.77	4.51	4.24	3.71
17GT5A	4.84	4.36	4.12	3.88	3.39
17GV5	3.66	3.30	3.12	2.93	2.57
17GW6/17DQ6B	4.84	4.36	4.12	3.88	3.39
17H3	3.32	2.99	2.83	2.66	2.33
17HB25	5.30	4.77	4.51	4.24	3.71
17JB6A	5.14	4.63	4.37	4.12	3.60
17JF6	6.74	6.07	5.73	5.40	4.72
17JG6A	7.00	6.30	5.95	5.60	4.90
17JN6	4.62	4.16	3.93	3.70	3.24
17JQ6	3.96	3.57	3.37	3.17	2.78
17JT6A	4.90	4.41	4.17	3.92	3.43
17JZ8	4.00	3.60	3.40	3.20	2.80
17KV6A	6.24	5.62	5.31	5.00	4.37
17Z3/PY81	3.06	2.76	2.61	2.45	2.15
18FW6A	1.90	1.71	1.62	1.52	1.33
18FX6A	2.32	2.09	1.98	1.86	1.63
18FY6A	2.32	2.09	1.98	1.86	1.63
18GB5/LL500	3.92	3.53	3.34	3.14	2.75
18GD6A	2.26	2.04	1.93	1.81	1.59
18GV8/PCL85	3.54	3.19	3.01	2.84	2.48
19AU4GTA	3.78	3.41	3.22	3.03	2.65
19C8	3.00	2.70	2.55	2.40	2.10
19CG3/19DQ3	3.10	2.79	2.64	2.48	2.17
19EA8	3.50	3.15	2.98	2.80	2.45
19HR6	2.56	2.31	2.18	2.05	1.80
19HV8	4.34	3.91	3.69	3.48	3.04
19JN8/19CL8A	3.54	3.19	3.01	2.84	2.48
19T8	6.66	6.00	5.67	5.33	4.67
20AQ3/LY88	2.48	2.24	2.11	1.99	1.74
20LF6	7.44	6.70	6.33	5.96	5.21
20EZ7	3.40	3.06	2.89	2.72	2.38
NL-KY21A	54.78	49.31	46.82	43.83	....
21GY5	3.96	3.57	3.37	3.17	2.78
21JV6	4.06	3.66	3.46	3.25	2.85
21JZ6	4.16	3.75	3.54	3.33	2.92
21KA6	5.14	4.63	4.37	4.12	3.60
21LG6A	6.64	5.98	5.65	5.32	4.65
21LR8	3.72	3.35	3.17	2.98	2.61
21LU8	3.98	3.59	3.39	3.19	2.79
22BH3A	2.42	2.18	2.06	1.94	1.70
22BW3	3.54	3.19	3.01	2.84	2.48
22DE4	3.66	3.30	3.12	2.93	2.57
22JF6	5.70	5.13	4.85	4.56	3.99
22JG6A	6.64	5.98	5.65	5.32	4.65
22JR6	5.40	4.86	4.59	4.32	3.78
22JU6	5.98	5.39	5.09	4.79	4.19
22KM6	6.08	5.48	5.17	4.87	4.26
22KV6A	7.08	6.38	6.02	5.67	4.96
23JS6A	9.24	8.32	7.86	7.40	6.47
23Z9	3.76	3.39	3.20	3.01	2.64
24BF11	4.82	4.34	4.10	3.86	3.38
24JZ8	3.76	3.39	3.20	3.01	2.64
24LQ6/24JE6C	6.32	5.69	5.38	5.06	4.43
C-25BCP22	146.30	131.67	....	....	....
25AV5GA	5.34	4.81	4.54	4.28	3.74
25BK5	3.62	3.26	3.08	2.90	2.54
25BQ6GA/25CU6	3.88	3.50	3.30	3.11	2.72
25BQ6GTB/25CU6	4.08	3.68	3.47	3.27	2.86
25C5	3.24	2.92	2.76	2.60	2.27

Receiving, Industrial & Special Purpose Tubes

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Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
25CD6GB	5.86	5.28	4.99	4.69	4.11
25CG3	2.94	2.65	2.50	2.36	2.06
25CK3	3.02	2.72	2.57	2.42	2.12
25DN6	6.02	5.42	5.12	4.82	4.22
25E5/PL36	5.06	4.56	4.31	4.05	3.55
25EH5	3.22	2.90	2.74	2.58	2.26
25F5A	2.88	2.60	2.45	2.31	2.02
25JZ8	3.94	3.55	3.35	3.16	2.76
25L6GT/25W6GT	3.24	2.92	2.76	2.60	2.27
25T	104.50	94.05	....	....	....
25Z6GT	5.28	4.76	4.49	4.23	3.70
26A6	5.83	5.25	4.99	4.67	....
26A7GT	14.74	13.27	12.60	11.80	....
26C6	3.60	3.24	3.08	2.88	....
26D6	4.07	3.67	3.48	3.26	2.70
19X8	4.48	4.04	3.81	3.59	3.14
26HU5	8.32	7.49	7.08	6.66	5.83
26LX6	7.94	7.15	6.75	6.36	5.56
27GB5/PL500	3.24	2.92	2.76	2.60	2.27
29KQ6/PL521	7.56	6.81	6.43	6.05	5.30
30AE3/PY88	2.48	2.24	2.11	1.99	1.74
30JZ6	4.92	4.43	4.19	3.94	3.45
31JS6C	5.72	5.15	4.87	4.58	4.01
31LQ6	6.02	5.42	5.12	4.82	4.22
31LZ6	6.68	6.02	5.68	5.35	4.68
32ET5A	1.88	1.70	1.60	1.51	1.32
32HQ7	7.66	6.90	6.52	6.13	5.37
33JV6	3.68	3.32	3.13	2.95	2.58
A33	1.57	....	....	....	
33GT7	5.90	5.31	5.02	4.72	4.13
33GY7A	6.20	5.58	5.27	4.96	4.34
34CE3	3.42	3.08	2.91	2.74	2.40
34GD5A	2.26	2.04	1.93	1.81	1.59
A35	1.48	....	....	....	
35B5	2.32	....	....	....	....
35EH5	2.96	2.67	2.52	2.37	2.08
35L6GT	5.38	4.85	4.58	4.31	3.77
35LR6	6.58	5.93	5.60	5.27	4.61
35W4	1.74	1.57	1.48	1.40	1.22
35Z5GT	3.02	2.72	2.57	2.42	2.12
A36M1	1.27	....	....	....	
36AM3B	1.96	1.77	1.67	1.57	1.38
36KD6/40KD6	6.64	5.98	5.65	5.32	4.65
36MC6	6.78	6.11	5.77	5.43	4.75
38HE7	5.80	5.22	4.93	4.64	4.06
38HK7	5.66	5.10	4.82	4.53	3.97
40KG6A/PL509	6.98	6.29	5.94	5.59	4.89
42KN6	5.88	5.30	5.00	4.71	4.12
B46	1.57	....	....	....	
50A1	6.50	5.85	5.53	5.20	4.55
50B5	2.60	2.34	2.21	2.08	1.82
50BM8/UCL82	2.78	2.51	2.37	2.23	1.95
50C5	2.56	2.31	2.18	2.05	1.80
50DC4	2.14	1.93	1.82	1.72	1.50
50EH5	3.14	2.83	2.67	2.52	2.20
50GY7A	7.60	6.84	6.46	6.08	5.32
50HK6	1.82	1.64	1.55	1.46	1.28
50L6GT	4.18	3.77	3.56	3.35	2.93
50Y6GT	3.22	2.90	2.74	2.58	2.26
53HK7	7.34	6.61	6.24	5.88	5.14
60FX5	3.28	2.96	2.79	2.63	2.30
80	5.02	4.52	4.27	4.02	3.52
83	7.51	6.76	6.42	6.01	....
84/6Z4	2.24	2.02	1.91	1.80	1.57
FG-97	113.85	102.47	....	....	....
105	66.11	59.50	....	....	....
AX260/PL260	660.00	594.00	....	....	....
FG280	194.70	175.23	....	....	....
304TL	121.00	108.90	....	....	....
393A	16.94	15.25	14.48	13.56	....
QKK404	126.50	113.85	....	....	....
407A	7.00	6.30	5.98	5.60	....
408A	6.55	5.90	5.60	5.24	....
GB-408A	7.21	6.49	6.16	5.77	....
B425	1.57	....	....	....	
B425P1	.83	.60	.52	.47	
B-430	1.57	1.13	.97	.91	
CK512AX	10.44	9.40	8.93	8.36	....
CK522AX	1.70	....	....	....	....
CK526AX	13.37	12.03	11.43	10.70	....
CK533AX	10.44	9.40	8.93	8.36	....
CK534AX	10.44	9.40	8.93	8.36	....
QKK549	126.50	113.85	....	....	....
575A	38.50	34.65	32.90	30.80	....
579B	41.58	37.43	35.54	33.27	....

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
CK587	31.77	28.60	27.15	....	....
DR600-75/105	.58	.52	.49	.46	....
DR601-75/105	1.19	1.07	1.02	.96	....
NL-604	26.40	23.76	22.56	21.12	....
604/7014	26.40	23.76	22.56	21.12	....
NL-604L	29.04	26.14	24.82	23.24	....
NL-606	39.22	35.30	33.52	31.38	....
NL-606L	40.54	36.49	34.64	32.43	....
KU610	87.50	78.75	74.38	70.00	....
NL-610/7723	18.10	16.29	15.47	14.48	....
615/7018	15.29	13.77	13.07	12.24	....
NL-615	15.29	13.77	13.07	12.24	....
NL-616	22.33	20.10	19.09	17.87	....
NL-617	26.07	23.47	22.28	20.86	....
619	15.73	14.16	13.45	12.59	....
NL-619	18.15	16.34	15.51	14.52	....
NL-623	25.58	23.02	21.86	20.46	....
NL-625	69.03	62.13	58.99	55.22	....
627	85.80	77.22	73.32	....	....
NL-627	64.90	....	....	....	....
632B	53.90	48.51	46.06	43.12	....
NL-635/7019	24.04	21.64	20.54	19.23	....
NL-635L/7020	25.30	22.77	21.62	20.24	....
NL-635P/6930	25.30	22.77	21.62	20.24	....
NL-643	25.08	22.58	21.44	20.07	....
NL-649/5834	21.95	19.76	18.76	17.56	....
NL-660	32.01	28.81	27.36	25.61	....
NL-660L/7786	33.22	29.90	28.39	26.58	....
NL-660P	33.22	29.90	28.39	26.58	....
NL-664L	52.80	47.52	45.12	42.24	....
672A	51.59	46.44	44.09	41.28	....
673	33.50	30.15	28.63	26.80	....
676	100.10	90.09	85.54	....	....
677	100.10	90.09	85.54	....	....
678	64.90	58.41	55.46	....	....
DR680-80/200	4.86	4.37	4.15	3.89	....
710/6011	17.11	15.40	14.62	13.69	....
NL-710A	26.95	24.26	23.03	21.56	....
NL-710L/7518	18.21	16.39	15.56	14.57	....
NL-714	17.71	15.94	15.14	14.17	....
714/7021	17.71	15.94	15.14	14.17	....
NL-716	19.69	17.73	16.83	15.76	....
NL-718	157.30	141.57	....	....	....
NL-732	514.80	463.32	....	....	....
NL-734/5544	43.73	39.36	37.37	34.98	....
NL-734L	46.26	41.63	39.53	37.01	....
NL-740/6856	33.17	29.85	28.35	26.54	....
NL-740L/7022	34.75	31.28	29.70	27.80	....
NL-740P/6857	34.75	31.28	29.70	27.80	....
NL-760	37.95	34.16	32.43	30.36	....
NL-760L	39.71	35.74	33.94	31.77	....
760/6858	37.40	33.66	31.96	29.92	....
NL-760P	39.71	35.74	33.94	31.77	....
NL-761	76.29	68.66	65.19	61.03	....
NL-770L	95.37	85.84	81.50	76.30	....
NL-770P	95.37	85.84	81.50	76.30	....
807	7.32	6.59	6.26	5.86	....
NL-809	20.02	18.02	17.11	16.02	....
810	50.82	45.74	43.43	40.66	....
NL-810	52.91	47.62	45.22	42.33	....
811A	12.10	10.89	10.34	9.68	....
812A	11.94	10.75	10.20	9.55	....
812AW	11.94	10.75	10.20	9.55	....
813	43.12	38.81	36.85	34.50	....
815	39.33	35.40	33.61	31.46	....
816	7.32	6.59	6.26	5.86	....
828	53.35	48.02	45.59	42.68	....
829B	33.88	30.50	28.96	27.11	....
832A	25.47	22.92	21.77	20.38	....
833A	95.64	86.08	81.73	76.51	....
836	24.03	21.63	20.53	19.22	....
NL-840/8754	12.38	11.14	10.58	9.90	....
NL-841	12.98	11.69	11.10	10.39	....
NL-842	12.98	11.69	11.10	10.39	....
NL-843	12.38	11.14	10.58	9.90	....
NL-844	16.50	14.85	14.10	13.20	....
845	49.28	44.36	42.12	39.43	....
NL-845	12.98	11.69	11.10	10.39	....
NL-848	13.48	12.13	11.52	10.78	....
857B	302.50	272.25	....	....	....
866A	7.48	6.74	6.40	5.99	....
868	10.89	9.81	9.31	8.72	....
869B	170.50	153.45	145.70	136.40	....
872A	16.94	15.25	14.48	13.56	....
NL-874	16.50	14.85	14.10	13.20	....

Receiving, Industrial & Special Purpose Tubes

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Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
NL-876	13.48	12.13	11.52	10.78	....
884	6.66	5.99	5.69	5.33	....
NL-900	14.36	12.92	12.27	11.49	....
NL-901	15.62	14.06	13.35	12.50	....
902A	53.90	48.51	46.06	43.12	....
NL-904	11.72	10.55	10.02	9.38	....
NL-905	16.45	14.81	14.06	13.16	....
917	16.67	15.00	14.25	13.34	....
918	14.30	12.87	12.22	11.44	....
NL-918/5560	23.43	21.09	20.03	18.75	....
NL-919	10.45	9.41	8.93	8.36	....
920	21.56	19.41	....	....	....
921	12.10	10.89	10.34	9.68	....
922	7.85	7.06	6.71	6.28	....
926	7.81	7.03	6.68	6.25	....
927	17.27	15.55	14.76	13.82	....
929	12.10	10.89	10.34	9.68	....
930	12.27	11.04	10.49	9.82	....
931A	16.79	15.11	14.35	13.43	....
931VA	18.79	16.91	16.06	15.04	....
934	15.84	14.26	13.54	12.68	....
935	21.87	19.69	18.69	17.50	....
NL-950C	8.25	7.43	7.05	6.60	....
955	13.09	11.79	11.19	10.48	....
959	28.34	25.51	24.22	22.67	....
991	2.70	2.43	2.31	2.16	....
NL-1005A	217.80	196.02	....	....	....
CK-1020	1.58	1.42	1.35	1.26	....
NL-1022A	179.30	161.37	....	....	....
NL-1031	100.10	90.09	85.54	80.08	....
NL-1032A	150.70	135.63	....	....	....
B1035P1	1.02	....	....	....	....
B1035P2	1.02	....	....	....	....
B1035P3	1.27	....	....	....	....
CK1038	2.36	....	....	....	....
NL-1051A	100.10	90.09	85.54	80.08	....
NL-1052A	150.70	135.63	....	....	....
NL-1061	100.10	90.09	85.54	80.08	....
NL-1062P	155.10	139.59	....	....	....
NL-1091	119.90	107.91	....	....	....
CK1101	15.02	13.65	11.15	9.30	....
CK1101P	14.74	13.40	10.95	9.15	....
CK1102	15.02	13.65	11.15	9.30	....
CK1103	15.02	13.65	11.15	9.30	....
CK1103P	14.74	13.40	10.95	9.15	....
CK1104	15.02	13.65	11.15	9.30	....
CK1104P	14.74	13.40	10.95	9.15	....
CK1105	38.50	35.00	28.50	23.80	....
CK1108	38.50	35.00	28.50	23.80	....
CK-1111	9.43	8.49	8.06	7.55	....
CK1112	15.02	13.65	11.15	9.30	....
CK1112P	14.74	13.40	10.95	9.15	....
CK1114	12.41	11.28	9.22	7.74	....
CK1115	13.36	12.14	9.90	8.30	....
CK1116	13.36	12.14	9.90	8.30	....
CK1121	6.22	5.65	4.60	3.88	....
CK1122	6.84	6.21	4.97	4.04	....
CK1123	6.84	6.21	4.97	4.04	....
CK1124	6.84	6.21	4.97	4.04	....
R1130B	31.46	28.32	26.89	25.17	....
R1131C	37.62	33.86	32.15	30.10	....
R1166	38.89	35.00	33.23	31.11	....
R1168	37.07	33.37	31.68	29.66	....
CK1201	1.93	1.75	1.75	1.75	1.65
CK1202	1.93	1.75	1.75	1.75	1.65
CK1203	1.93	1.75	1.75	1.75	1.65
CK1204	1.93	1.75	1.75	1.75	1.65
CK1205	1.93	1.75	1.75	1.75	1.65
CK1206	1.93	1.75	1.75	1.75	1.65
CK1207	1.93	1.75	1.75	1.75	1.65
NL-1222	5.78	....	....	....	....
CK1222	1.93	1.75	1.75	1.75	1.65
1222A	1.65	....	....	....	....
CK1223	1.93	1.75	1.75	1.75	1.65
CK1224	1.93	1.75	1.75	1.75	1.65
CK1225	1.93	1.75	1.75	1.75	1.65
CK1226	1.93	1.75	1.75	1.75	1.65
1229	11.94	10.75	10.20	9.55	....
CK1241	2.97	2.70	2.70	2.70	2.00
CK1242	2.97	2.70	2.70	2.70	2.00
CK1243	2.97	2.70	2.70	2.70	2.00
CK1244	2.97	2.70	2.70	2.70	2.00
CK1245	2.97	2.70	2.70	2.70	2.00
CK1246	2.97	2.70	2.70	2.70	2.00
GB-1252/6U8A	3.19	2.88	2.73	2.56	....

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
CK1261	2.97	2.70	2.70	2.70	2.00
CK1262	2.97	2.70	2.70	2.70	2.00
CK1263	2.97	2.70	2.70	2.70	2.00
CK1264	2.97	2.70	2.70	2.70	2.00
CK1266	2.97	2.70	2.70	2.70	2.00
EM1502	2.97	2.68	2.54	2.38	2.00
1612	23.61	21.25	20.18	18.89	....
1613	4.26	3.84	3.64	3.41	....
1614	20.96	18.86	17.91	16.77	....
1616	30.19	27.17	25.80	24.15	....
1619	21.37	19.23	18.26	17.09	....
1620	20.99	18.89	17.94	16.80	....
1621	18.09	16.28	15.46	14.47	....
1622	18.98	17.08	16.22	15.18	....
1624	17.71	15.94	15.14	14.17	....
1629	6.24	5.62	5.33	4.99	....
W-1939	1.10	....	....	....	....
1946	24.64	22.18	21.06	19.72	....
1947	67.76	60.99	57.91	54.21	....
1949	36.19	32.58	30.93	28.96	....
DR2000	5.50	....	....	....	....
CK2000	7.24	6.58	5.33	4.61	....
CK2003	7.81	7.10	6.21	5.62	....
CK2006	5.06	4.60	3.85	3.35	....
CK2008	12.76	11.60	9.60	8.10	....
CK2009	10.56	9.60	7.75	6.60	....
DR2010	5.75	....	....	....	....
CK2015	6.84	6.21	4.97	4.04	....
CK2016	6.84	6.21	4.97	4.04	....
CK2018	7.24	6.58	5.53	4.61	....
2020	115.50	....	....	....	....
DR2020	3.25	....	....	....	....
CK2020	11.00	10.00	9.00	8.00	....
CK2021	11.00	10.00	9.00	8.00	....
2022	10.56	9.51	9.03	8.45	....
CK2028A	10.12	9.20	7.48	6.33	....
CK2029	24.82	22.56	17.55	13.79	....
CK2030	31.00	28.18	23.00	19.20	....
DR2030	3.25	....	....	....	....
CK2033	8.74	7.94	6.33	5.35	....
CK2034	10.12	9.20	7.48	6.33	....
CK2042	11.00	10.00	9.00	8.00	....
CK2046	12.15	11.04	8.91	7.59	....
2050	3.72	3.35	3.18	2.98	....
2050A	3.62	3.26	3.10	2.90	....
2050A/2050	3.63	3.27	3.11	2.91	....
2050W	16.53	14.87	14.12	13.22	....
CK2051	7.88	7.16	5.82	4.58	....
CK2052	7.88	7.16	5.82	4.58	....
CK2053	7.88	7.16	5.82	4.58	....
2060	80.46	72.41	68.76	64.37	....
DR2100	5.75	....	....	....	
DR2110	5.90	4.97	2.92		
DR2120	3.25	2.27	1.77		
DR2200	5.75	4.77	2.77		
DR2210	5.90	4.97	2.92		
DR2220	3.25	2.27	1.77		
DR2230	3.25	2.27	1.77		
4028A	61.84	55.65	52.84	49.47	....
4042	20.75	18.68	17.73	16.60	....
4055	62.76	56.48	53.63	50.21	....
4055/V1	62.76	56.48	53.63	50.21	....
4058	22.73	20.46	19.43	18.19	....
4076	19.65	17.69	16.79	15.72	....
R4321A	17.93	16.14	15.33	14.35	....
4422	16.55	14.89	14.14	13.24	....
4440	143.00	128.70	....	....	....
4463	302.50	272.25	....	....	....
4471	29.57	26.62	25.27	23.66	....
4473	54.21	48.79	46.33	43.37	....
4491	83.49	75.15	71.35	66.80	....
4510	49.83	44.85	42.59	39.87	....
4517	115.50	103.95	....	....	....
4524	143.00	128.70	122.20	114.40	....
4543	187.00	168.30	....	....	....
4552	17.25	15.53	14.74	13.80	....
4604	14.19	12.78	12.13	11.36	....
4634/V1	445.50	400.95	....	....	....
4652/8042	22.73	20.46	19.43	18.19	....
4818	40.04	36.04	34.22	32.04	....
4833	330.00	297.00	....	....	....
NL-5440	12.65	11.39	10.81	10.12	....
NL-5440A	13.20	11.88	11.28	10.56	....
NL-5441A	13.75	12.38	11.75	11.00	....
CK-5517	13.55	12.19	11.58	10.84	....

Receiving, Industrial & Special Purpose Tubes

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
5544/734	38.50	34.65	32.90	30.80	....
5550	82.50	74.25	70.50	....	....
GL-5550	82.50	74.25	70.50	66.00	....
5551A	100.10	90.09	85.54	....	....
GL-5551A	100.10	90.09	85.54	80.08	....
GL-5552A	150.70	135.63	....	....	....
5552A	137.50	123.75	117.50	110.00	....
GL5554	308.00	277.20	....	....	....
5556	95.70	86.13	81.78	76.56	....
5557	12.43	11.19	10.63	9.95	....
5558	22.88	20.60	19.56	18.31	....
5559	27.83	25.05	23.79	22.27	....
NL-5560/FG95	39.93	35.94	34.13	31.95	....
5560	44.00	39.60	37.60	35.20	....
5561	81.90	73.71	69.99	....	....
5563A	74.80	67.32	....	....	....
NL5563A	66.17	59.55	56.55	52.94	....
ML-5576/200	357.50	321.75	....	....	....
5581	13.97	12.58	11.94	11.18	....
5582	13.81	12.43	11.80	11.05	....
5583	16.50	14.85	14.10	13.20	....
5584	1.70	1.53	1.45	1.36	....
WL-5606	467.50	420.75	399.50	374.00	....
NL-5632/C3J	21.29	19.16	18.19	17.03	....
5632/C3J	19.36	17.43	16.55	15.49	....
5636	7.43	6.69	6.35	5.94	....
CK5639	6.27	5.65	5.36	5.02	....
CK5639WA	13.35	12.01	11.41	10.68	....
5642	4.83	4.35	4.13	3.87	....
CK5643	7.54	6.79	6.44	6.03	....
5651	2.92	2.63	2.50	2.34	....
5651A	2.92	2.63	2.50	2.34	....
5651WA	6.43	5.79	5.49	5.14	....
CK5651WA	4.95	4.46	4.23	3.96	....
5653	7.54	6.79	6.44	6.03	....
5654/6AK5W	3.52	3.17	3.01	2.82	....
CK5656	34.49	31.04	29.47	27.59	....
5663	5.49	4.95	4.70	4.40	....
5665/C16J	87.73	78.96	74.97	70.18	....
ML-5667	621.50	559.35	....	....	....
5670	4.55	4.09	3.89	3.64	....
5672	7.74	6.96	6.61	6.19	....
5675	15.01	13.51	12.83	12.01	....
CK-5675	17.66	15.89	15.09	14.13	....
CK5676	8.90	8.01	7.61	7.12	....
5678	3.73	3.36	3.19	2.99	....
CK5678	8.90	8.01	7.61	7.12	....
NL-5684-NE	27.06	24.36	23.13	21.65	....
NL-5684A-NE	29.26	26.34	25.01	23.41	....
5686	5.76	5.18	4.92	4.61	....
5687	6.85	6.16	5.85	5.48	....
CK5687	5.93	5.34	5.07	4.75	....
5687WA	6.88	6.19	5.88	5.50	....
CK5687WA	6.49	5.85	5.55	5.20	....
5691	17.60	15.84	15.04	14.08	....
5691JAN	14.10	12.69	12.05	11.28	....
5692	12.54	11.29	10.72	10.04	....
5693	18.18	16.36	15.53	14.54	....
CK5693	14.52	13.07	12.41	11.62	....
5696	3.19	2.88	2.73	2.56	....
5696A	3.96	3.57	3.39	3.17	....
CK5702	14.78	13.30	12.63	11.82	....
CK5702WA	17.37	15.64	14.85	13.90	....
CK5702WB	20.52	18.47	17.54	16.42	....
5702WBJAN	20.52	18.47	17.54	16.42	....
CK5703	15.47	13.92	13.22	12.38	....
CK5703WA	18.66	16.80	15.95	14.93	....
CK5703WB	19.46	17.52	16.63	15.57	....
5713	1118.70	....	....	....	....
5718	6.60	5.94	5.64	5.28	....
5719	8.00	7.20	6.80	6.40	5.60
RK5721	187.00	168.30	....	....	....
5722	10.01	9.01	8.56	8.01	....
5725	5.43	4.89	4.64	4.34	....
5725/6AS6W	5.45	4.91	4.66	4.36	....
CK5725	4.95	4.46	4.23	3.96	....
5726/6AL5W	3.52	3.17	3.01	2.82	....
CK5727/2D21W	4.12	3.71	3.52	3.30	....
5727	4.79	4.31	4.09	3.83	....
5734	69.96	62.97	59.79	55.97	....
5736	324.50	292.05	....	....	....
CK5744	14.71	13.24	12.57	11.77	....
CK5744WA	17.46	15.72	14.92	13.97	....
5749	5.27	4.75	4.51	4.22	....
5750	5.63	5.06	4.81	4.50	....

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
NL-5750CS	8.58	7.73	7.34	6.87	....
5751	4.65	4.18	3.97	3.72	....
GB-5751	4.65	4.18	3.97	3.72	....
CK5755	23.38	21.04	19.98	18.70	....
5762	440.00	396.00	....	....	....
5763	4.01	3.61	3.43	3.21	....
5771	1221.00	1098.90	....	....	....
5783	4.61	4.15	3.94	3.69	....
CK5783WA	12.60	11.34	10.77	10.08	....
5783WAJAN	12.60	11.34	10.77	10.08	....
CK5784	18.88	16.99	16.14	15.11	....
CK5784WA	21.78	19.61	18.62	17.43	....
CK5784WB	29.64	26.68	25.33	23.71	....
CK5787	11.17	10.05	9.55	8.94	....
CK5787A	14.52	13.07	12.41	11.62	....
CK5787WA	13.71	12.34	11.72	10.97	....
5796	25.30	22.77	21.62	20.24	....
5814A	4.12	3.71	3.52	3.30	....
CK-5814A	3.73	3.36	3.19	2.99	....
5819	121.44	109.30	....	....	....
5822A	181.50	165.00	....	....	....
5823	2.61	2.35	2.23	2.09	....
5824	10.92	9.83	9.33	8.73	....
5825	56.38	50.74	48.18	45.10	....
RK5837	143.00	128.70	....	....	....
5840W	6.36	5.73	5.44	5.09	....
5842	13.04	11.74	11.14	10.43	....
5842/417A	14.81	13.33	12.66	11.85	....
5844	5.45	4.91	4.66	4.36	....
5845	10.95	9.86	9.36	8.76	....
5847/404A	19.82	17.83	16.93	15.85	....
5861	123.75	111.38	....	....	....
NL-5870	8.25	7.43	7.05	6.60	....
CK5875	11.40	10.26	9.74	9.12	....
5876A	15.47	13.92	13.22	12.38	....
5879	3.42	3.08	2.91	2.74	2.40
5881	4.29	3.87	3.67	3.44	....
CK5886	13.40	12.06	11.45	10.72	....
5886	9.41	8.47	8.04	7.53	....
5893	28.12	25.31	24.03	22.50	....
5894	54.73	49.26	46.77	43.78	....
5896	6.49	5.85	5.55	5.20	....
5899	7.88	7.09	6.74	6.31	....
5902	7.76	6.98	6.63	6.21	....
5915	4.01	3.61	3.43	3.21	....
GB-5931	8.20	7.38	7.01	6.56	....
GB-5932	13.09	11.79	11.19	10.48	....
5933	14.25	12.83	12.18	11.40	....
5933WA	18.15	16.34	15.51	14.52	....
GB-5933	14.25	12.83	12.18	11.40	....
5963	3.03	2.73	2.59	2.42	....
5964	3.84	3.46	3.29	3.08	....
CK5964	2.75	2.48	2.35	2.20	....
5965	3.54	3.18	3.02	2.83	....
WL-5966	58.30	52.47	49.82	46.64	....
CK5971	14.69	13.22	12.55	11.75	....
NL-5992	19.25	17.33	16.45	15.40	....
5998A	19.36	17.43	16.55	15.49	....
6005	5.83	5.25	4.99	4.67	....
6012	15.92	14.33	13.61	12.74	....
6021	8.25	....	....	....	....
CK6021WA	10.45	9.41	8.93	8.36	....
6021JAN	6.46	5.82	5.52	5.17	....
CK6029	14.69	13.22	12.55	11.75	....
6046	4.02	3.62	3.44	3.22	....
6072	6.00	5.40	5.13	4.80	....
6072A	6.00	5.40	5.13	4.80	....
6073	6.55	5.90	5.60	5.24	....
6073/OA2	6.15	....	....	....	....
6074	6.77	6.09	5.79	5.42	....
6074/OB2	7.09	6.38	6.06	5.67	....
6076	456.50	410.85	....	....	....
6076A	434.50	391.05	....	....	....
6080	15.40	13.86	13.09	12.32	....
6080WA	17.46	15.72	14.92	13.97	....
6080WAJAN	13.80	12.42	11.79	11.04	....
6082	8.73	7.86	7.46	6.98	....
6087	12.21	10.99	10.44	9.77	....
CK6088	9.57	8.62	8.18	7.66	....
CK-6096	1.13	1.01	.96	.90	....
GB-6101	10.38	9.34	8.87	8.30	....
6101	10.38	9.34	8.87	8.30	....
CK6111WA	10.45	9.41	8.93	8.36	....
6112	7.21	6.49	6.16	5.77	....
CK6112WA	7.37	6.64	6.30	5.90	....

Receiving, Industrial & Special Purpose Tubes

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Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6130/3C45	51.70	46.53	44.18	41.36	....
6134	12.82	11.54	10.96	10.26	....
6135	3.41	3.07	2.92	2.73	....
CK6135	3.25	2.93	2.78	2.60	....
GB-6135	3.41	3.07	2.92	2.73	....
6136	5.12	4.61	4.38	4.10	....
CK6136/6AU6WA	4.62	4.16	3.95	3.70	....
6137	6.44	5.80	5.50	5.15	....
CK6146	6.22	5.60	5.32	4.98	....
6146A	6.60	5.94	5.64	5.28	....
6146B/8298A	7.26	6.54	6.21	5.81	....
6146W	9.19	8.27	7.85	7.35	....
6155	61.00	54.90	52.13	48.80	....
6159A	9.30	8.37	7.95	7.44	....
6159B	9.30	8.37	7.95	7.44	....
6159W	11.88	10.70	10.16	9.51	....
6161	224.60	202.14	....	....	....
6173	27.72	24.95	23.69	22.18	....
CK6174	9.50	8.55	8.12	7.60	....
RK6177	440.00	396.00	....	....	....
6189	6.26	5.64	5.35	5.01	....
6197	4.57	4.11	3.91	3.66	....
6189/12AU7WA	6.27	5.65	5.36	5.02	....
CK6189/12AU7WA	5.23	4.71	4.47	4.18	....
6197	4.53	4.07	3.87	3.62	....
6199	78.20	70.38	66.83	62.56	....
6201	5.14	4.63	4.39	4.11	....
6202	4.12	3.71	3.52	3.30	....
6203	7.59	6.84	6.49	6.08	....
6205	7.10	6.39	6.07	5.68	....
CK6205	6.38	5.75	5.46	5.11	....
6206	7.98	7.18	6.82	6.38	....
6211	4.32	3.89	3.69	3.45	....
6216	5.06	4.56	4.33	4.05	....
6217	125.40	112.86	....	....	....
CK6247	18.37	16.54	15.70	14.70	....
6263A	23.10	20.79	19.74	18.48	....
6265	8.31	7.48	7.10	6.65	....
CK6265	7.92	7.13	6.77	6.34	....
6267	2.20	1.98	1.88	1.76	....
6293	13.31	11.98	11.38	10.65	....
6299	195.36	175.83	....	....	....
6328	22.28	20.05	19.04	17.82	....
6336A	52.71	47.44	45.04	42.17	....
6342A	89.57	80.61	76.54	71.65	....
6350	4.12	3.71	3.52	3.30	....
6360	10.18	9.17	8.66	8.15	7.13
6360A	9.59	8.63	8.19	7.67	....
6386	15.58	14.02	13.32	12.47	....
CK6397	18.37	16.54	15.70	14.70	....
6417	5.06	4.56	4.33	4.05	....
CK6418	9.99	8.99	8.54	8.00	....
CK6419	13.44	12.09	11.48	10.75	....
6442	68.53	61.68	58.57	54.83	....
6463	4.62	4.16	3.95	3.70	....
CK6476	31.13	28.02	26.61	24.91	....
CK6476A	31.13	28.02	26.61	24.91	....
6476A	16.45	14.81	14.06	13.16	....
6485	3.46	3.11	2.96	2.77	....
CK6519	14.69	13.22	12.55	11.75	....
6524	46.05	41.45	39.35	36.84	....
CK6528	38.34	34.51	32.76	30.67	....
CK6528A	47.41	42.67	40.52	37.93	....
6528JAN	47.41	42.67	40.52	37.93	....
CK6542	22.77	20.50	19.46	18.22	....
6550	14.56	13.11	12.38	11.65	....
6550/V1	18.90	17.01	16.15	15.12	....
6550A	8.03	7.23	6.87	6.43	....
6570	22.00	19.80	18.80	17.60	....
6626/0A2WA	6.09	5.48	5.20	4.87	....
CK6626/0A2WA	4.81	4.33	4.11	3.85	....
CK6627/0B2WA	3.96	3.57	3.39	3.17	....
6655A	104.50	94.05	89.30	83.60	....
6660/6BA6	3.27	2.95	2.80	2.62	....
6661/6BH6	3.41	3.07	2.92	2.73	....
6662	3.85	3.47	3.29	3.08	....
6662/6BJ6	3.84	3.46	3.29	3.08	....
CK6662/6BJ6	3.08	2.78	2.64	2.47	....
6663/6AL5	2.68	2.41	2.29	2.14	....
6664/6AB4	3.61	3.25	3.09	2.89	....
6669/6AQ5A	3.11	2.80	2.66	2.49	....
6676/6CB6A	2.68	2.41	2.29	2.14	....
6676	2.70	2.43	2.31	2.16	....
6677	4.68	4.22	3.98	3.75	....
6677/6CL6	4.51	4.06	3.86	3.61	....

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6678	3.25	2.93	2.78	2.60	....
6678/6U8A	3.23	2.91	2.76	2.58	....
CK6678/6U8A	2.97	2.68	2.54	2.38	....
6679	3.06	2.76	2.61	2.45	2.15
6679/12AT7	5.32	4.79	4.53	4.26	....
6679/12AT7	2.97	2.68	2.54	2.38	....
6680/12AU7A	4.58	4.13	3.90	3.67	....
6680	2.53	2.28	2.17	2.03	....
6681/12AX7	2.53	2.28	2.17	2.03	....
6681/12AX7A	2.52	2.27	2.16	2.02	....
6686	10.00	9.00	8.55	8.00	....
6687	2.44	2.19	2.08	1.95	....
6688	11.00	9.90	9.40	8.80	....
CK6688	10.95	9.86	9.36	8.76	....
CK6763	9.96	8.96	8.51	7.97	....
CK6802	30.03	27.03	25.67	24.03	....
6802	12.58	11.32	10.75	10.06	....
6807	54.56	49.11	46.63	43.65	....
6808	55.39	49.85	47.33	44.31	....
6809	61.99	55.79	52.97	49.59	....
6810A	310.20	279.18	....	....	....
6816	69.03	62.13	58.99	55.22	....
6829	14.19	12.78	12.13	11.36	....
CK6832	25.85	23.27	22.09	20.68	....
NL-6844A	13.48	12.13	11.52	10.78	....
6850	45.43	40.89	38.83	36.35	....
6883	6.66	5.99	5.69	5.33	....
6883B/8032A/8552	8.09	7.28	6.91	6.47	....
6884	47.74	42.97	40.80	38.20	....
6887	1.61	1.45	1.38	1.29	....
6895	30.09	27.08	25.71	24.07	....
6897	109.40	98.46	93.49	87.52	....
6909	13.75	12.38	11.75	11.00	....
6910	14.71	13.24	12.57	11.77	....
6922/E88CC	6.76	6.08	5.78	5.41	....
6922	6.76	6.08	5.78	5.41	....
6922JAN	6.14	5.53	5.25	4.92	....
6939	23.98	21.59	20.50	19.19	....
6953	17.25	15.53	14.74	13.80	....
6973	3.94	3.55	3.35	3.16	2.76
NL-6989-NE	50.05	45.05	42.77	40.04	....
NL-6989/C6J/KL	45.27	40.74	38.69	36.22	....
NL-7009	23.10	20.79	19.74	18.48	....
7025	2.24	2.02	1.91	1.80	1.57
7027A	5.84	5.26	4.97	4.68	4.09
7038	203.50	183.15	....	....	....
7038V	242.00	217.80	....	....	....
7038V4	313.50	282.15	....	....	....
7044	5.01	4.51	4.28	3.01	....
7054	3.19	2.88	2.73	2.56	....
7055	3.34	3.00	2.85	2.67	....
7056	1.91	1.72	1.63	1.53	....
7057	5.35	4.82	4.57	4.28	....
7058	3.76	3.38	3.21	3.01	....
7059	2.91	2.62	2.49	2.33	....
7060	5.12	4.61	4.38	4.10	....
7061	4.55	4.09	3.89	3.64	....
7077	78.65	70.79	67.21	62.92	....
7094	69.47	62.52	59.37	55.58	....
7102	143.00	128.70	....	....	....
7117	17.60	15.84	15.04	14.08	....
NL-7153	26.40	23.76	22.56	21.12	....
7167	3.15	2.84	2.69	2.52	....
GL-7171	85.80	77.22	73.32	68.64	....
7189A	2.88	2.60	2.45	2.31	....
7199	4.40	3'96	3.74	3.52	3.08
7226	364.10	327.69	311.14	291.28	....
7233	5.39	4.86	4.61	4.32	....
7239	14.58	13.12	12.46	11.66	....
CK7246	14.44	12.99	12.34	11.55	....
7247	3.26	2.94	2.78	2.61	2.29
7258	4.37	3.94	3.74	3.50	....
7262A	225.50	202.95	....	....	....
7266	84.43	75.99	72.15	67.54	....
7271	64.19	57.77	54.85	51.35	....
7289/3CX100A5	44.66	40.20	38.17	35.73	....
WL-7307A/6011/710	15.95	14.36	13.63	12.76	....
7308	8.65	7.79	7.39	6.92	....
WL-7321/C6J/L	39.60	35.64	33.84	31.68	....
7325	187.00	168.30	....	....	....
7326	445.50	....	....	....	....
7355	4.08	3.68	3.47	3.27	2.86
7360	10.27	9.24	8.78	8.22	....
7408	2.52	2.27	2.15	2.02	1.77
7543	2.26	2.04	1.93	1.81	1.59

Receiving, Industrial & Special Purpose Tubes

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
7551	5.83	5.25	4.99	4.67	....
7553	67.76	60.99	57.91	54.21	....
7554	62.76	56.48	53.63	50.21	....
NL-7556A-NE	31.19	28.07	26.65	24.95	....
7558	6.00	5.40	5.13	4.80	....
7581A	6.04	5.44	5.14	4.84	4.23
7586	10.81	9.73	9.24	8.65	....
7586JAN	10.81	9.73	9.24	8.65	....
7587	19.89	17.90	17.00	15.92	....
7591A	3.04	2.74	2.59	2.44	2.13
GL-7669	100.10	90.09	85.54	80.08	....
7695	3.58	3.23	3.05	2.87	2.51
ML-7698	55.00	49.50	47.00	....	....
ML7698R	55.00	49.50	....	....	....
7701	4.35	3.92	3.72	3.48	....
7716	3.69	3.32	3.15	2.95	....
NL-7723-NE	22.61	20.35	19.32	18.09	....
7734	12.10	10.89	10.34	9.68	....
7735	48.95	44.06	41.83	39.16	....
7735A	137.50	123.75	....	....	....
7735B	214.50	193.05	....	....	....
7764	187.00	168.30	....	....	....
7768	230.23	207.21	....	....	....
NL-7786-NE	34.71	31.24	29.66	27.77	....
7788	19.90	17.91	17.01	15.92	....
7801	405.90	365.31	....	....	....
ML-7815	37.73	33.96	32.25	....	....
ML-7815/AL	40.70	36.63	34.78	....	....
ML-7815R	37.73	33.96	32.25	....	....
7815R	44.66	40.20	38.17	35.73	....
7815/3CPN10A5	44.66	40.20	38.17	35.73	....
ML-7815R/AL	40.70	36.63	34.78	....	....
7843	47.74	42.97	40.80	38.20	....
7846	2.20	1.98	1.88	1.76	....
7850	368.50	331.65	....	....	....
7868	4.06	3.66	3.46	3.25	2.85
7895	11.93	10.74	10.19	9.54	....
7898	4.92	4.43	4.21	3.94	....
7905	13.07	11.77	11.17	10.46	....
Z-7911	86.90	78.21	74.26	69.52	....
NL-7977/4032	23.10	20.79	19.74	18.48	....
7984	8.80	7.92	7.52	7.04	....
8005	45.06	40.56	38.51	36.05	....
GL-8005	32.45	29.21	27.73	25.96	....
8008	20.24	18.22	17.30	16.20	....
8020W	25.58	23.02	21.86	20.46	....
8032	6.88	6.19	5.88	5.50	....
8035	16.83	15.15	14.39	13.47	....
8053	137.50	123.75	....	....	....
8054	142.07	127.86	....	....	....
8055	187.00	168.30	....	....	....
8056	12.84	11.56	10.97	10.27	....
8058	26.66	23.99	22.78	21.33	....
8068	7.59	6.84	6.49	6.08	....
8072	38.50	34.65	32.90	30.80	....

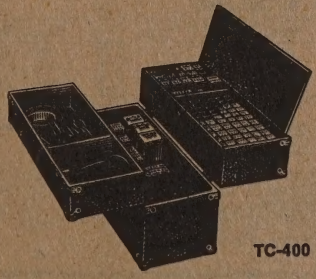
Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
8077/7054	2.39	2.15	2.04	1.91	....
NL-8091	29.87	26.88	25.53	23.90	....
8102	2.97	2.68	2.54	2.38	....
8106	2.37	2.13	2.03	1.90	....
8121	46.20	41.58	39.48	36.96	....
8122	49.28	44.36	42.12	39.43	....
8134	231.00	207.90	....	....	....
8134/4811	495.00	445.50	423.00	....	....
8136	2.45	2.20	2.09	1.96	....
8156	8.25	7.43	7.05	6.60	....
8165/4-65A	45.65	41.09	39.01	36.52	....
8166/4-1000A	209.00	188.10	....	....	....
8167/4CX300A	101.20	91.08	86.48	....	....
8168/4CX1000A	269.50	242.55	....	....	....
8170/4CX5000A	583.00	524.70	....	....	....
8171/4CX10000D	649.00	584.10	....	....	....
8203	11.81	10.63	10.09	9.45	....
8226	103.62	93.26	....	....	....
8281/4CX15000A	907.50	816.75	....	....	....
8295A	275.00	247.50	....	....	....
8353	16.34	14.71	13.96	13.07	....
8393	12.93	11.64	11.05	10.34	....
8417	5.16	4.65	4.39	4.13	3.62
NL-8421/5092	19.25	17.33	16.45	15.40	....
NL-8422/5991	19.25	17.33	16.45	15.40	....
NL-8423/6091	22.00	19.80	18.80	17.60	....
8426A/12AU6	2.94	2.65	2.50	2.36	2.06
8438/4-400A	73.70	66.33	62.98	58.96	....
8438A/4-400AX	115.50	103.95	....	....	....
8541	88.00	79.20	75.20	70.40	....
8453/ZM1050	51.98	46.78	44.42	41.58	....
8462	83.33	75.00	71.21	66.66	....
NL-8052/4021	38.12	34.31	32.58	30.50	....
8507A	218.90	197.01	187.06	175.12	....
8521	742.50	668.25	....	....	....
8532	9.78	8.81	8.36	7.83	....
ML-8533	78.10	70.29	....	....	....
ML8534	159.50	143.55	....	....	....
8541	97.90	88.11	83.66	78.32	....
8541A	223.30	200.97	....	....	....
8572A	264.00	237.60	....	....	....
8572V	284.90	256.41	....	....	....
8572V4	357.50	321.75	....	....	....
8573	317.90	286.11	....	....	....
8596	134.20	120.78	114.68	107.36	....
8627	28.35	25.52	24.23	22.68	....
8844	53.35	48.02	45.59	42.68	....
8950	7.26	6.54	6.21	5.81	....
9001	11.38	10.24	9.72	9.10	....
9002	7.21	6.49	6.16	5.77	....
9003	11.74	10.57	10.03	9.39	....
9006	6.35	5.72	5.43	5.08	....

ARGOS TUBE CADDIES

TC-400

Carry-all Tube Caddy. A must item for all electronic service men, this case is a complete tube and tool kit. Holds up to 260 tubes with space for accessories. Grey vinyl covering. 21″ x 15″ x 8″. Shpg. wt., 11 lbs.

86F747. NET 28.50

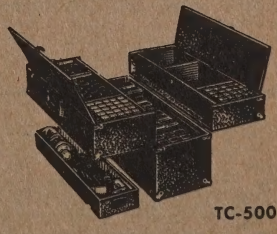


TC-400

TC-600

Most rugged, strongest tube caddy in the line. Steel runners protect the caddy. Offers more than 3300 cubic inches for more than 300 tubes with space for tools, meters and accessories. Grey vinyl covering. 24″W x 16½″H x 8½″D. Shipping weight 20 lbs., 8 oz.

86F748. NET 49.95



TC-500

TC-200

Junior Tube Caddy. Small, easy-to-carry size. Holds up to 143 tubes, less with space or tools, meters, etc. Grey vinyl covering. 16″ x 12½″ x 8″. Shipping weight 7¼ lbs.

86F774. NET 20.95

TC-500

Super Tube Caddy has 3300 cubic inches for tubes, meters, tools and accessories. Removable tray. Grey vinyl covering. Size: 24″W x 16½″H x 8½″D. Shipping weight, 17 lbs.

86F746. NET 38.50

MALLORY

Sonalert Solid State Signals

FAST PULSE

Stock No.	Type	Case Style	Freq. (Hz)	Loudness	DC Volt. Min.	DC Volt. Max.	Operating Current	Sound Level (dB)	1-24	25-49	50-99	100-249
64F325	SC110DP	E	2000	Med	30	120*	4 to 16	68 to 80	15.96	15.65	14.91	13.49
64F326	SC110EP	E	2000	Soft	30	120*	2 to 10	55 to 70	15.96	15.65	14.91	13.49
64F327	SC110FP	E	2900	Soft	30	120*	2 to 10	55 to 70	14.96	14.68	14.05	12.64
64F318	SC110HP	E	4500	Med	30	120*	4 to 16	68 to 80	15.96	15.65	14.91	13.49
64F328	SC110NP	..	2900	Loud	30	120*	4 to 16	80 to 95	14.96	14.68	14.05	12.64
64F317	SC110P	D	2900	Med	30	120*	4 to 16	68 to 80	14.96	14.68	14.05	12.64
64F329	SC250DP	E	2000	Med	60	250*	4 to 16	68 to 80	15.96	15.65	14.91	13.49
64F330	SC250EP	E	2000	Soft	60	250*	2 to 10	55 to 70	15.96	15.65	14.91	13.49
64F331	SC250FP	E	2900	Soft	60	250*	2 to 10	55 to 70	14.96	14.68	14.05	12.64
64F332	SC250HP	E	4500	Med	60	250*	4 to 16	68 to 80	15.96	15.65	14.91	13.49
64F333	SC250NP	..	2900	Loud	60	250*	4 to 16	80 to 95	14.96	14.68	14.05	12.64
64F334	SC250P	..	2900	Med	60	250*	4 to 16	68 to 80	14.96	14.68	14.05	12.64
64F335	SC616NP	C	2900	Loud	6	16	4 to 16	80 to 95	9.92	9.75	9.29	8.39
64F336	SC628ADP	E	2000	Med	6	28*	3 to 14	68 to 80	15.96	15.65	14.91	13.49
64F337	SC628AEP	E	2000	Soft	6	28*	2 to 10	55 to 70	15.96	15.65	14.91	13.49
64F338	SC628AFP	E	2900	Soft	6	28*	2 to 10	55 to 70	14.96	14.68	14.05	12.64
64F339	SC628AHP	E	4500	Med	6	28*	3 to 14	68 to 80	15.96	15.65	14.91	13.49
64F340	SC628AP	E	2900	Med	6	28*	3 to 14	68 to 80	14.96	14.68	14.05	12.64
64F341	SC628DP	E	2000	Med	10	48*	3 to 14	68 to 80	12.23	12.08	11.45	10.37
64F342	SC628EP	C	2000	Soft	6	28	2 to 10	55 to 70	12.23	12.08	11.45	10.37
64F343	SC628FP	C	2900	Soft	6	28	2 to 10	55 to 70	11.24	11.06	10.54	9.52
64F312	SC628HP	D	4500	Med	6	28	3 to 14	68 to 80	12.23	12.08	11.45	10.37
64F304	SC628P	D	2900	Med	6	28	3 to 14	68 to 80	11.24	11.06	10.54	9.52
64F344	SC648ADP	E	2000	Med	10	48*	3 to 14	68 to 80	12.23	12.08	11.45	10.37
64F345	SC648AHP	E	4500	Med	10	48*	3 to 14	68 to 80	15.96	15.65	14.91	13.49
64F346	SC648AP	E	2900	Med	10	48*	3 to 14	68 to 80	14.96	14.68	14.05	12.64

SLOW PULSE

Stock No.	Type	Case Style	Freq. (Hz)	Loudness	DC Volt. Min.	DC Volt. Max.	Operating Current	Sound Level (dB)	1-24	25-49	50-99	100-249
64F347	SC110DJ	E	2000	Med	30	120*	4 to 16	68 to 80	15.96	15.65	14.91	13.49
64F348	SC110EJ	E	2000	Soft	30	120*	2 to 10	55 to 70	15.96	15.65	14.91	13.49
64F349	SC110FJ	E	2900	Soft	30	120*	2 to 10	55 to 70	14.96	14.68	14.05	12.64
64F350	SC110HJ	E	4500	Med	30	120*	4 to 16	68 to 80	15.96	15.65	14.91	13.49
64F351	SC110J	E	2900	Med	30	120*	4 to 16	68 to 80	14.96	14.68	14.05	12.64
64F352	SC110NJ	..	2900	Loud	30	120*	4 to 16	80 to 95	14.96	14.68	14.05	12.64
64F353	SC250DJ	E	2000	Med	60	250*	4 to 16	68 to 80	15.96	15.65	14.91	13.49
64F354	SC250EJ	E	2000	Soft	60	250*	2 to 10	55 to 70	15.96	15.65	14.91	13.49
64F355	SC250FJ	E	2900	Soft	60	250*	2 to 10	55 to 70	15.96	15.65	14.91	13.49
64F356	SC250HJ	E	4500	Med	60	250*	4 to 16	68 to 80	15.96	15.65	14.91	13.49
64F357	SC250J	E	2900	Med	60	250*	4 to 16	68 to 80	14.96	14.68	14.05	12.64
64F358	SC250NJ	..	2900	Loud	60	250*	4 to 16	80 to 95	14.96	14.68	14.05	12.64
64F359	SC616NJ	C	2900	Loud	6	16	4 to 16	80 to 95	9.92	9.75	9.29	8.39
64F360	SC628ADJ	E	2000	Med	6	28*	3 to 14	68 to 80	15.96	15.65	14.91	13.49
64F361	SC628AEJ	E	2000	Soft	6	28	2 to 10	55 to 70	15.96	15.65	14.91	13.49
64F362	SC628AFJ	E	2900	Soft	6	28*	2 to 10	55 to 70	14.96	14.68	14.05	12.64
64F363	SC628AHJ	E	4500	Med	6	28*	3 to 14	68 to 80	15.96	15.65	14.91	13.49
64F364	SC628AJ	E	2900	Med	6	28*	3 to 14	68 to 80	14.96	14.68	14.05	12.64
64F365	SC628DJ	E	2000	Med	6	28	3 to 14	68 to 80	12.23	12.08	11.45	10.37
64F366	SC628EJ	C	2000	Soft	6	28	2 to 10	55 to 70	12.23	12.08	11.45	10.37
64F367	SC628FJ	C	2900	Soft	6	28	2 to 10	55 to 70	11.24	11.06	10.54	9.52
64F368	SC628J	D	2900	Med	6	28	3 to 14	68 to 80	11.24	11.06	10.54	9.52
64F369	SC648ADJ	E	2000	Med	10	48*	3 to 14	68 to 80	12.23	12.08	11.45	10.37
64F370	SC648AHJ	E	4500	Med	6	28*	3 to 14	68 to 80	15.96	15.65	14.91	13.49
64F371	SC648AJ	E	2900	Med	10	48*	3 to 14	68 to 80	14.96	14.68	14.05	12.64

*AC-DC

FAST WARBLE

Stock No.	Type	Case Style	Freq. (Hz)	Loudness	DC Volt. Min.	DC Volt. Max.	Operating Current	Sound Level (dB)	1-24	25-49	50-99	100-249
64F372	SC628FW	F	2900	Med	6	28	3 to 16	68 to 80	12.29	11.74	11.13	10.37

SLOW WARBLE

Stock No.	Type	Case Style	Freq. (Hz)	Loudness	DC Volt. Min.	DC Volt. Max.	Operating Current	Sound Level (dB)	1-24	25-49	50-99	100-249
64F373	SC628FJW†	F	2900	Soft	6	28	.....	.....	12.29	11.74	11.13	10.37
64F374	SC628JW‡	F	2900	Med	6	28	3 to 16	68 to 80	12.29	11.74	11.13	10.37

†Use with SC628D
‡Use with SC628E

COMPRESSION WASHERS

Compression washers for panel mounting of Type SNP Sonalerts. For panel holes 1.063 ± 0.005 inches in diameter. Mounts from rear of panel.

Stock No.	Type	Panel Thickness (in.)	Each
64F375	PW-1	.109 to .125 (11-12 Ga.)	.03
64F376	PW-2	.065 to .093 (13-17 Ga.)	.05
64F377	PW-3	.031 to .050 (18-22 Ga.)	.07

ERICSSON AUDIBLE SIGNAL DEVICE

BUZZER FOR AC OPERATION

Stock No.	Type	25c/s Oper. VAC	25c/s Imp.	50c/s Oper. VAC	50c/s Imp.	D.C. Resist.	Wt.	NET
92F700	KLG-5103.2	22-90	5600	27-90	7000	3100	0.1	28.25

Suitable for an extra signalling device. The buzzer is mounted on a base plate of zinc-plated sheet metal and has an ivory thermoplastic cover. Size: Height-100mm, Width-77mm, Depth-41mm.

ATTENTION INDUSTRIAL BUYERS

NEWARK carries complete lines of top quality electronic components. Newark can supply all your needs.

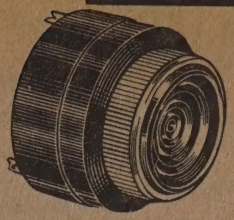
Solid State Signals

MALLORY

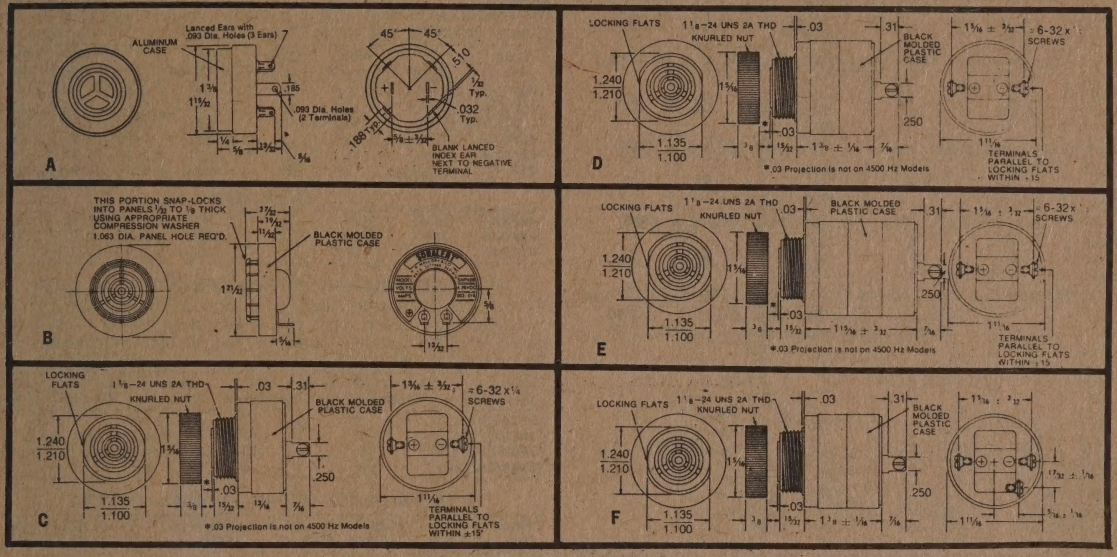
AUDIBLE ELECTRONIC SIGNAL

Operating Voltage 6 to 250 volts. All Sonalerts, excluding AC models, are polar devices and will not operate when voltage is applied in reverse direction. Operating current 3-14 milliamps. Sound output 68-80 minimum dB depending on voltage. Sound Frequency 2900Hz ±500Hz, 4500Hz ±500 Hz. Withstands storage in temperature ranges from −40°C to +85°C non-operating for 100 hours. After subjection to above storage temp. test and stabilization for 24 hours at room temp., device will meet original specified limits. Sonalert will operate and produce sound over a temp. range of −20°C to +65°C (ambient).

- **Compact and Lightweight**
- **Completely Solid State**
- **No Moving Parts**
- **No Arcing, RF Noise or Mechanical Wear**
- **Self-Extinguishing Case**
- **Self Spray Resistant**



OUTLINE DIMENSIONS


A
ALUMINUM CASE
Lanced Ears with .093 Dia. Holes (3 Ears)
.093 Dia. Holes (2 Terminals)
BLANK LANCED INDEX EAR NEXT TO NEGATIVE TERMINAL
B
THIS PORTION SNAP-LOCKS INTO PANELS 1/32 TO 1/8 THICK USING APPROPRIATE COMPRESSION WASHER
1.063 DIA. PANEL HOLE REQ'D.
BLACK MOLDED PLASTIC CASE
C
LOCKING FLATS
KNURLED NUT
BLACK MOLDED PLASTIC CASE
6-32 x 1/4 SCREWS
TERMINALS PARALLEL TO LOCKING FLATS WITHIN ±15°
*.03 Projection is not on 4500 Hz Models
D
LOCKING FLATS
KNURLED NUT
BLACK MOLDED PLASTIC CASE
6-32 x 1/4 SCREWS
TERMINALS PARALLEL TO LOCKING FLATS WITHIN ±15°
*.03 Projection is not on 4500 Hz Models
E
LOCKING FLATS
KNURLED NUT
BLACK MOLDED PLASTIC CASE
6-32 x 1/4 SCREWS
TERMINALS PARALLEL TO LOCKING FLATS WITHIN ±15°
*.03 Projection is not on 4500 Hz Models
F
LOCKING FLATS
KNURLED NUT
BLACK MOLDED PLASTIC CASE

CONTINUOUS TONE

Stock No.	Type	Case Style	Freq. (Hz)	Loudness	DC Voltage Min.	DC Voltage Max.	Operating Current	Sound Level (dB)	1-24	25-49	50-99	100-249
64F320	SC1.5	A	3500	Soft	1	4	4@1.5V	60@1.5V				
64F321	SC6	A	3500	Soft	4	8	12@6V	70@6V				
64F322	SC12	A	3500	Soft	8	15	14@12V	70@12V	5.98	5.84	5.23	4.91
64F323	SC18	A	3500	Soft	14	22	16@18V	70@18V				
64F324	SC24	A	3500	Soft	20	30	16@24V	70@24V				
64F378	SNP428	B	2900	Med	4	28	1.8 to 14	64 to 78	5.23	5.15	4.92	4.43
64F300	SC628	C	2900	Med	6	28	3 to 14	68 to 80	6.20	6.12	5.84	5.27
64F301	SC628H	C	4500	Med	6	28	3 to 14	68 to 80	7.19	7.09	6.74	6.12
64F306	SC648	C	2900	Med	10	48	3 to 14	68 to 80	7.88	7.65	7.31	6.63
64F270	SC648H	C	4500	Med	10	48	3 to 14	68 to 80	7.19	7.09	6.74	6.12
64F302	SC628A	D	2900	Med	6	28	3 to 14	68 to 80	9.92	9.75	9.29	8.39
64F313	SC628AH	D	4500	Med	6	28	3 to 14	68 to 80	10.92	10.71	10.21	9.24
64F271	SC648A	D	2900	Med	10	48	3 to 14	68 to 80	9.92	9.75	9.29	8.39
64F272	SC648AH	D	4500	Med	10	48*	3 to 14	68 to 80	10.92	10.71	10.21	9.24
64F303	SC110	D	2900	Med	30	120*	4 to 16	68 to 80	9.92	9.75	9.29	8.39
64F273	SC110D	D	2000	Med	30	120*	4 to 16	68 to 80	10.92	10.71	10.21	9.24
64F274	SC110E	D	2000	Soft	30	120	2 to 10	55 to 70	10.92	10.71	10.21	9.24
64F275	SC110F	D	2900	Soft	30	120*	2 to 10	55 to 70	9.92	9.75	9.29	8.39
64F316	SC110H	D	4500	Loud	30	120*	4 to 16	68 to 80	10.92	10.71	10.21	9.24
64F276	SC110N	—	2900	Loud	30	120*	4 to 16	80 to 95	11.24	11.06	10.54	9.52
64F307	SC250	D	2900	Med	60	250*	4 to 16	68 to 80	10.71	10.43	9.92	9.07
64F277	SC250D	D	2000	Med	60	250*	4 to 16	68 to 80	10.92	10.71	10.21	9.24
64F278	SC250F	D	2000	Soft	60	250	2 to 10	55 to 70	10.92	10.71	10.21	9.24
64F279	SC250	D	2900	Soft	60	250*	2 to 10	55 to 70	10.71	10.43	9.92	9.07
64F280	SC250H	D	4500	Med	60	250*	4 to 16	68 to 80	10.92	10.71	10.21	9.24
64F281	SC250N	—	2900	Loud	60	250*	4 to 16	80 to 95	11.24	11.06	10.54	9.52
64F282	SC616N	C	2900	Loud	6	16	4 to 16	80 to 95	8.68	8.46	7.90	7.18
64F283	SC628AD	D	2000	Med	6	28*	3 to 14	68 to 80	10.92	10.71	10.21	9.24
64F284	SC628AE	D	2000	Soft	6	28*	2 to 10	55 to 70	10.92	10.71	10.21	9.24
64F285	SC628AF	D	2900	Soft	6	28*	2 to 10	55 to 70	9.92	9.75	9.29	8.39
64F286	SC628D	C	2000	Med	6	28	3 to 14	68 to 80	7.19	7.09	6.74	6.12
64F287	SC628E	C	2000	Soft	6	28	2 to 10	55 to 70	7.19	7.09	6.74	6.12
64F288	SC628F	D	2900	Soft	6	28	2 to 10	55 to 70	6.20	6.12	5.84	5.27
64F289	SC648AD	D	2000	Med	6	28	3 to 14	68 to 80	10.92	10.71	10.21	9.24
64F290	SC648D	C	2000	Med	10	48	3 to 14	68 to 80	7.19	7.09	6.74	6.12

SHORT PULSE

64F291	SC110FK	E	2900	Soft	30	120*	2 to 10	55 to 70	14.96	14.68	14.05	12.64
64F292	SC110K	E	2900	Med	30	120*	4 to 16	68 to 80	14.96	14.68	14.05	12.64
64F293	SC250FK	E	2900	Soft	60	250*	2 to 10	55 to 70	15.96	15.65	14.91	13.49
64F294	SC250K	E	2900	Med	60	250*	4 to 16	68 to 80	14.96	14.68	14.05	12.64
64F295	SC628AFK	E	2900	Soft	6	28*	2 to 10	55 to 70	14.96	14.68	14.05	12.64
64F296	SC628AK	E	2900	Med	6	28*	3 to 14	68 to 80	14.96	14.68	14.05	12.64
64F297	SC628FK	C	2900	Soft	6	28	2 to 10	55 to 70	11.24	11.06	10.54	9.52
64F298	SC628K	D	2900	Med	6	28	3 to 14	68 to 80	11.24	11.06	10.54	9.52
64F299	SC648AK	E	2900	Med	10	48*	3 to 14	68 to 80	14.96	14.68	14.05	12.64

*AC-DC

VACTEC, INC.

Photoconductive Cells

VT-300

VT-800

Cells ideal for circuit board mtg. 2nd digit indicates spectral peak. 0=CdS 5650A, 1=CdSe 7350A, 2=CdS 5150A, 3=CdS 5500A (for high spd. switching), 4=CdSe 6750A. E.g.: VT-312 is Type 1 CdSe 7350A. All have a max. volt. of 300 except (*) 200 and (†) 100. (§) indicates max. dark resis. (ohms) 5 sec. after 2 fc.

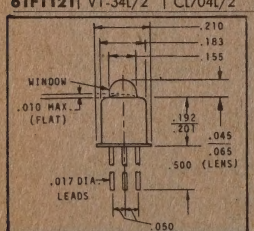
VT-100 (Non-hermetic, Max. Pwr. 200 mW, .365" d. x .065 thk.)

Stock No.	Type	2 fc. Res. in K Ohms	Min. Dark Res. §2 fc	1-99	100-999
61F1016	VT-10L	1.6	100K	1.16	.92
61F1023	VT-104	136	50 meg		
61F1040	VT-14L*	.6	100K		
VT-700 (Non-hermetic, Max. Pwr. 250 mW, .365 d. x .080 thk.)					
43F850	VT-701*	3.0	5 meg	.86	.65
43F851	VT-721H	4.8	2 meg		
43F852	VT-732	10	10 meg		
43F853	VT-741†	.9	500K		
VT-800 (Non-hermetic, Max. Pwr. 175 mW, .266 d. x .080)					
43F854	VT-801*	3	250K	.86	.65
43F856	VT-833	33	15 meg		
43F857	VT-841L†	.9	500K		
VT-900 (Non-hermetic, Max. Pwr. 80 mW, .182 d. x .080)					
43F858	VT-902†	8	750K	.86	.65
43F862	VT-931†	22	1 meg		
43F864	VT-941†	2	500K		
VT-200 (50 mW Max. Pwr., TO-18 Herm. sealed, .183 d. x .150 h.)					
61F1065	VT-201†	.....	4.3	500K	
61F1066	VT-202†	CL905L	8	750K	
61F1069	VT-204	CL905, 605, 607	110	20 meg	
61F1071	VT-211†	.....	2.3	500K	
61F1072	VT-211H†	CL603AL	3.5	1 meg	
61F1073	VT-212L†	CL903L	6	5 meg	1.83 1.39
61F1077	VT-214L	CL903N, 603A	64	100 meg	
61F1078	VT-214	CL903, 603	140	200 meg	
61F1079	VT-223H	CL902L	65	5 meg	
61F1082	VT-232†	CL905HL	100	50 meg	
61F1085	VT-234†	CL905HN	700	200 meg	
61F1087	VT-241†	CL904L, 604L	2	500K	
61F1090	VT-242†	CL904N	15	10 meg	
61F1091	VT-242H†	CL904, 604	30	10 meg	
VT-300 (Max. Pwr. 125 mW, TO-5 Herm. sealed, .325 d. x .177 h.)					
61F1093	VT-301*	CL705L	3	200K	1.83 1.39
61F1099	VT-304	CL705, 707HM	144	50 meg	
61F1101	VT-311L*	CL703L	2.1	500K	
61F1104	VT-314	CL703	140	200 meg	
61F1109	VT-333*	CL705HL	28	10 meg	
61F1110	VT-34L*	CL704L	.6	100K	
61F1116	VT-343	CL704	28	10 meg	
VT-500 (500 mW Max. Pwr., TO-8 Herm. sealed, .486 d. x .220 h.)					
61F1123	VT-50L*	CL505L	1.3	100K	1.83 1.39
61F1124	VT-501*	.....	2.6	200K	
61F1125	VT-502L	CL505	8	1 meg	
61F1128	VT-512L	CL503, 5M3	9.2	10 meg	
61F1131	VT-523L	CL502, 5M2	36	5 meg	
61F1132	VT-54L*	CL5M4L	.25	100K	
61F1134	VT-542L	CL504	1.5	1 meg	

NOTE: CL504 and 502 have ½" all glass package.

DUAL ELEMENT CELLS (Max. Pwr. 50 mW each ½)

Stock No.	Type	Clairex Equiv.	2 fc. Res. in K Ohms	Min. Dark § 2 fc.	1-49	50-99
43F865	VT-301/2	CL705L/2	7.5	1 meg	2.66	2.42
61F1117	VT-302/2	CL702L/2	16	5 meg		
61F1119	VT-312/2	CL703L/2	5	1 meg		
43F868	VT-333/2	.....	60	25 meg		
61F1121	VT-34L/2	CL704L/2	1.5	100K		

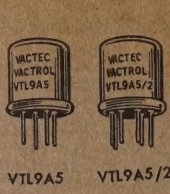


PHOTOTRANSISTORS

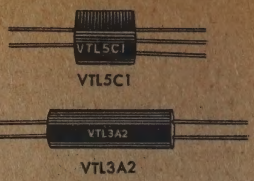
In Table: V_{CE}(Sat) at I_C—1mA, I_b—50 μa & dk. is .25V Typ., peak sens. at 850nm. 5mW/cm² source calibrated at 2850°K.

Oper. Temp......150°C
Storage Temp......−65° to +200°C
MAXIMUM RATINGS
Power Dissipation (derate 2 mW/°C above 25°C).....250 mW
Collector Current.....200 mA
Emitter Coll. Volt.....5 V

Stock No.	Type	Typ. I_{CEO}(mA) @ 5 mW/cm², V_{CE}-5 V	Breakdown V $V_{(BR)\ CEO}$ @ I_{CEO}-100 μA	Dark Curr. V_{CE}-20 V 25°C	Dark Curr. V_{CE}-20 V 100°C	1-99	100-999
43F909	VTT1012	.5	50	25 nA	25 uA	1.85	1.30
43F910	VTT1011	1.0	40	25	25	2.00	1.40
43F911	VTT1010	2.0	30	25	25	2.05	1.44
43F912	VTT1013	4.0	20	100	100	2.25	1.58
43F913	VTT1110	2.0	50	25	25	2.15	1.51
43F914	VTT1111	3.5	40	25	25	2.25	1.58
43F915	VTT1112	6.0	30	25	25	2.40	1.68
43F916	VTT1113	12.0	20	100	100	2.50	1.75



VTL9A5 VTL9A5/2 VTL2



VTL5C1 VTL3A2

VTL9 VACTROL—LAMP-PHOTOCONDUCTIVE MODULE

Has .63 dia. x .70" h. with .040 pin base mtg. for PC boards. Min. off-resistance 10 meg except VTL9B6, 1 meg. VTL9A2 equiv. to Clairex CLM4006. VTL9A4 to Clairex CLM5012.

Stock No.	Type	Max. Lamp V.	Lamp mA	Max. On-Ohms	1-49	50-99	100-499
43F870	VTL9A1	1.5	50	400	2.41	1.92	1.61
43F871	VTL9A2	6.0	40	60	2.66	2.12	1.78
43F872	VTL9A3	10.0	14	250	2.74	2.19	1.83
43F873	VTL9A4	10.0	22	300	2.39	1.91	1.60
43F874	VTL9A5	10.0	22	1500	2.39	1.91	1.60
43F877	VTL9A11	12.0	25	600	2.39	1.91	1.60
NEON TYPES							
43F878	VTL9B6	125	1.5	300	2.72	2.17	1.82
43F879	VTL9B7	125	1.5	800	2.72	2.17	1.82
43F880	VTL9B8	80	.3	2000	2.95	2.36	1.97

VTL2 VACTROLS—LED-PHOTOCONDUCTIVE MODULE

TO-5 hermetic case .325 d. x .265 h. Light emitting diode coupled to efficient photoconductive cell. Operates as low as 1 mW input power to LED. Rated LED current 40 ma. No filaments to burn out. Shock resistant. V_f is 1.65 typ.

Stock No.	Type	Max. on-Ohms @ 40 mA, LED Curr.	Min. Off-Ohms	Max. Decay to	1-49	50-99	100-499
43F881	VTL2C1	10k	10^9	1 meg-3.5 ms	4.72	3.78	3.16
43F882	VTL2C2	500	10^6	100k-500 ms			
43F883	VTL2C3	2k	10^7	100k-35 ms			
43F884	VTL2C4	100	4×10^5	100k-1.5 sec.			

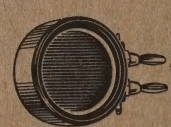
VTL5 VACTROLS—LED-PC MODULE—PLASTIC

Stock No.	Type	Max. Ohms @ 40 mA LED I.	Max. Decay to 100k	1-49	50-99	100-999
43F885	VTL5C1	500	35 ms	2.31	1.92	1.62
43F886	VTL5C2	500	500 ms			
43F887	VTL5C3	2000	35 ms			
43F888	VTL5C4	200 (@ 10 mA)	1500 ms			
43F889	VTL5C6	3500	50 ms (to 1 meg)			
43F890	VTL5C7	1500	1000 ms			

VTL3 VACTROLS—LAMP-PC MODULE

Stock No.	Type	Clairex Equiv.	Lamp Max. V.	Lamp mA	Max. On-Ohms	Max. Cell V.	1-49	50-99	100-499
43F891	VTL3A14	CLM3006A	6	40	160	100	1.86	1.48	1.24
43F892	VTL3A17	CLM3012A	12	40	160	100	1.86	1.48	1.24
43F893	VTL3A35	CLM5H10A	10	14	3000	250	2.04	1.63	1.37
43F894	VTL3A44	CLM4006A	6	40	55	100	1.86	1.48	1.24
43F895	VTL3A47	CLM4012A	12	40	40	100	1.86	1.48	1.24
NEON TYPES									
43F896	VTL3B19	CLM3120A	125	2.0	900	100	1.73	1.38	1.16
43F897	VTL3B49	CLM4120	125	2.0	135	100	1.73	1.38	1.16

SILICON SOLAR CELLS



P & N cells w/high output, spec. leak, curr. Spectral response 400-1200 nm. Typ. junction cap. .15 μF/in.² Response time, 20 sec. Temp. range: −55—+125°C. Temp. coeff. (short ckt.). 0.2%/°C. Open circuit voltage −0.2 mV/°C.

SIZE CHART

Type	Size (cm)	Active Area (cm²)	Type	Size (cm)	Active Area (cm²)
VTS3011	.22 x .51	.084	VTS3022	1.02 x 1.02	.90
VTS3012	.25 x .51	.10	VTS3024	2.03 x 1.02	1.87
VTS3013	.51 x .51	.21	VTS3026	2.03 x 1.02	1.87
VTS3014	1.02 x .51	.42	VTS3028	2.03 x 2.03	3.94
VTS3018	2.03 x .51	.84	VTS3050	2.86 0	5.48
VTS3020	1.02 x 1.02	.90			

Stock No.	Type	Typ. 100 mW/cm² Min. Output mA @ Test V.	2850° K Output 100 fc	Dark Curr. @ .5V (μA)	1-49	50-99	100-499
43F898	VTS3011	1.7 @ .40	.055	1	1.71	1.39	1.20
43F899	VTS3012	2.0 @ .40	.065	2	1.76	1.43	1.23
43F900	VTS3013	4.2 @ .40	.14	5	1.93	1.57	1.35
43F901	VTS3014	8.4 @ .40	.27	10	2.68	2.17	1.87
43F902	VTS3018	17.0 @ .40	.55	40	4.25	3.45	2.98
43F903	VTS3020	18.0 @ .40	.60	50	4.25	3.45	2.98
43F904	VTS3022	21.0 @ .43(2)	.58	50	4.25	3.45	2.98
43F905	TVS3024	38.0 @ .40	1.2	100	7.01	5.69	4.91
43F908	VTS3050	110.0 @ .40	3.5	250	22.66	18.40	15.85

Index of Resistors and Controls

IMMEDIATE SHIPMENT—UNLIMITED QUANTITIES AT FACTORY PRICES

Newark's staff of merchandising experts have carefully selected these resistors, pots, trimmers and controls for a wide variety of electronic installations—from the simple to the highly sophisticated. All items listed are stock, ready to be shipped at factory OEM prices. See page 1 for the Newark facility nearest to you. Call or write your Newark man for additional data on prices.

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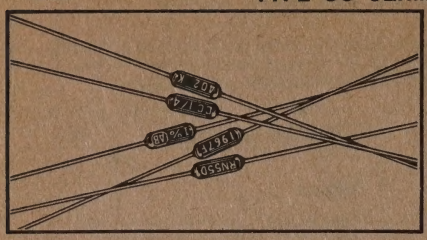
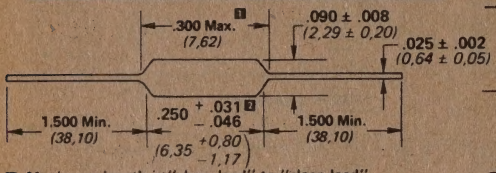
Cermet Resistors

*TYPE CC CERMET FILM FIXED MIL-R-10509 STYLE RN55D



Over forty years of fixed resistor know-how and fifteen years of experience in metal film resistance elements has combined our technological and manufacturing knowledge to produce consistent quality cermet film fixed resistors. Resistances from 10 ohms to 22.1 megohms. Size: .25 inch (6.35 mm) long by .09 inch (2.29 mm) diameter. Tolerance: 1% TCR 100 parts per million. Power Rating: .125 watt @ 125°C., .25 watt @ 70°C. and .5 watt @ 70°C. MIL-R-10509.

Stock No.	Type	MIL-R-10509 Style	Res. Range Ohms	50	100-250	300-1000	1050-5000
10F3000	CC	RN55D (10 to 301K ohms)	10 to 1 Meg.	.38	.18	.12	.09
10F3500	CC		1.02 to 22.1 Meg.	.95	.37	.20	.17



1 Maximum length is "clean lead" to "clean lead"

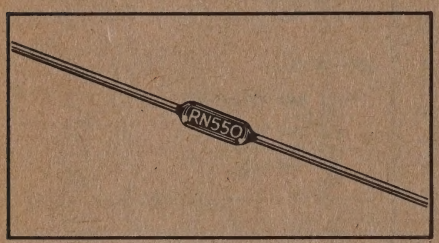
2 The end of the body is that point at which the body diameter equals .038 *(0,97)*

Basic dimensions in inches – *ITALICS* are in millimeters

STANDARD DECADE — 1%

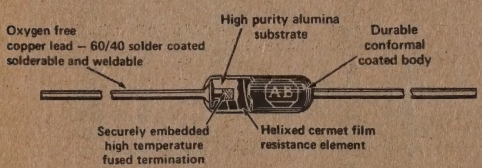
10.0	10.2	10.5	10.7	11.0	11.3	11.5	11.8
12.1	12.4	12.7	13.0	13.3	13.7	14.0	14.3
14.7	15.0	15.4	15.8	16.2	16.5	16.9	17.4
17.8	18.2	18.7	19.1	19.6	20.0	20.5	21.0
21.5	22.1	22.6	23.2	23.7	24.3	24.9	25.5
26.1	26.7	27.4	28.0	28.7	29.4	30.1	30.9
31.6	32.4	33.2	34.0	34.8	35.7	36.5	37.4
38.3	39.2	40.2	41.2	42.2	43.2	44.2	45.3
46.4	47.5	48.7	49.9	51.1	52.3	53.6	54.9
56.2	57.6	59.0	60.4	61.9	63.4	64.9	66.5
68.1	69.8	71.5	73.2	75.0	76.8	78.7	80.6
82.5	84.5	86.6	88.7	90.9	93.1	95.3	97.6

*TYPE CCH CERMET FILM FIXED MIL-R-10509F STYLE RN55C



Over forty years of fixed resistor know-how and fifteen years of experience in metal film resistance elements has combined our technological and manufacturing knowledge to produce consistent quality cermet film fixed resistors. Type CCH is truly the new standard of quality in the film resistor field. Resistance from 10 to 499K ohms. Size: .25 inch (6.35 mm) long by .09 inch (2.29 mm) diameter. Tolerance: 1% and .5%. TCR 50 part per million. Power Rating: .125 watt @ 125°C, .25 watt @ 70°C and .5 watt @ 70°C.

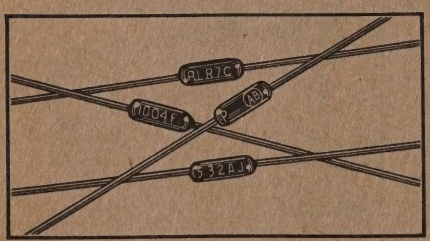
Stock No.	Type	MIL-R-10509F Style	Res. Range Ohms	50	100-250	300-1000	1050-5000
10F4700	CCH	RN55C	10 to 499K	.38	.20	.14	.11


Oxygen free copper lead – 60/40 solder coated solderable and weldable
High purity alumina substrate
Durable conformal coated body
Securely embedded high temperature fused termination
Helixed cermet film resistance element

STANDARD DECADE — 1%

10.0	10.2	10.5	10.7	11.0	11.3	11.5	11.8
12.1	12.4	12.7	13.0	13.3	13.7	14.0	14.3
14.7	15.0	15.4	15.8	16.2	16.5	16.9	17.4
17.8	18.2	18.7	19.1	19.6	20.0	20.5	21.0
21.5	22.1	22.6	23.2	23.7	24.3	24.9	25.5
26.1	26.7	27.4	28.0	28.7	29.4	30.1	30.9
31.6	32.4	33.2	34.0	34.8	35.7	36.5	37.4
38.3	39.2	40.2	41.2	42.2	43.2	44.2	45.3
46.4	47.5	48.7	49.9	51.1	52.3	53.6	54.9
56.2	57.6	59.0	60.4	61.9	63.4	64.9	66.5
68.1	69.8	71.5	73.2	75.0	76.8	78.7	80.6
82.5	84.5	86.6	88.7	90.9	93.1	95.3	97.6

*TYPE CC CERMET FILM FIXED MIL-R-39017C STYLE RLR07



These Type CC resistors are approved under military specification MIL-R-39017C for style RLR07. All have the performance characteristics of Type CC above, plus established reliability data as required by the specification. Resistors under specification revision C have resistance-temperature of ±100 PPM/°C and are available in 2% tolerance using the E24 preferred number series for standard resistance values.

Stock No.	Type	MIL-R-39017C Style	Res. Range Ohms	50	100-250	300-1000	1050-5000
10F4800	CC	RLR07	10 to 1 Meg.	.45	.34	.20	.16

RLR07. 1% version available from Newark on special order. Minimum order 100, order in multiples of 100.

STANDARD RESISTANCE VALUES — 2%

10	33	100	330	1000	3300	10000	33000	0.10M	0.33M
11	36	110	360	1100	3600	11000	36000	0.11M	0.36M
12	39	120	390	1200	3900	12000	39000	0.12M	0.39M
13	43	130	430	1300	4300	13000	43000	0.13M	0.43M
15	47	150	470	1500	4700	15000	47000	0.15M	0.47M
16	51	160	510	1600	5100	16000	51000	0.16M	0.51M
18	56	180	560	1800	5600	18000	56000	0.18M	0.56M
20	62	200	620	2000	6200	20000	62000	0.20M	0.62M
22	68	220	680	2200	6800	22000	68000	0.22M	0.68M
24	75	240	750	2400	7500	24000	75000	0.24M	0.75M
27	82	270	820	2700	8200	27000	82000	0.27M	0.82M
30	91	300	910	3000	9100	30000	91000	0.30M	0.91M
									1.00M

MIL-R-39017C PART NUMBERING EXPLANATION

RLR 07 C 1002 F R

TYPE
Resistor, fixed, film, insulated, established reliability

SIZE/POWER RATING
07 = 1/4 W @ 70° C

TERMINAL
Solderable/weldable

RESISTANCE VALUE
First 3 digits significant, 4th digit "number of zeros". For values below 100 ohms, letter R is decimal point, with all digits significant.

TOLERANCE
F = 1% G = 2%

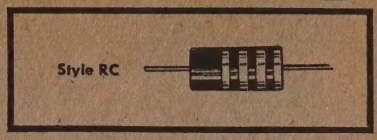
FAILURE RATE
M = 1.0%/1000 hr.
P = 0.1%/1000 hr.
R = 0.01%/1000 hr.

***Sold Only In Quantities of 50.**

Allen-Bradley Resistors

INDUSTRIAL GRADE AND MIL-R-11 STYLE RC

Hot-molded fixed composition resistors are designed for general purpose use in electronic equipment, and are unequalled for uniformity, predictable performance, appearance, and freedom from catastrophic failure when used according to published ratings and recommendations. The tightly compressed resistance material has a large cross-section resulting in low current density and high overload capacity. Uniformity of the material reduces hot spots and noise.



5% TOLERANCE SOLD IN STANDARD PKG. ONLY

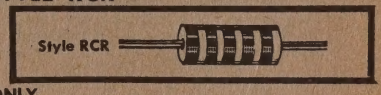
Stock No.	Watt	Mil-R-11 Style	A-B Type	Size	Volt	Ohms	Std. Pkg.	Each 25-75	100-225	250-475	500-975
10F300	⅛	RC05	BB	.145" x .062"	150	2.7-9.1†	50	.31	.16	.15	.14
						10-22M	50	.28	.14	.13	.12
10F305	¼	RC07	CB	.250" x .090"	250	2.7-9.1	50	.12	.09	.08	.07
						10-22M	50	.11	.08	.07	.06
10F310	½	RC20	EB	.375" x .140"	350	1.0-2.4†	50	.14	.09	.08	.07
						2.7-22M	50	.13	.08	.07	.06
10F315	1	RC32	GB	.562" x .225"	500	2.7-22M	25	.19	.09	.09	.08
10F320	2	RC42	HB	.688" x .312"	750‡	10-22M	25	.32	.16	.16	.15

10% TOLERANCE SOLD IN STANDARD PKG. ONLY

10F325	⅛	RC05	BB	.145" x .062"	150	2.7-8.2†	50	.22	.11	.10	.09
						10-22M	50	.20	.10	.09	.08
10F330	¼	RC07	CB	.250" x .090"	250	2.7-8.2	50	.08	.06	.05	.04
						10-22M	50	.07	.06	.05	.04
10F335	½	RC20	EB	.375" x .140"	350	1.0-2.2†	50	.09	.07	.06	.04
						2.7-22M	50	.08	.06	.05	.04
10F340	1	RC32	GB	.562" x .225"	500	2.7-22M	25	.10	.06	.05	.05
10F345	2	RC42	HB	.688" x .312"	750‡	10-22M	25	.21	.11	.10	.09

ESTABLISHED RELIABILITY MIL-R 39008 STYLE RCR

Style RCR resistors not only meet the requirements of MIL-R-39008, but also far exceed the "S" level of established reliability 0.001% failure rate per 1000 hours. Resistors are available in "S" level reliability in all five wattage sizes over the entire resistance range. The "S" reliability level is indicated by a yellow 5th color band on body.



5% TOLERANCE SOLD IN STANDARD PKG. ONLY

10F350	⅛	RCR05	BB	.145" x .062"	150	2.7-9.1	50	.33	.17	.16	.14
						10-22M	50	.30	.15	.14	.13
10F355	¼	RCR07	CB	.250" x .090"	250	2.7-9.1	50	.13	.09	.08	.07
						10-22M	50	.12	.09	.07	.06
10F360	½	RCR20	EB	.375" x .140"	350	2.7-22M	50	.14	.09	.08	.07
10F365	1	RCR32	GB	.562" x .225"	500	2.7-22M	25	.20	.10	.09	.08
10F390	2	RCR42	HB	.688" x .312"	750‡	10-22M	25	.34	.17	.17	.16

10% TOLERANCE SOLD IN STANDARD PKG. ONLY

10F370	⅛	RCR05	BB	.145" x .062"	150	2.7-8.2	50	.23	.12	.11	.10
						10-22M	50	.21	.11	.10	.09
10F375	¼	RCR07	CB	.250" x .090"	250	2.7-8.2	50	.09	.07	.06	.04
						10-22M	50	.08	.06	.05	.04
10F380	½	RCR20	EB	.375" x .140"	350	2.7-22M	50	.09	.06	.05	.04
10F385	1	RCR32	GB	.562" x .225"	500	2.7-22M	25	.11	.07	.06	.05
30F395	2	RCR42	HB	.688" x .312"	750‡	10-22M	25	.22	.13	.11	.10

(†) Resistance range for Industrial Grade only. (‡) 500 V for style RC and RCR

STANDARD NOM. RESISTANCE VALUES

Figures in large bold type are ±10% values. All values available in ±5% tolerance.

Ohms

1.0	5.1	**27**	130	**680**	3600	**18000**	910000
1.1	**5.6**	30	**150**	750	**3900**	20000	**10000**
1.2	6.2	**33**	160	**820**	4300	**22000**	110000
1.3	**6.8**	36	**180**	910	**4700**	24000	**12000**
1.5	7.5	**39**	200	**1000**	5100	**27000**	130000
1.6	**8.2**	43	**220**	1100	**5600**	30000	**15000**
1.8	9.1	**47**	240	**1200**	6200	**33000**	160000
2.0	**10**	51	**270**	1300	**6800**	36000	**18000**
2.2	11	**56**	300	**1500**	7500	**39000**	200000
2.4	**12**	62	**330**	1600	**8200**	43000	**22000**
2.7	13	**68**	360	**1800**	9100	**47000**	
3.0	**15**	75	**390**	2000	**10000**	51000	
3.3	16	**82**	430	**2200**	11000	**56000**	
3.6	**18**	91	**470**	2400	**12000**	62000	
3.9	20	**100**	510	**2700**	13000	**68000**	
4.3	**22**	110	**560**	3000	**15000**	75000	
4.7	24	**120**	620	**3300**	16000	**82000**	

Megohms

0.24	0.43	0.75	1.3	2.4	4.3	7.5	13.0
0.27	**0.47**	**0.82**	**1.5**	**2.7**	**4.7**	**8.2**	**15.0**
0.30	0.51	0.91	1.6	3.0	5.1	9.1	16.0
0.33	**0.56**	**1.0**	**1.8**	**3.3**	**5.6**	**10.0**	**18.0**
0.36	0.62	1.1	2.0	3.6	6.2	11.0	20.0
0.38	**0.68**	**1.2**	**2.2**	**3.9**	**6.8**	**12.0**	**22.0**

HOW TO ORDER

A-B INDUSTRIAL GRADE

EB	—	514	S	—
(A)		(C)	(D)	

MIL-R-11 STYLE RC

RC20	GF	514	J	—
(A)	(B)	(C)	(D)	

MIL-R-3900R STYLE RCR

RCR05	G	541	J	S
(A)	(B)	(C)	(D)	(E)

(A) A-B Type No. or MIL-Style No.

A-B Type	MIL-R-11 Style	MIL-R-39008 Style	Rating, Watts
BB	RC05	RCR05	⅛
CB	RC07	RCR07	¼
EB	RC20	RCR20	½
GB	RC32	RCR32	1
HB	RC42	RCR42	2

(B) For MIL types only; maximum ambient temperature and resistance-temperature characteristic per MIL-R-11 or MIL-R-39008. See Allen-Bradley **Publication EC21** for actual performance limits.

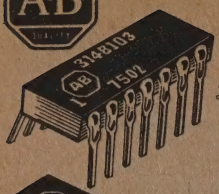
(C) Three-digit number represents resistance. First two digits are significant figures, third is number of zeros that follow. **For values less than 10 ohms:** Industrial Grade; substitute **G** for third digit, making desired resistance value the first two digits multiplied by 0.1—e.g., **27G**=2.7 ohms; for MIL-R-11 and MIL-R-39008 substitute **R** for decimal point—e.g., **2R7**=2.7 ohms.

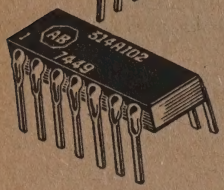
(D) Tolerance: Code for ±5% is **5** for Industrial Grade, **J** for MIL types; ±10% is **1** for **Industrial** Grade, **K** for MIL types.

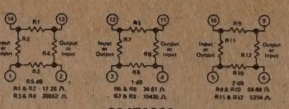
(E) MIL-R-39008 resistors only; expresses Failure Rate Level at 50% rated wattage in % per 1,000 hours: M=1.0%, P=0.1%, R=0.01%, S=0.001%. Available only in "S" level.

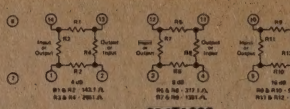
Precision Resistor Networks

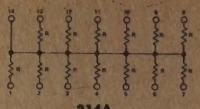
SERIES 314-316 CERMET NETWORKS

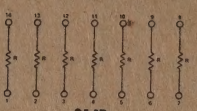


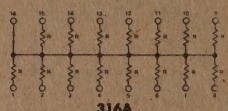


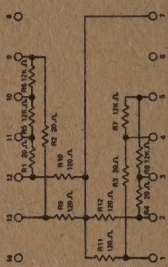


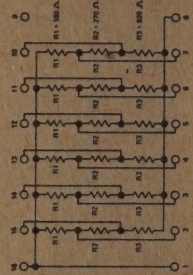


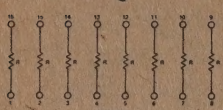


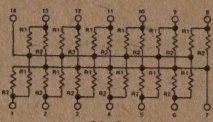


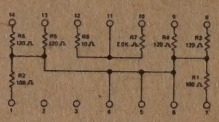


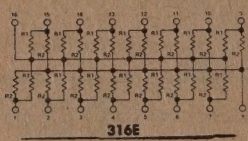


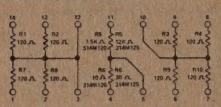






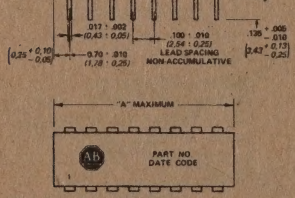






- **Solid Ceramic Body**
- **Solder Coated Leads**
- **14/16 Pin Construction**
- **Auto Insertable**

Series 314-316. I-Dip Cermet Resistor Networks. Max.dimension "A"—14 pin: .745"; 16 pin: .845".Applications include transmission line termination, core-memory sense line, TTL to ECL translator networks, pull-down, digital pulse squaring.



STANDARD NETWORK APPLICATIONS

314A 316A	314B 316B	314E 316E	314M110 314M120 314M125	314M130	316T110	314Z
Pull-Up Resistor Arrays for Unused TTL Gates. Parallel High Speed Circuitry TTL-MOS Interfacing	Trans. Line Term. Power Gate Pull-Up. Current Limiting. Logic Level Trans.	Digital Line Term. ECL & TTL Appli.	Complement 7520 Series of Core Memory Sense Amps	Core Memory Sense Line Appli. w/Two Dual Voltage Comparators.	TTL to ECL Translator Network.	Fixed Voltage Attentuation with Impedance Matching

STANDARD NETWORK SPECIFICATIONS

Netwk.	Res. Tol.	Temp. Coeff. of Res. (ppm/°C)	Power Dissipation Rating (Up to 70°C Ambient)	Oper. Temp. Range	Res. Ratios
314A			125 mw/res 1.6 watt/pkg		
314B			250 mw/res 1.6 watt/pkg		
316A	±2%	±100	125mw/res 1.8 watt/pkg	-55°C to +125°C	—
316B			250 mw/res 1.8 watt/pkg		
314E			125 mw/res 1.6 watt/pkg		
316E	±2%	±100	125 mw/res 1.8 watt/pkg	-55°C to +125°C	—
314M110	±2% ±5% (R8 only)	±200	500 mw/res (R1 & R2) 100 mw/res (R3-R8)	0°C to +70°C	R3/R4 ± 1.5% R5/R6 ± 1.5% R7/R8 ± 2%
314M120 314M125	±2% ±5% (R6 only)	±100	100 mw/res	0°C to +70°C	R1/R2 ± 1.5% R3/R4 ± 1.5% R5/R6 ± 1.5% R7/R8 ± 1.5% R9/R10 ± 1.5%
314M130	±2%	±200	100 mw/res	0°C to +70°C	—
316T110	±2%	±200	125 mw/res	0°C to +70°C	—

Netwk.	Res. Tol.	Temp. Coef. Res. (ppm/°C)	Power Dissipation Rating (Up to 70°C Amb.)	Oper. Temp. Range	Imp.	Atten. Tol. (dB)	Atten. Change Due to Temp.	Freq. Resp.
314Z	±1%	±200	150 mw/atten. at 70°C	0°C to +70°C	600 ohms	±1%	±1% Additional	Flat to 1 MHz

RESISTANCE VALUES (Ohms)

314E, 316E

R_1	R_2	Z_0	R_1	R_2	Z_0	
81	130	50	160	260	100	
120	200	75	180	390	123	
90	660	80	220	330	132	
130	210	80	330	680	222	

314A, 314B, 316A, 316B

22	75	270	910	3300	10K	47K
24	82	300	1000	3600	11K	68K
27	91	330	1100	3900	12K	100K
30	100	360	1200	4300	13K	
33	110	390	1300	4700	15K	
36	120	430	1500	5100	16K	
39	130	470	1600	5600	18K	
43	150	510	1800	6000	20K	
47	160	560	2000	6200	22K	
51	180	620	2200	6800	24K	
56	200	680	2400	7500	27K	
62	220	750	2700	8200	30K	
68	240	820	3000	9100	33K	

PRICES

Type	1-24	25-99	100-249	250-499
314A	1.20	1.10	.95	.77
314B	1.15	1.07	.93	.75
316A	1.25	1.13	.98	.79
316B	1.20	1.10	.95	.77
314E	2.15	2.00	1.75	1.40
316E	2.30	2.14	1.88	1.50
314Z1001	3.25	2.65	2.35	2.20
314Z1002	3.25	2.65	2.35	2.20
314M110	1.90	1.77	1.55	1.24
314M120/125	1.75	1.61	1.40	1.12
314M130	2.50	2.32	2.03	1.60
316T110	2.25	2.12	1.83	1.46

Sensistors® And Resistors

TEXAS INSTRUMENTS SENSISTORS®

TM⅛-TM¼

TG⅛

Solid state temperature sensing resistors. Temperature compensating, temperature sensing.

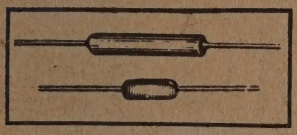
TM¼ and TM⅛. Molded silicon types. Axial leads. Full load at 100°C, derated linearly to 150°C. Large positive temperature coefficient of resistance. Dimensions: 0.406" Length x 0.140" Diameter.

TG⅛. Hermetically sealed. Designed to meet or exceed all electrical requirements of MIL-T-23648A for positive TC thermistors. Power dissipation at 25°C: 250 mW, at 100°C 125 mW. Operating temp. range: −65°C to 150°C. Length 0.30 × dia. 0.015.

Stock No.	Type	Watts	Resistance Range	1-49	50-249	250-499	500-999
12F055	TM-¼	¼	10 ohms to 10 K	4.00	3.50	3.00	2.50
12F052	TM-⅛	⅛	10 ohms to 10 K	4.00	3.50	3.00	2.50
12F075	TG-⅛	⅛	10 ohms to 8.2 K	2.00	1.65	1.35	1.15

RESISTANCE TABLE FOR SENSISTORS

10	27	68	180	470	1000	2700	5600
12	33	82	220	500	1200	3300	6800
15	39	100	270	560	1500	3900	8200
18	47	120	330	680	1800	4700	10000
22	56	150	390	820	2200	5000	



SPRAGUE AXIAL-LEAD "BLUE JACKET" POWER WIRE WOUND RESISTORS

Designed for industrial applications demanding utmost stability under extreme operating conditions. Well suited for printed circuits, terminal boards, and point-to-point wiring applications. Unique all-welded end-cap construction. Power rating is based on a max. temperature rise of 300°C above a 40° ambient at full rated wattage. Will meet performance characteristics of MIL-R-26C. Available only in values shown.

TYPE 242E—3 WATT ±5% TOLERANCE
Size:13/64" dia. x 17/32"L.

Stk. No.	Range (ohms)	1-9	10-49	50-99	100-249
13F121	1 thru 7.5	.70	.60	.49	.42
13F121	10 thru 1000 except 35, 350 450 and 750	.60	.51	.42	.36
13F122	1100 thru 5000 except 3.5K & 4.5K	.65	.55	.46	.39
13F123	5600 thru 10k except 7K	.73	.62	.51	.44

TYPE 243E—5 WATT ±5% TOLERANCE
Size: 13/64" dia. x 15/16" L.

Stk No.	Range (ohms)	1-9	10.49	50-99	100-249
13F124	1 thru 7.5	.73	.62	.51	.44
13F124	10 thru 1000 except 18 22,27,33,39,47,56,68, 82,180,270,330,390,470, 560,680,820	.62	.53	.43	.37
13F126	1100 thru 5000 except 2700, 3300,3900,4700	.68	.58	.48	.41
13F127	6000 thru 10K except 6800,8200	.73	.62	.51	.44
13F128	12K thru 20K except 16K,17K	.84	.71	.59	.51

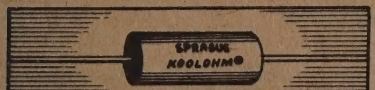
TYPE 247E—10 WATT ±5% TOLERANCE
Size: 5/16" dia. x 1¾" L.

Stk. No.	Range (ohms)	1-9	10-49	50-99	100-249
13F132	1 thru 7.5	.97	.83	.68	.58
13F132	10 thru 1000	.84	.71	.59	.51
13F133	1100 thru 5000	.87	.74	.61	.52
13F134	6000 thru 10K	.97	.83	.68	.58
13F330	12K thru 20K	1.05	.89	.74	.63
13F331	22K thru 30K	1.22	1.04	.85	.73
13F332	40K	1.22	1.04	.85	.73

TABLE A—"BLUE JACKET" VALUES—OHMS

1	12	33	75	250	470	820	2000	4000	7500	15K	35K
1.5	15	35	82	270	500	900	2200	4500	8000	16K	40K
2	18	39	100	300	560	1000	2500	4700	8200	17K	45K
3	20	40	120	330	600	1100	2700	5000	9000	18K	50K
4	22	47	150	350	680	1200	3000	5600	10K	20K	
5	25	50	180	390	700	1400	3300	6000	11K	22K	
7.5	27	56	200	400	750	1500	3500	6800	12K	25K	
10	30	68	220	450	800	1800	3900	7000	14K	30K	

SPRAGUE KOOLOHM® AXIAL-LEAD WIREWOUND RESISTORS



Unexcelled insulation and mechanical protection. Nonporous tubular ceramic shells are sealed with high temperature silicone cement. Can be mounted in direct contact with chassis. Ceramic-insulated wire is space wound and cemented, to prevent turn-to-turn shorting. Permits higher resistance values in a given size than in conventional resistors. Windings and leads welded to end-cap for superior mechanical strength. Tolerance, ±5%. Av. shipping wt. per 25, 8 oz.

TYPE 450E-3 WATTS (1/2" by 9/16")

Stk. No.	Range (ohms)	1-9	10-49	50-99	100-249
13F334	1 to 7.5	.91	.78	.64	.51
13F334	10 to 1000	.80	.68	.56	.44
13F335	1200 to 5000	.87	.74	.62	.48
13F336	5600 to 10K	.89	.76	.63	.50

TYPE 452E-5 WATTS (¼" x 1")

13F337	1 to 7.5	.98	.84	.69	.54
13F337	10 to 250	.87	.74	.62	.48
13F337	300 to 1000	.87	.74	.62	.48
13F338	1100 to 5000	.89	.77	.63	.50
13F339	6000 to 10K	.99	.84	.69	.54
13F343	12K to 20K	1.08	.91	.75	.60

TYPE 456 E-10 WATTS (15/32" x 1 29/32")

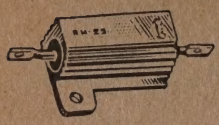
Stk. No.	Range (ohms)	1-9	10-49	50-99	100-249
13F340	1 to 7.5	1.08	.91	.75	.59
13F340	10 to 1000	.94	.79	.65	.51
13F341	1100 to 5000	1.05	.89	.73	.57
13F342	6000 to 10K	1.18	1.00	.81	.65
13F344	11K to 20K	1.30	1.11	.90	.72
13F345	22K to 40K	1.35	1.16	.96	.74
13F346	45K to 70K	1.53	1.31	1.07	.85

TABLE B-KOOLOHM VALUES-OHMS

1	15	100	400	2000	11K	20K	45K
2	20	150	500	2500	12K	22K	50K
3	25	200	600	3000	14K	25K	60K
5	40	220	900	5000	15K	30K	70K
10	50	250	1000	6000	16K	35K	
12	75	300	1500	10K	18K	40K	

Precision Resistors

TYPE RH MIL-R-18546



Designed to meet MIL-R-18546 specifications. Provides a flat surface and recommended for chassis mounting to assure proper heat dissipation. Molded construction and gold anodized finned-aluminum radiator housing. 100% impervious to moisture and salt spray. Heavy duty leads.

RH-5 ±1%—7.5 WATT MIL. NO. RE60
RH-10 ±1%—12.5 WATT MIL. NO. RE65

Stock No.	Resistance in Ohms	1-24	25-49	50-99	100-249
RH-5 13F1878	1.0-1K	2.42	1.94	1.82	1.69
	1.1-5K	2.54	2.04	1.91	1.78
	5.1-10K	2.77	2.21	2.08	1.94
	10.1-12K	3.04	2.42	2.28	2.12
RH-10 13F139	12.1-15K	3.30	2.64	2.49	2.32
	15.1-25K	3.54	3.25	2.95	2.64
	25.1-40K	3.94	3.60	3.27	2.94
	40.1-47.1K	4.32	3.95	3.59	3.28

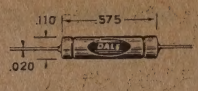
RH-25 ±1%—25 WATT MIL. NO. RE70

Stock No.	Resistance in Ohms	1-24	25-49	50-99	100-249
13F140	1.0-1K	2.42	1.94	1.82	1.69
	1.1-5K	2.54	2.04	1.91	1.78
	5.1-10K	2.77	2.21	2.08	1.94
	10.1-12K	3.04	2.42	2.28	2.12
	12.1-15K	3.30	2.64	2.49	2.32
	15.1-25K	3.54	3.25	2.95	2.64
	25.1-40K	3.94	3.60	3.27	2.94
	40.1-50K	4.32	3.95	3.59	3.28
	50.1-60K	4.72	4.30	3.88	3.43
	60.1-75K	5.13	4.68	4.20	3.74
	75.1-95.2K	5.65	5.13	4.62	4.16

RH-50 ±1%—50 WATT MIL. NO. RE75

Stock No.	Resistance in Ohms	1-24	25-49	50-99	100-249
13F141	1.0-5.9K	3.30	3.00	2.66	2.44
	6.0-1K	2.97	2.38	2.22	2.08
	1.1-5K	3.10	2.50	2.34	2.18
	5.1-10K	3.37	2.68	2.52	2.37
	10.1-20K	3.73	2.98	2.79	2.62
	20.1-55K	4.07	3.25	3.04	2.85
	55.1-75K	4.42	3.53	3.30	3.09
	75.1-100K	4.74	3.77	3.58	3.31
	100.1-125K	5.16	4.11	3.86	3.61
	125.1-150K	5.54	4.44	4.16	3.87
	150.1-175K	5.94	4.74	4.44	4.16
	175.1-225K	6.30	4.97	4.76	4.38
	225.1-273K	6.80	5.34	5.15	4.68

TYPE RS—MIL 1% R-26 (MIL-R-23379)



Type RS. These should be specified when space is at a premium and when precision and power are needed. They are of the conventional type with pigtail mounting leads. They are completely protected and silicone sealed. Surpasses Mil-R-26.

RS-1B ±1%—1 WATT

Stock No.	Resistance in Ohms	1-24	25-49	50-99	100-249
13F137	1.0-1K	1.31	1.03	.97	.91
	1.1K-4K	1.44	1.16	1.07	1.00
	4.1K-15K	1.65	1.29	1.22	1.12

RS-2B ±1%—3 WATT

Stock No.	Resistance in Ohms	1-24	25-49	50-99	100-249
13F142	1.0-1K	1.00	.79	.75	.69
	1.1K-5K	1.10	.88	.83	.76
	5.1K-10K	1.16	.91	.85	.79
	10.1K-15K	1.20	.95	.89	.84
	15.1K-20K	1.56	1.00	.94	.88
	20.1K-24.5K	1.33	1.06	1.00	.92

RS-5 ±1%—5 WATT—MIL. NO. RW-67 & RWP-21

Stock No.	Resistance in Ohms	1-24	25-49	50-99	100-249
13F143	1.0-1K	1.00	.79	.75	.69
	1.1K-5K	1.10	.88	.83	.76
	5.1K-10K	1.16	.91	.85	.79
	10.1K-15K	1.20	.95	.89	.84
	15.1K-20K	1.56	1.00	.94	.88
	20.1K-40K	1.33	1.06	1.00	.92
	40.1K-55K	1.43	1.16	1.07	1.00
	55.1K-75K	1.57	1.24	1.18	1.10
	75.1K-95.2K	1.73	1.38	1.31	1.21

RS-10 ±1%—10 WATT—MIL. NO. RW-68 & RWP-23

Stock No.	Resistance in Ohms	1-24	25-49	50-99	100-249
13F136	1.0-1K	1.00	.79	.75	.69
	1.1K-5K	1.10	.88	.83	.76
	5.1K-10K	1.16	.91	.85	.79
	10.1K-15K	1.20	.95	.89	.84
	15.1K-20K	1.56	1.00	.94	.88
	20.1K-40K	1.33	1.06	1.00	.92
	40.1K-55K	1.43	1.16	1.07	1.00
	55.1K-75K	1.57	1.24	1.18	1.10
	75.1K-100K	1.73	1.38	1.31	1.21
	100.1K-125K	1.90	1.56	1.43	1.33
	125.1K-150K	2.07	1.65	1.55	1.45
	150.1K-175K	2.27	1.80	1.69	1.58
	175.1K-225K	2.46	1.98	1.85	1.74
	225.1K-273K	2.71	2.18	2.05	1.93

STANDARD RESISTANCE VALUES—RH & RS ONLY

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
1	6	13	27.5	47	90	200	390	620	950	1.75K	4K	6.3K	12K	25K	50K	100K	182K
1.5	7	14	30	50	100	220	400	650	1K	1.8K	4.2K	6.8K	12.5K	27.5K	55K	110K	191K
2	7.5	15	31	55	110	225	425	700	1.1K	2K	4.3K	7K	13K	30K	60K	120K	200K
2.5	8	16	33	60	125	250	450	725	1.2K	2.2K	4.5K	7.5K	14K	35K	65K	130K	221K
3	9	17.5	35	65	130	270	470	750	1.25K	2.5K	4.7K	8K	15K	40K	68K	140K	232K
4	10	20	37	70	150	300	500	760	1.3K	3K	5K	8.2K	15.5K	42K	70K	150K	243K
4.5	11	21	40	75	160	330	510	800	1.4K	3.1K	5.3K	9K	17.5K	45K	75K	160K	267K
5	12	22.5	42	80	175	350	560	850	1.5K	3.5K	6K	10K	20K	46K	80K	170K	
5.5	12.5	25	45	85	180	375	600	900	1.6K	3.75K	6.2K	11K	22.5K	47K	90K	175K	

CARBON-FILM PRECISION RESISTORS

TABLE A. DECADE TABLE DETERMINING MIL-BELL STANDARD RESISTANCE VALUES

Standard Resistance Values are obtained from the Decade Table by multiplying by multiples of 10.

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
1.00	1.33	1.78	2.37	3.16	4.22	5.62	7.50
1.02	1.37	1.82	2.43	3.24	4.32	5.76	7.68
1.05	1.40	1.87	2.49	3.32	4.42	5.90	7.87
1.07	1.43	1.91	2.55	3.40	4.53	6.04	8.06
1.10	1.47	1.96	2.61	3.48	4.64	6.19	8.25
1.13	1.50	2.00	2.67	3.57	4.75	6.34	8.45
1.15	1.54	2.05	2.74	3.65	4.87	6.49	8.66
1.18	1.58	2.10	2.80	3.74	4.99	6.65	8.87
1.21	1.62	2.15	2.87	3.83	5.11	6.81	9.09
1.24	1.65	2.21	2.94	3.92	5.23	6.98	9.31
1.27	1.69	2.26	3.01	4.02	5.36	7.15	9.53
1.30	1.74	2.32	3.09	4.12	5.49	7.32	9.76

Type DC and DCS. Low cost miniature resistors designed for excellent protection from moisture, salt spray and other environmental conditions. Ideal for applications requiring high stability and accuracy combined with long reliable load life. Pure crystalline carbon film (no binder or filler). Excellent high frequency characteristics. Tolerance 1%. Full power to 70°C, derating at 0 at 165° C. Sizes: **DC-¼**—Dia. .109 x Lt. 468 **DCS½** Dia. .171 x Lt. .562.

Stock No.	Range Resistor	Type	Watt	1-24	25-99	100-499	500-999
13F148	10 ohm—2 meg.	DC-¼ (RN-10X)	¼	1.18	.54	.27	.18
	2.01 meg.-5 meg.			1.76	.77	.51	.31
13F152	10-2.49 meg.	DCS-½ (RN-20X)	½	1.18	.54	.27	.18
	2.5-5 meg.			1.76	.77	.51	.31

Resistors

DALE

MILITARY STYLE METAL FILM RESISTORS

Stock No.	Dale Type	Mil Type	Rating 125°C watt	Rating 70°C watt	TC Code	1-24	25-99	100-249	250-499
58F001	CMF-55	RN-55D	1/10	1/8	T-1 0 ± 100 ppm/°C 30.1Ω-499K	1.13	.57	.25	.19
58F002	CMF-60	RN-60D	1/8	1/4	T-1 0 ± 100 ppm/°C 24.9Ω-1 Meg.	1.13	.57	.25	.19
58F003	CMF-65	RN-65D	1/4	1/2	T-1 0 ± 100 ppm/°C 24.9Ω-2 Meg.	1.13	.57	.25	.19
58F005	CMF-55	RN-55C	1/10	1/8	T-2 0 ± 50 ppm/°C 30.1Ω-301K	1.57	.72	.34	.21
58F006	CMF-60	RN-60C	1/8	1/4	T-2 0 ± 50 ppm/°C 30.1Ω-499K	1.57	.72	.34	.21
58F007	CMF-65	RN-65C	1/4	1/2	T-2 0 ± 50 ppm/°C 30.1Ω-1 Meg.	1.57	.72	.34	.21

Meet a variety of industrial and military applications. Vacuum deposited metal film resistors have inherently good RF characteristics and low noise level. Epoxy-coated construction protects against severe environmental factors. 1% tolerance. Meets MIL-R-10509.

EXPLANATION OF MIL-NUMBERS

(A)	(B)	(C)	(D)	(E)
RN60	D	249	4	F

(A) Identifies size and wattage.

(B) Identifies characteristic.

(C) Identifies ohms. First 3 digits are significant.

(D) An additional figure indicates number of zeroes that follow. If an R follows, it represents decimal point for values under 100 ohms or fractional values. Digits following R become significant, as 24.9=24R9.

(E) Identifies resistance tolerance. In this case, +1%.

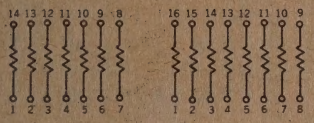
CHARACTERISTICS

Code	Max. Ambient at Rated Watts	Max. Change Due to Moisture Resistance
B, D	70° C	±3% wet, ±1.5% dry
C	125° C	±0.5%, wet or dry
X	40° C	±4% wet

MIL-R-10509 REFERENCE CHART

MIL Specified Characteristic	C	D
Maximum resistance-temperature characteristic	±0.005% or ±50 PPM/°C	+0.02% −0.05% or +200 PPM/°C −500 PPM/°C
Temp. limits for linear wattage derating from 100% loading	175° C	165° C

STANDARD CIRCUITS

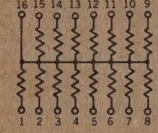


LDP-14-01

LDP-16-01

Commonly used in the following applications: "Wired OR" pull-up, power driven pull-up, power-gate pull-up, line termination, long-line impedance balancing, LED current limiting, ECL output pull-down, TTL input pull-down.

LDP-14-02



LDP-16-02

Used in the following applications: MOS/ROM pull-up/pull-down, open collector pull-up. "wired OR" pull-up, power driven pull-up, TTL input pull-down, digital pulse squaring, TTL unused gate pull-up, high speed parallel pull-up.

LDP-14-01

Stk. No.	Ohms	1-99	100-499	500-999	1000-4999
58F010	68	.95	.75	.70	.59
58F011	100				
58F012	110				
58F013	150				
58F014	220				
58F015	330				
58F016	470				
58F017	680				
58F018	1.0K				
58F019	1.5K				
58F020	2.2K				
58F021	3.3K				
58F022	4.7K				
58F023	6.8K				
58F024	10.0K				
58F025	15.0K				
58F026	22K				
58F027	33K				
58F028	47K				
58F029	68K				
58F030	100K				
58F031	150K				
58F032	220K				
58F033	330K				
58F034	470K				

LDP-14-02

Stk. No.	Ohms	1-99	100-499	500-999	1000-4999
58F035	68	1.00	.79	.75	.64
58F036	100				
58F037	110				
58F038	150				
58F039	220				
58F040	330				
58F041	470				
58F042	680				
58F043	1.0K				
58F044	1.5K				
58F045	2.2K				

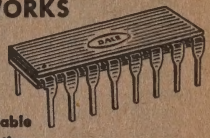
LDP-14-02 (cont.)

Stk. No.	Ohms	1-99	100-499	500-599	1000-4999
58F046	3.3K	1.00	.79	.75	.64
58F047	4.7K				
58F048	6.8K				
58F049	10.0K				
58F050	15.0K				
58F051	22K				
58F052	33K				
58F053	47K				
58F054	68K				
58F055	100K				
58F056	150K				
58F057	220K				
58F058	330K				
58F059	470K				

LDP-16-01

Stk. No.	Ohms	1-99	100-499	500-999	1000-4999
58F060	68	.98	.78	.74	.63
58F061	100				
58F062	110				
58F063	150				
58F064	220				
58F065	330				
58F066	470				
58F067	680				
58F068	1.0K				
58F069	1.5K				
58F070	2.2K				
58F071	3.3K				
58F072	4.7K				
58F073	6.8K				
58F074	10.0K				
58F075	15.0K				
58F076	22K				
58F077	33K				
58F078	47K				
58F079	68K				
58F080	100K				
58F081	150K				

THICK FILM RESISTOR NETWORKS



- 2% Tolerance
- Automatically Insertable
- Reduce Cost of Insertion
- Compact—Reliable

Type LDP. These compact, reliable Dale networks enable you to drastically reduce the cost of handling and inserting individual resistors. Automatically insertable. Interchange with competitive parts. All popular standard circuits immediately available. Temperature coefficient: ±250 PPM/°C over a temperature range of −55°C to +150°C (+25°C reference). Operating voltage: 75 VDC typical (2 volts maximum per .001" of resistor length). Power rating: At 70°C, ⅛ watt max./resistor. Total package rating: LDP14, 1⅛ watt, LDP16, 1¼ watt. Operating temp:. range: −55°C to 150°C.

LDP-16-01 (cont.)

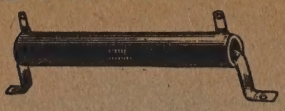
Stk. No.	Ohms	1-99	100-499	500-999	1000-4999
58F082	220K	.98	.78	.74	.63
58F083	330K				
58F084	470K				

LDP-16-02

Stk. No.	Ohms	1-99	100-499	500-999	1000-4999
58F085	68	1.10	.87	.82	.70
58F086	100				
58F087	110				
58F088	150				
58F089	220				
58F090	330				
58F091	470				
58F092	680				
58F093	1.0K				
58F094	1.5K				
58F095	2.2K				
58F096	3.3K				
58F097	4.7K				
58F098	6.8K				
58F099	10.0K				
58F100	15.0K				
58F101	22K				
58F102	33K				
58F103	47K				
58F104	68K				
58F105	100K				
58F106	150K				
58F107	220K				
58F108	330K				
58F109	470K				

OHMITE

Fixed Power Resistors



Lug type, wire-wound with vitreous enamel. Wire of the finest alloy and largest possible size is used for each resistance. The original uniform close spacing of the turns is maintained by the anchoring effect of the vitreous enamel. The wire is securely welded to the terminal lugs. Tolerance: 5%. Shpg. wt: 10-50 watts, 4.0 oz.; 100-225 watts, 1 lb.

STYLE 270-12 (12 WATT — Size 1 ¾" × 5/16")

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-249
13F1200	3723	.51	4.86				
13F1201	3730	1.0	3.46				
13F1202	3734	1.5	2.83	1.20	1.02	.84	.72
13F1204	3742	3.3	1.91				
13F1205	3746	4.7	1.60				
13F1207	3754	10	1.10				
13F1208	3756	12	1.00				
13F1209	3758	15	.89	.84	.71	.59	.50
13F1211	3762	22	.74				
13F1212	3764	27	.67				
13F1215	3770	47	.53				
13F1218	3776	82	.38	.84	.71	.59	.50
13F1219	3778	100	.35				

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-249
13F1221	3782	150	.28				
13F1222	3784	180	.26				
13F1224	3788	270	.21	.84	.71	.59	.50
13F1228	3796	560	.15				
13F1229	3798	680	.13				
13F1231	3802	1,000	.11				
13F1232	3804	1,200	.10				
13F1233	3806	1,500	.089				
13F1235	3810	2,200	.074	.89	.76	.62	.53
13F1236	3812	2,700	.067				
13F1238	3816	3,900	.055				
13F1239	3818	4,700	.051				
13F1243	3826	10,000	.032	1.00	.85	.70	.60

STYLE 270-25 (25 WATT — SIZE 2" × 9/16")

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-249
13F720	0200J	1	5.00				
13F721	0200K	2	3.54	1.38	1.17	.97	.83
13F722	0200L	3	2.88				
13F723	0200A	5	2.24				
13F724	0200B	10	1.58				
13F726	0200C	25	1.00	1.14	.97	.80	.68
13F727	0200D	50	.71				
13F728	0200E	75	.58				
13F729	0200F	100	.50				
13F730	0200G	150	.41				
13F731	0200H	200	.35	1.08	.92	.76	.65
13F732	0201	250	.32				
13F733	0202	500	.22				
13F734	0203	750	.18				
13F735	0204	800	.17	1.08	.92	.76	.65
13F736	0205	1,000	.16				

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-249
13F737	0206	1,500	.13				
13F738	0207	2,000	.12				
12F739	0208	2,500	.10				
13F740	0209	3,000	.091	1.14	.97	.80	.68
13F742	0211	4,000	.079				
13F743	0212	5,000	.070				
13F744	0213	6,000	.064				
13F745	0214	7,500	.057	1.38	1.17	.97	.83
13F746	0215	10,000	.050				
13F747	0216	12,000	.045				
13F748	0217	15,000	.036	1.43	1.22	1.00	.86
13F749	0218	20,000	.031				
13F750	0219	25,000	.028	1.52	1.29	1.06	.91
13F751	0222	40,000	.022	1.52	1.29	1 06	.91
13F752	0224	50,000	.019	1.84	1.56	1.29	1.10
13F753	0229	100,000	.009	2.43	2.07	1.70	1.46

STYLE 270-50 (50 WATT — SIZE 4" × 9/16")

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-Up
13F760	0400A	5	3.16				
13F761	0400B	10	2.23				
13F762	0400C	25	1.41	1.72	1.46	1.20	1.03
13F763	0400D	50	1.00				
13F764	0400E	75	.82				
13F765	0400F	100	.71				
13F766	0400G	150	.58				
13F767	0400H	200	.50	1.72	1.46	1.20	1.03
13F768	0401	250	.45				
13F769	0402	500	.32				
13F771	0405	1,000	.22				
13F772	0406	1,500	.18	1.72	1.46	1.20	1.03

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-Up
13F773	0407	2,000	.16				
13F774	0408	2,500	.14				
13F775	0409	3,000	.13	1.72	1.46	1.20	1.03
13F776	0410	4,000	.11				
13F777	0411	5,000	.10				
13F779	0413	8,000	.079	1.84	1.56	1.29	1.10
13F780	0414	10,000	.071	1.84	1.56	1.29	1.10
13F782	0416	15,000	.057	2.05	1.74	1.44	1.23
13F784	0418	25,000	.045	2.31	1.96	1.62	1.39
13F786	0420	50,000	.026	2.64	2.24	1.85	1.58
13F788	0422	100,000	.018	3.21	2.73	2.25	1.93

STYLE 270-100 (100 WATT — SIZE 6½" × ¾")

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-Up
13F800	0600A	5	4.47	2.78	2.36	1.95	1.67
13F801	0600B	10	3.16	2.78	2.36	1.95	1.67
13F802	0601	25	2.00	2.65	2.25	1.86	1.59
13F803	0602	50	1.41	2.65	2.25	1.86	1.59
13F804	0603	75	1.15	2.56	2.18	1.79	1.54
13F805	0604	100	1.00	2.56	2.18	1.79	1.54
13F806	0605	150	.82	2.56	2.18	1.79	1.54
13F807	0606	250	.63	2.56	2.18	1.79	1.54
13F808	0607	500	.45	2.76	2.35	1.93	1.66

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-Up
13F810	0609	1,000	.32	2.76	2.35	1.93	1.66
13F812	0611	2,000	.22				
13F813	0612	2,500	.20	2.92	2.48	2.04	1.75
13F814	0613	3,000	.18				
13F815	0614	5,000	.14				
13F817	0616	10,000	.10	3.08	2.62	2.16	1.85
13F819	0618	20,000	.071	3.54	3.01	2.48	2.12
13F823	0622	50,000	.045	4.10	3.49	2.87	2.46
13F826	0625	100,000	.028	4.36	3.71	3.05	2.62

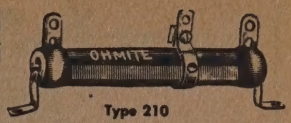
STYLE 270-225 (225 WATT — SIZE 10½" X 1⅛")

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-Up
13F830	0900A	5	6.72	4.98	4.23	3.49	2.99
13F831	0900B	10	4.74	4.98	4.23	3.49	2.99
13F822	0901	25	3.00	4.88	4.15	3.42	2.93
13F833	0902	50	2.12	4.88	4.15	3.42	2.93
13F834	0903	75	1.73	4.83	4.11	3.38	2.90
13F835	0904	100	1.50	4.83	4.11	3.38	2.90
13F836	0905	150	1.25	4.83	4.11	3.38	2.90
13F837	0906	250	.95	4.83	4.11	3.38	2.90
13F838	0907	500	.67	4.73	4.02	3.31	2.84
13F839	0908	750	.55	4.73	4.02	3.31	2.84
13F840	0909	1,000	.47	4.73	4.02	3.31	2.84
13F841	0910	1,500	.39	4.59	3.90	3.21	2.75

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-Up
13F842	0911	2,000	.34				
13F843	0912	2,500	.30	4.59	3.90	3.21	2.75
13F844	0913	3,000	.27				
13F845	0914	5,000	.21				
13F847	0916	10,000	.15	4.39	3.73	3.07	2.63
13F849	0918	20,000	.11	4.63	3.94	3.24	2.78
13F850	0919	25,000	.095	4.63	3.94	3.24	2.78
13F851	0920	30,000	.087	4.98	4.23	3.49	2.99
13F852	0921	40,000	.075	4.98	4.23	3.49	2.99
13F853	0922	50,000	.067	4.98	4.23	3.49	2.99
13F856	0925	100,000	.047	5.61	4.77	3.93	3.37

Adjustable Dividohm® Power Resistors OHMITE

"Dividohm" Vitreous Enameled Resistors make ideal voltage dividers for original equipment and replacement in transmitters, rectifiers and other apparatus. Handy for obtaining odd resistance values, for adjusting circuits and for use on equipment which must be set to meet various line voltages. Resistance is changed by moving the adjustable lug. Contact can be made to any wire along the length of the resistor making voltages lower than rated voltage available. Stated wattage rating applies only when the entire resistance is in the circuit. Tolerance: 10%. Avg. Shipping wt. 12-50 Watts, 4.0 oz.; 100-225 Watts, 1 lb.



Type 210

STYLE 210-12 (12 WATT—SIZE 1¾"x5/16")

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-249
13F500	1001	1	3.46				
13F501	1002	2	2.45				
13F502	1003	3	2.00	1.99	1.69	1.39	1.19
13F503	1004	5	1.54				
13F504	1005	7.5	1.26				
13F505	1006	10	1.09				
13F506	1007	15	.89				
13F507	1008	20	.77				
13F508	1009	25	.69				
13F509	1010	50	.49				
13F510	1011	75	.40	1.73	1.47	1.21	1.04
13F511	1012	100	.34				
13F512	1013	150	.28				
13F513	1014	200	.24				
13F514	1015	250	.22				

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-249
13F515	1016	300	.20				
13F517	1018	400	.17				
13F518	1019	500	.15				
13F520	1021	750	.13	1.73	1.47	1.21	1.04
13F522	1023	1,000	.11				
13F524	1025	1,500	.089				
13F525	1026	2,000	.077				
13F527	1028	2,500	.069				
13F528	1029	3,000	.063				
13F530	1031	4,000	.055	1.79	1.52	1.25	1.07
13F532	1033	5,000	.049				
13F534	1035	7,000	.042				
13F535	1036	7,500	.040				
13F539	1040	10,000	.035	1.99	1.69	1.39	1.19

STYLE 210-25 (25 WATT—SIZE 2"x9/16")

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-249
13F550	0360	1	5.00				
13F551	0360B	2	3.54				
13F552	0361	3	2.88				
13F553	0362	5	2.24				
13F554	0362B	7.5	1.82				
13F555	0363	10	1.58				
13F556	0364	15	1.29				
13F557	0364B	20	1.12	1.90	1.62	1.33	1.14
13F558	0365	25	1.00				
13F559	0366	50	.71				
13F560	0367	75	.58				
13F561	0368	100	.50				
13F562	0369	150	.41				
13F563	0370	200	.35				
13F564	0371	250	.32				

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-249
13F565	0371B	300	.29				
13F566	0371C	400	.25				
13F567	0372	500	.22	1.90	1.62	1.33	1.14
13F568	0373	750	.18				
13F570	0375	1,000	.16				
13F571	0375B	1,250	.14				
13F572	0376	1,500	.13				
13F573	0377	2,000	.12	1.99	1.69	1.39	1.19
13F575	0378	2,500	.10				
13F576	0379	3,000	.091				
13F580	0382	5,000	.070				
13F581	0383	6,000	.064	2.07	1.76	1.45	1.24
13F587	0385	10,000	.050				
13F590	0388	20,000	.031	2.19	1.86	1.53	1.31
13F591	0389	25,000	.028	2.36	2.01	1.65	1.42

STYLE 210-50 (50 WATT—SIZE 4" x 9/16")

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-Up
13F600	0560	5	3.16				
13F601	0561	10	2.23				
13F602	0562	25	1.41				
13F603	0563	50	1.00				
13F604	0564	75	.82	2.55	2.17	1.79	1.53
13F605	0565	100	.71				
13F606	0566	150	.58				
13F607	0567	200	.50				
13F608	0568	250	.45				
13F609	0568B	300	.41				
13F610	0568C	400	.35				

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-UP
13F611	0569	500	.32				
13F612	0570	750	.26	2.55	2.17	1.79	1.53
13F613	0572	1,000	.22				
13F615	0573	1,500	.18				
13F616	0574	2,000	.16	2.62	2.23	1.83	1.57
13F617	0575	2,500	.14				
13F622	0578	5,000	.10				
13F628	0581	10,000	.071	2.64	2.24	1.85	1.58
13F631	0584	20,000	.050	2.75	2.34	1.93	1.65
13F635	0588	50,000	.026	3.35	2.85	2.35	2.01
13F638	0591	100,000	.018	3.97	3.38	2.78	2.36

STYLE 210-100 (100 WATT—SIZE 6½" x ¾")

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-Up
13F670	0956A	1	10.0	4.68	3.98	3.28	2.81
13F671	0956B	2	7.07	4.68	3.98	3.28	2.81
13F672	0956C	3	5.77				
13F673	0956D	4	5.00				
13F650	0956	5	4.47				
13F651	0957	10	3.16				
13F652	0958	25	2.00	4.39	3.73	3.07	2.63
13F653	0959	50	1.41				

Stock No.	Type	Resis. Ohms	Max Amps.	1-9	10-49	50-99	100-UP
13F654	0960	100	1.00	3.56	3.03	2.49	2.14
13F655	09608	250	.63	3.56	3.03	2.49	2.14
13F656	0961	500	.45	3.61	3.07	2.53	2.17
13F657	0962	1,000	.32	3.61	3.07	2.53	2.17
13F658	0962B	1,500	.26				
13F659	0963	2,500	.20				
13F660	0964	5,000	.14	3.66	3.11	2.56	2.20
13F661	0965	10,000	.10	3.88	3.30	2.72	2.33
13F669	0973	100,000	.028	4.93	4.19	3.45	2.96

STANDARD ADJUSTABLE LUGS

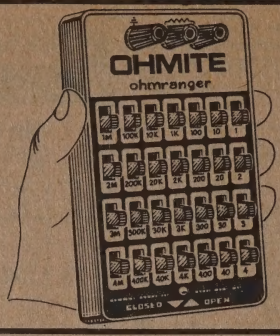
For Dividohms—Bakelite knob type

Stock No.	Type	Description	1-9	10-49	50-Up
13F710	2122	For 25, 50 Watt	1.16	.99	.81
13F711	2126	For 100 Watt	1.25	1.06	.88
13F712	2134	For 225 Watt	1.34	1.14	.94

For Dividohms-Screw driver type

Stock No.	Type	Description	1-9	10-49	50-Up
13F713	2115	For 12 Watt	.31	.26	.22
13F714	2121	For 25, 50 Watt	.31	.26	.22
13F715	2125	For 100 Watt	.35	.30	.25
13F716	2133	For 225 Watt	.45	.38	.32

Resistors



Portable Resistance Selector

- **Wide Range**
- **Metal Case**
- **Positive Slide Switch**
- **Compact Size**
- **Completely Portable**
- **Accuracy Assured**

Ohm-Ranger. Completely portable resistance selector. Wide range of resistance values, from 1 to 11,111,110 ohms in single ohm increments. Accuracy assured by half watt 1% tolerance resistors. Ideal for use in labs, schools, and service technicians. Features a positive slide switch operation with compact 4" × 6" × 1" size and 14.5 ounce weight for easy in-hand use and portability. Metal case, four rubber feet for non-slip bench use, and screw type binding posts.
13F161 NET **58.00**

TYPE 995 "MOLDED VITREOUS" AXIAL-LEAD RESISTORS

All welded vitreous enamel resistor with 1000VAC insulation. Protects against moisture, salt spray, and salt immersion. Vitrified markings resist high temperatures, solvents, and abrasions. Standard resistance tolerance: ±5%. Leads tinned, 1½"L. All sizes 20 gauge except 1½"w.: 24 gauge. Leads can be bent sharply at the body. Uniform dimensions permit use in automated assembly insertion equipment.

1½ WATT UNITS-STYLE 995-1A - .422 x .125D

Stk. No.	Value in Ohms	1-9	10-49	50-99	100-249
13F168	1.0 to 7.5	1.05	.89	.74	.63
	10.0 to 1K	.93	.79	.65	.56
	1.2K to 3.0K	.96	.82	.67	.58

2¼ WATT UNITS-STYLE 995-2A - .375A x .188D

Stock No.	Value in Ohms	1-9	10-49	50-99	100-249
13F169	1.0 to 7.5	1.00	.85	.70	.60
	10 to 1K	.88	.75	.62	.53
	1.2K to 3.0K	.93	.79	.65	.56

3¼ WATT UNITS - STYLE 995-3A - .547 x .203D

Stk. No.	Ohms	1-9	10-49	50-99	100-249
13F145	1.0 to 7.5	.93	.79	.65	.56
	10.0 to 1K	.82	.70	.58	.49
	1.2K to 5K	.88	.75	.62	.53
	5.6K to 10K	.90	.77	.63	.54

5 WATT UNITS-STYLE 995-5B - .938x.203D

13F146	1.0 to 7.5	1.00	.85	.70	.60
	10.0 to 1K	.88	.75	.62	.53
	1.2K to 6.0K	.90	.77	.63	.54
	5.6K to 10K	1.00	.85	.70	.60
	12K to 20K	1.08	.92	.76	.65
	22K to 25K	1.26	1.07	.88	.76

STOCK RESISTANCE—OHMS

1.0	15	40	150	...	820	2700	6800	18000	47000
1.5	...	47	180	470	...	3000	7000	20000	50000
2.0	20	50	200	500	1000	3300	7500	22000	...
3.0	22	56	220	560	1200	3900	8000	25000	...
4.0	...	68	250	600	1500	4000	8200	27000	...
5.0	...	...	270	...	1800	4700	9000	30000	...
7.5	30	82	300	700	2000	5000	10000	...	...
10	33	...	330	750	2200	5600	12000	39000	...
12	39	120	...	800	2500	6000	15000	40000	...

RESISTOR ASSORTMENTS

Seven engineering prototype tab assortments of composition resistors in handy cabinets. Resistance values from 2.7 ohms to 27 megohms. Each drawer has 8 sections individually marked with ohmic values.
Quantities per ohmic value vary between 5 each and 30 each, depending on the popularity of the value. The ±5% assortments have 160 different ohmic values while the ±10% assortments have 80 values. Cabinet mounts on wall or stands on bench.

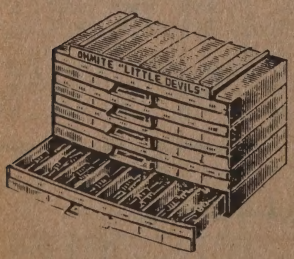
5% TOLERANCE

Stk. No.	Type	Wattage Size	No. Resistors	NET
99F1203	CAB-45	⅛	1000	264.83
99F1204	CAB-46	¼	1500	235.94
99F1205	CAB-47	½	1500	202.23
99F1206	CAB-48	1	900	179.76

10% TOLERANCE

99F1207	CAB-25	¼	1000	78.65
99F1201	CAB-26	½	1000	67.41
99F1202	CAB-27	1	600	60.67

SELECTED RESISTOR KITS



Most commonly used resistors with a plastic cabinet included at no extra cost. Cabinet has 5 drawers and 40 compartments. 9x4¾x5¼". Wt. 7 lbs.

CAB-4 ¼ watt ±10% assortment with 150 resistors.
13F164. NET **21.91**

CAB-10 ½-watt ±10% assortment with 150 resistors.
13F165. NET **20.21**

CAB-2 1 watt ±10% assortment with 125 resistors.
13F166. NET **25.25**

CAB-3 2-watt ±10% assortment with 125 resistors.
13F167 NET **25.25**

Quantities CAB-4	CAB 10	CAB-2 CAB-3	Ohms	Quantities CAB4	CAB 10	CAB-2 CAB 3	Ohms
...	1	1	10	3	3	1	33,000
...	1	1	15	3	5	5	39,000
...	1	1	27	5	10	10	47,000
5	1	1	47	3	3	1	68,000
5	5	1	100	2	1	1	82,000
1	1	1	150	10	10	10	.1 meg
3	3	1	270	3	5	5	.15 meg
1	1	1	330	3	3	1	.22 meg
3	3	1	470	3	10	10	.27 meg
1	1	1	680	3	3	1	.33 meg
10	5	3	1,000	5	10	10	.47 meg.
5	1	1	1,500	1	1	1	.68 meg
10	1	1	2,200	10	10	10	1.0 meg
5	3	3	2,700	1	1	1	1.5 meg
10	10	5	4,700	1	1	1	2.2 meg
5	1	1	6,800	1	3	1	2.7 meg
10	10	10	10,000	1	1	1	3.9 meg
5	3	3	15,000	1	1	1	4.7 meg
5	5	5	22,000	1	1	1	6.8 meg
5	10	10	27,000	1	1	1	10.0 meg

Industrial Resistors

OHMITE

TYPE 200 "BROWN DEVIL" RESISTORS

High quality, compact wire-wound resistors for voltage-dropping, bias units, bleeders, etc. Extra-sturdy all-ceramic vitreous enameled. Protected against shock, vibration, heat and humidity. Have standard resistance tolerance of ±5%, 8-watt units have 1x5/16" cores: 12 watt units, 1¾x5/16" cores; 20-watt units, 2x7/16" cores. All have 1½" leads. Average shipping weight, 3 ounces.

13F150 8 WATT "BROWN DEVIL" RESISTORS STYLE 200-8

Type	Ohms	1-9	10-49	50-99	100-249
1500	1				
1500B	1.5				
1501	2				
1502	3	.92	.78	.64	.55
1503	4				
1504	5				
1505	7.5				
1506	10				
1507	12				
1508	15				
1509	20				
1510	25				
1511	30	.81	.69	.57	.49
1512	35				
1513	40				
1514	50				
1515	75				
1516	100				

Type	Ohms	1-9	10-49	50-99	100-249
1517	125				
1518	150				
1519	200				
1521	250				
1522	300				
1523	350				
1524	400	.81	.69	.57	.49
1525	450				
1526	500				
1527	600				
1528	700				
1531	900				
1532	1,000				
1534	1,200				
1535	1,250				
1536	1,500	.86	.73	.60	.52
1537	1,750				
1538	2,000				

Type	Ohms	1-9	10-49	50-99	100-249
1539	2,250				
1540	2,500				
1541	3,000				
1542	3,500	.86	.73	.60	.52
1543	4,000				
1544	4,500				
1545	5,000				
1546	6,000				
1547	7,000				
1548	7,500	.97	.83	.68	.58
1549	8,000				
1550	9,000				
1551	10,000				
1552	12,500				
1553	15,000	1.20	1.02	.84	.72
1555	20,000				
1557	25,000	1.25	1.06	.88	.75

13F155 12 WATT "BROWN DEVIL" RESISTORS STYLE 200-12

Type	Ohms	1-9	10-49-	50 99-	100 249
1701	1				
1704	1.5				
1705	2				
1706	3				
1707	4	1.20	1.02	.84	.72
1708	5				
1709	7.5				
1710	10				
1711	12				
1712	15				
1713	20				
1714	25				
1715	30				
1716	35				
1717	40	.84	.71	.59	.50
1718	50				
1719	75				
1720	100				
1721	125				

Type	Ohms	1-9	10-49	50-99	100-249
1722	150				
1723	200				
1724	225				
1725	250				
1726	300				
1727	350				
1728	400				
1729	450				
1730	500	.84	.71	.59	.50
1731	600				
1732	700				
1733	750				
1734	800				
1735	900				
1736	1,000				
1738	1,200				
1739	1,250				
1740	1,500	.89	.76	.62	.53
1741	1,750				
1742	2,000				

Type	Ohms	1-9	10-49	50-99	100-249
1743	2,250				
1744	2,500				
1745	3,000				
1746	3,500	.89	.76	.62	.53
1747	4,000				
1748	4,500				
1749	5,000				
1750	6,000				
1751	7,000				
1752	7,500				
1753	8,000				
1755	10,000	1.20	1.02	.84	.72
1761	15,000				
1765	20,000				
1766	22,500				
1767	25,000				
1768	30,000	1.25	1.06	.88	.75
1770	40,000				
1771	45,000	1.36	1.16	.95	.82
1772	50,000				

13F160 20 WATT "BROWN DEVIL" RESISTORS STYLE 200-20

Type	Ohms	1-9	10-49	50-99	100-249
1802A	1				
1802B	2				
1802C	3	1.36	1.16	.95	.82
1802D	4				
1803	5				
1804	10				
1805	25				
1806	50				
1807	75				
1808	100	.97	.83	.68	.58
1809	150				
1810	200				
1811	250				
1812	300				

Type	Ohms	1-9	10-49	50-99	100-249
1813	350				
1814	400				
1815	500	.97	.83	.68	.58
1816	650				
1818	750				
1821	1,000				
1822	1,200				
1823	1,250				
1824	1,500				
1825	1,750	1.00	.85	.70	.60
1827	2,000				
1830	2,500				
1831	2,750				
1832	3,000				

Type	Ohms	1-9	10-49	50-99	100-249
1836	5,000	1.00	.85	.70	.60
1837	6,000				
1838	7,000				
1839	7,500	1.31	1.11	.92	.79
1840	8,000				
1841	10,000				
1842	12,500				
1843	15,000				
1844	20,000				
1845	25,000	1.42	1.21	.99	.85
1850	50,000	1.64	1.39	1.15	.98
1860	100,000	2.25	1.91	1.58	1.35

ATTENTION INDUSTRIAL BUYERS

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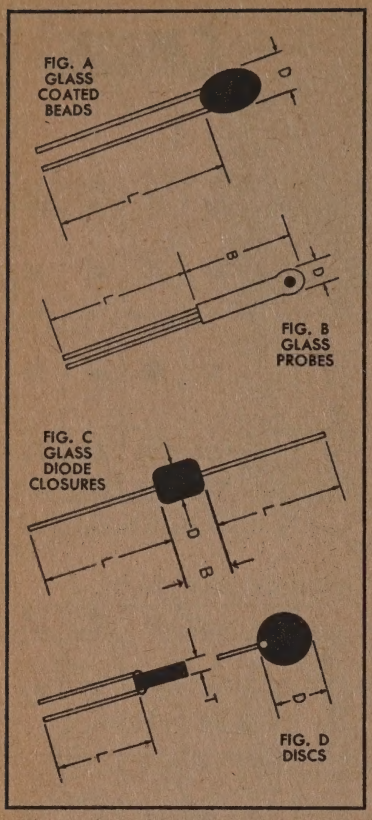
NEWARK can supply all your needs

Thermistors



GLASS COATED BEADS FIG. A

Stock No.	Mfrs. Type	Ohms @25°C	Tol. %	Resis. Ratio 0°C to 50°C	Diss. Const. mW/°C	Time Const. (Sec)	L (In.)	D (In.)	T (In.)	EACH 1-9	10-24	25-99
30F1722	GB31J1	1000	20	7.3:1	.7	2	3/8	.043	.....	2.97	2.38	1.93
30F1723	GB32J2	2000	20	7.3:1	.7	2	3/8	.043	.....	2.16	1.72	1.40
30F1724	GB35J1	5000	20	7.3:1	.7	2	3/8	.043	.....	3.56	2.85	2.32
30F1725	GB41J1	10 K	20	7.5:1	.7	2	3/8	.043	.....	3.56	2.85	2.32
30F1726	GA42J16	15 K	20	9.1:1	.7	2	3/8	.043	.....	3.56	2.85	2.32
30F1728	GA45J1	50 K	20	9.1:1	.7	2	3/8	.043	.....	2.94	2.35	1.91
30F1729	GA51J1	100 K	15	10.3:1	.7	2	3/8	.043	.....	2.16	1.72	1.40
30F1730	GA52J16	150 K	20	10.3:1	.7	2	3/8	.043	.....	5.33	4.27	3.47
30F1731	GA52J2	200 K	20	10.9:1	.7	2	3/8	.043	.....	2.97	2.38	1.93
30F1732	GA55J1	500 K	20	11.8:1	.7	2	3/8	.043	.....	3.56	2.85	2.32
30F1733	GA61J1	1000 K	20	14.0:1	.7	2	3/8	.043	.....	4.16	3.33	2.70

GLASS PROBES FIG. B

Stock No.	Mfrs. Type	Ohms @25°C	Tol. %	Resis. Ratio 0°C to 50°C	Diss. Const. mW/°C	Time Const. (Sec)	L (In.)	D (In.)	T (In.)	EACH 1-9	10-24	25-99
30F1765	GB31P2	1000	20	7.3:1	1	25	2	.100	1/2	2.20	1.76	1.43
30F1766	GB32P2	2000	20	7.3:1	1	25	2	.100	1/2	2.20	1.76	1.43
30F1767	GB32P8	2000	20	7.3:1	1	25	2	.100	1/2	2.58	2.07	1.68
30F1768	GB34P2	4000	20	7.3:1	1	25	2	.100	1/2	2.20	1.76	1.43
30F1770	GB41P2	10 K	20	7.5:1	1	25	2	.100	1/2	2.64	2.11	1.72
30F1774	GA45P2	50 K	20	9.1:1	1	25	2	.100	1/2	2.42	1.94	1.57
30F1776	GA51P8	100 K	15	10.3:1	1	25	2	.100	1/2	2.58	2.07	1.68
30F1778	GA52P2	200 K	20	10.9:1	1	25	2	.100	1/2	2.20	1.76	1.43
30F1779	GA55P2	500 K	20	11.8:1	1	25	2	.100	1/2	2.64	2.11	1.72
30F1781	GA61P2	1000 K	20	14.0:1	1	25	2	.100	1/2	3.08	2.46	2.00

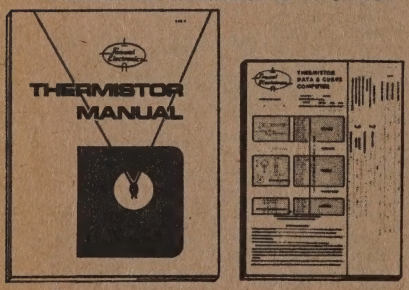
GLASS DIODE CLOSURES (Pellets) FIG. C

Stock No.	Mfrs. Type	Ohms @25°C	Tol. %	Resis. Ratio 0°C to 50°C	Diss. Const. mW/°C	Time Const. (Sec)	L (In.)	D (In.)	T (In.)	EACH 1-9	10-24	25-99
30F1744	PB32D1	2 K	10	6.9:1	2	8	1 1/8	.070	.150	1.89	1.51	1.23
30F1745	PB35D1	5 K	10	6.9:1	2	8	1 1/8	.070	.150	1.89	1.51	1.23
30F1746	PB41D1	10 K	10	6.9:1	2	8	1 1/8	.070	.150	1.89	1.51	1.23
30F1747	PA45D1	50 K	10	9.1:1	2	8	1 1/8	.070	.150	1.89	1.51	1.23
30F1748	PA51D1	100 K	10	9.1:1	2	8	1 1/8	.070	.150	1.89	1.51	1.23
30F1749	PP55D1	500 K	10	11.6:1	2	8	1 1/8	.070	.150	1.89	1.51	1.23
30F1750	PP61D1	1 meg	10	11.6:1	2	8	1 1/8	.070	.150	1.89	1.51	1.23

DISCS FIG. D

Stock No.	Mfr.s Type	Ohms @25°C	Tol. %	Resis. Ratio 0°C to 50°C	Diss. Const. mW/°C	Time Const. (Sec)	L (In.)	D (In.)	T (In.)	EACH 1-9	10-24	25-99
30F1751	FB31J1	1 K	10	6.9:1	2	3	1 1/2	.050	.....			
30F1752	FB32J1	2 K	10	6.9:1	2	4	1 1/2	.050	.....			
30F1753	FA41J1	10 K	10	9.1:1	2	3.5	1 1/2	.050	.....	1.52	1.22	.99
30F1754	FA42J1	20 K	10	9.1:1	2	4.5	1 1/2	.050	.....			
30F1755	FP52J1	200 K	10	11.6:1	2	4.5	1 1/2	.050	.....			
30F1756	JD12J4	15	10	4.8:1	3	10	1	.1	.....			
30F1758	JB25J1	500	10	6.9:1	3	10	1	.1	.....	1.05	.84	.68
30F1759	JB31J1	1000	10	6.9:1	4	10	1	.1	.....			
30F1760	JA33J1	3000	10	9.1:1	3	10	1	.1	.....			
30F1761	JA35J1	5000	10	9.1:1	4	10	1	.1	.....			
30F1762	JA38J1	8000	10	9.1:1	4	10	1	.1	.....			
30F1763	JA41J1	10 K	10	9.1:1	4	10	1	.1	.....	1.05	.84	.68
30F1764	JP43J2	25 K	10	11.6:1	3	10	1	.1	.....			
30F1700	JP45J2	50 K	10	11.6:1	4	8	1	.1	.....			
30F1701	JP51J1	100 K	10	11.6:1	4	15	1	.1	.....	1.05	.84	.68
30F1702	KD05J1	5	10	4.8:1	4	16	1 1/2	.2	.....	.89	.71	.58
30F1704	KD13J3	30	10	4.8:1	8	28	1 1/2	.2	.....	.89	.71	.58
30F1705	KD14J1	40	10	4.8:1	6	50	1 1/2	.2	.....	.89	.71	.58
30F1706	KB21J1	100	10	6.9:1	4	16	1 1/2	.2	.....	.89	.71	.58
30F1707	KB22J1	200	10	6.9:1	5	18	1 1/2	.2	.....			
30F1708	KB23J1	300	10	6.9:1	6	20	1 1/2	.2	.....	.89	.71	.58
30F1709	KB25J1	500	10	6.9:1	6	25	1 1/2	.2	.....			
30F1710	KA31J1	1000	10	9.1:1	6	20	1 1/2	.2	.....			
30F1711	KA33J1	3000	10	9.1:1	6	22	1 1/2	.2	.....			
30F1712	KA35J3	5000	10	9.1:1	7	35	1 1/2	.2	.....	.89	.71	.58
30F1713	KP41J2	10 K	10	11.6:1	4	20	1 1/2	.2	.....			
30F1714	KP45J1	50 K	10	11.6:1	6	50	1 1/2	.2	.....			
30F1735	CA31J1	1000	10	9.1:1	8	48	1 1/2	.3	.....			
30F1741	LB15J1	50	10	6.9:1	7	40	3 3/4	.4	.....	.89	.71	.58
30F1784	LB21J1	100	10	6.9:1	8	65	3 3/4	.4	.....			
30F1828	LA25J2	500	10	9.1:1	8	60	3 3/4	.4	.....			
30F1829	LA31J1	1000	10	9.1:1	10	70	3 3/4	.4	.....	.89	.71	.58
30F1830	LP32J2	2000	10	11.6:1	8	40	3 3/4	.4	.....			
30F1831	LP33J1	2500	10	11.6:1	14	35	3 3/4	.4	.....			
30F1832	LP42J2	15 K	10	11.6:1	10	150	3 3/4	.4	.....			
30F1835	DB15J1	50	10	6.9:1	15.5	70	3 3/4	.5	.....	.89	.71	.58
30F1838	DP35J1	5 K	10	11.6:1	16.5	90	3 3/4	.5	.....			
30F1841	NB11J1	10	10	6.9:1	20	90	3 3/4	.77	.....	.89	.71	.58
30F1842	NA21J1	100	10	9.1:1	16	100	3 3/4	.77	.....			
30F1844	NP31J2	1000	10	11.6:1	15	180	3 3/4	.77	.....	.89	.71	.58
30F1845	NP34J1	4000	10	11.6:1	20	300	3 3/4	.77	.....	.89	.71	.58
30F1846	ZB11J1	10	10	6.9:1	30	140	3 3/4	1.00	.....	1.31	1.05	.85

THERMISTOR ENGINEERING PACKAGE



- **Thermistor manual**
- **Handy time-saving "computer"**
- **Specs on over 500 thermistors**
- **Resistance-Temperature charts**
- **All dimensions tabulated**

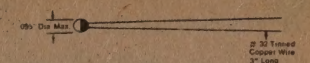
Includes 8½ x 11" Data and Curve" Computer." Displays resistance values alongside temperature points of thermistor curves. Shortens computation time. Includes dimensions. Package also includes a 32 page thermistor manual. Can be used as a step-by-step primer and guide. Contains definitions of different types of thermistors along with their characteristics. Applications and schematics of thermistor circuits. Application problem solving with thermistors. Linear temperature readout circuits. List of over 500 thermistors and their specs along with Temperature-Resistance tables and a glossary of terms. Schematics of typical circuits included.

30F1783. NET **1.00**

Yellow Springs Instruments Thermistors

YSI 1% PRECISION THERMISTORS

- Low Cost Precision Thermistors
- Matches Standard Curves—80°C to 150°C

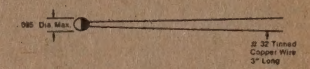


Thermistors which match a published resistance-temperature curve and thus each other to ±1% not only at 25° C but over most of their useable range of —80° C to +150° C. Each thermistor is provided with resistance-temperature data for each degree C and with tolerance curves both in resistance variation and temperature sensing interchangeability. Base resistance from 100 ohms to 1 Megohm at 25° C available to ease circuit design impedance matching problems. Useful as transducers for measurement and control circuits where precision of YSI thermistors allow interchanging of transducers and multiple monitoring from single circuits. In control circuitry direct dialing of set points is possible as is trigger action at a specific temperature since resistance at any usable temperature is known to close tolerances. Also useful as temperature compensating devices for transistors, meters, circuits, etc. Physical size: .095" maximum dimension #32 solid tinned copper leads, 3" long. Thermistors are epoxy encapsulated for ruggedness and long life. Each thermistor supplied with data and with dissipation information, time constant and instructions. Rated at 25°C.

Stock No.	Type	Ohms	Res. Tol.	Temp. Tol.	1-9	10-29	30-99
29F200	44001	100	1.0%	.3°C	5.75	4.90	4.05
29F201	44002	300	1.0%	.3°C			
29F202	44003	1K	1.0%	.3°C			
29F229	44004	2.252K	.8%	.2°C			
29F203	44005	3K	.8%	.2°C			
29F256	44007	5K	.8%	.2°C			
29F204	44006	10K	.8%	.2°C			
29F205	44008	30K	.8%	.2°C			
29F206	44011	100K	.8%	.2°C			
29F214	44014	300K	1.0%	.2°C			
29F215	44015	1 Meg	1.0%	.2°C			

YSI ½% PRECISION THERMISTORS

- Twice the Precision over Previous YSI Devices
- Interchangeability—0.1°C
- -40° to +100°C

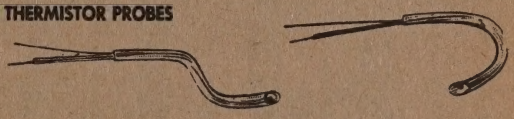


Specifically designed to match published and provided curves to within ± ½% over exceptionally wide range! Units can be interchanged in measuring circuitry with a maximum 0.1°C error. Resistance tolerance data provided with each thermistor for each degree centigrade and its corresponding resistance shown from —40° to +100°C. Physical size: .095" diameter. #32 solid tinned copper leads, 3" long. Thermistors are epoxy encapsulated for ruggedness and extremely long life. Individually packaged with dissipation information, time constant data, and instructions. Rated at 25°C.

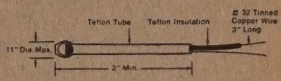
Stock No.	Type	Ohms	Res. Tol.	1-9	10-29	30-99
29F223	44030	3K	.4%	11.45	10.30	8.95
29F224	44031	10K	.4%			
29F225	44032	30K	.4%			
29F228	44033	2.252K	.4%			
29F257	44034	5K	.4%			

YSI 1% TEFLON PRECISION THERMISTOR PROBES

YSI interchangeable thermistors in chemically impervious form for sensing or control use. The interchangeable precision thermistors listed above, but additionally encased in a 2" length of chemically impervious Teflon. 3" leads extend 1" beyond the probe for convenience in attaching leads. Leads are insulated from each other by a smaller Teflon tube around one lead. Probes can be used straight or can be bent by finger pressure to exact configuration required for placing the thermistor where you want it. 0.11" max. in diameter.
Can be assorted for quantity prices.



- Precision—± 1% at 25°C.
- Easily bent to required shape
- Chemically impervious Teflon casing



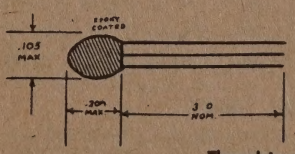
Stock No.	Type	Ohms	Res. Tol.	Temp. Tol.	1-9	10-29	30-99
29F207	44101	100	1.0%	.3°C	11.45	10.30	8.95
29F208	44102	300	1.0%	.3°C			
29F209	44103	1K	1.0%	.3°C			
29F264	44104	2.252 K	.8%	.2°C			
29F210	44105	3K	.8%	.2°C			
29F258	44107	5K	.8%	.2°C			

Stock No.	Type	Ohms	Res. Tol.	Temp. Tol.	1-9	10-29	30-99
29F211	44106	10K	.8%	.2°C	11.45	10.30	8.95
29F212	44108	30K	.8%	.2°C			
29F213	44111	100K	.8%	.2°C			
29F216	44114	300K	1.0%	.2°C			
29F217	44115	1 Meg	1.0%	.2°C			

THERMILINEAR® THERMISTOR DEVICES

Linear Output Thermistor Networks

A composite precision thermistor device which, in conjunction with the precision resistors supplied, provides linear voltage output or linear resistance, change with change of termperature. Sensitivities of 20 mv/°C. and more are common, 400 times the sensitivity of an IC thermocouple. Linearity deviation is as little as 2 parts in 1000 from 0 to 100°C. Combined absolute accuracy, linearity and interchangeability specifications of as little as 3 parts in 1000 from 0 to 100°C. Greater accuracies, interchangeabilities, and linearities available for shorter standard ranges. Parts guaranteed to stay within tolerances for three years. Useful for direct digital temperature indication with DVM or linear recorder. Provides linear temperature compensation with thermistor sensitivity. Time constant: 1 second, in well-stirred oil bath. Parts consist of composite thermistor and resistor assembly. For complete information and technical data, write Newark. Type 44018 and type 44019; additional thermistor composites for replacement or multiple input work.

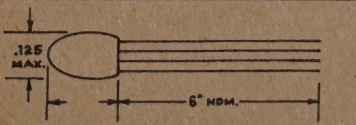


Thermistor Composite

Stk. No.	Type	Range	Linearity	1-9	10-29	30-99
29F218	44201	0° to 100°C	± 0.2°C	12.50	11.75	10.75
29F219	44202	—5 to +45°C	± 0.06°			
29F220	44203	—30 to +50°C	± 0.16°C			
29F221	44204	+30 to 100°F	± 0.055°C			
29F226	44211	—55 to 85°C	± 1.1°C			
29F222	44018	Extra Thermistor	...	8.95	8.25	7.55
29F227	44019	—55 to 85°C	± 1.1°C			

YSI HIGH ACCURACY LINEAR OUTPUT THERMILINEAR THERMISTOR NETWORKS

Type 44212. Linear thermistor temperature transducer for use over a range of -50° to +50°C. Uses a 3-thermistor composite and three resistors. Absolute accuracy and interchangeability is ±0.1°C. Linearity deviation is ±0.15°C with ±0.08°C possible with extra resistor selection. **Type 44020** is extra thermistor composite for replacement or multiple input work.

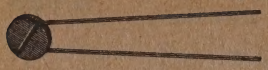


Stock No.	Type	Range	Linearity	1-9	10-29	30-99
29F265	44212	—50 to +50°C	+0.15°C	22.95	21.50	19.95
29F266	44020	Extra Thermistor		19.50	18.75	16.50

See Test Equipment Section for a complete listing of YSI Thermovolt Thermometers

Thermistors

DISKS



Larger size thermistors with close electrical tolerances. For temperature detection, control, and compensation circuits. Larger size reduces self-heating effect. These units are especially suited for circuit inrush suppression and time delay applications.

Stock No.	Type	Ohms@ 25°C	Res. Ratio 25°C/125°C	Diss. Const. (MW/°C)	Time Const.	Dia. In.	Price Key
47F2413	4D051	200K	48.78	2	4.5	.05	E
30F1115	4D101	100K	48.78	4	12	.1	D
30F1116	4D103	50K	48.78	4	8	.1	D
30F1118	1D051	20K	29.85	2	4.5	.05	E
30F1120	1D101	10K	29.85	4	12	.1	F
30F1121	1D103	5K	29.85	4	8	.1	F
30F1123	1D201	3K	29.85	8	34	.2	F
30F1124	1D301	3K	29.85	11.5	85	.3	G
30F1126	2D052	2K	19.80	2	4	.05	E
30F1127	1D203	1K	29.85	7.5	19	.2	F
44F347	1D501	1K	29.85	19	140	.5	H
30F1130	2D054	1K	19.80	2	3	.05	E
30F1131	2D102	1K	19.80	4	10	.1	F
30F1134	2D104	500	19.80	4	6	.1	F
30F1135	2D202	300	19.80	8	24	.2	F
30F1136	2D302	300	19.80	10.5	75	.3	G
30F1139	2D204	100	19.80	7.5	16	.2	F
30F1142	3D102	100	12.95	4	10	.1	D
44F345	2D402	.....	19.80	15.5	70	.4	G
30F1143	2D504	50	19.80	15.5	70	.5	H
44F342	3D104	50	12.95	45	6	.1	D
30F1144	3D202	30	12.95	8	28	.2	D
30F1148	3D204	10	12.95	7.5	16	.2	D
30F1149	3D402	10	12.95	15.5	70	.4	J
44F343	2D404	25	19.80	14	25	.4	G
30F1151	3D504	5	12.95	15.5	70	.5	H

Key	1-9	10-24	25-49	50-99
D	2.28	1.83	1.46	1.17
E	3.06	2.45	1.96	1.57
F	1.63	1.30	1.04	.84
G	1.96	1.57	1.25	1.00
H	2.93	2.88	2.34	1.50
J	2.61	2.09	1.67	1.33

VARISTOR WASHERS

Varistors protect circuits and components from inductive voltage surges by limiting peak discharge voltage, when AC or DC magnetic or inductive current is suddenly interrupted. Silicone Impregnation provided to insure protection against moisture. ±20% Tolerance, short-time body temp. 150°C, continuous body temp. 110°C. 3" Dia. except (*) 6" AC Voltage: 90% of DC Voltage.

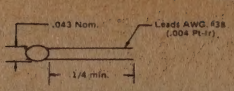
Stock No.	Type	Cont. DC Volts	Cont. Power Watts	1-9	10-24	25-49	50-99
30F1233	71W-30100	1500	3.5	14.26	12.22	10.51	9.05
30F1234	69W-30100	300	3.0	11.44	9.62	8.15	6.97
30F1235	68W-30100	150	3.0	11.44	9.62	8.15	6.97
30F1236	67W-30100	60	3.0				
30F1237	66W-30100	30	3.0	8.74	7.35	6.23	5.32
30F1238	63W-30100	15	3.0				
30F1239	62W-30100	7	3.0				
30F1240	69W-60100*	275	10.0				
30F1241	68W-60200*	200	10.0	20.47	18.52	16.87	15.58
30F1242	68W-60100*	150	10.0				

VARISTOR DISKS

Varistors protect circuits and components from inductive voltage surges by limiting peak discharge voltage, when AC or DC magnetic or inductive current is suddenly interrupted. Black dielectric coated after moisture protection with Silicone Impregnation. Cont. Temp. 110°C.

Stock No.	Type	Cont. DC Volts	Cont. Power Watts	1-9	10-24	25-49	50-99
30F1221	70D-5010	150	0.25				
30F1222	68D-5010	60	0.25	2.12	1.69	1.35	.98
30F1223	67D-5010	30	0.25				
30F1224	65D-5010	15	0.25				
30F1225	71D-7000	150	0.75				
30F1226	68D-7000	60	0.75	3.60	2.88	2.31	1.60
30F1227	66D-7000	30	0.75				
30F1228	63D-7000	15	0.75				
30F1229	71D-10000	300	1.50				
30F1230	68D-10000	150	1.50	4.24	3.39	2.71	1.63
30F1231	66D-10000	60	1.50				
30F1232	63D-10000	30	1.50				

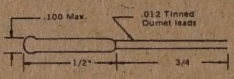
BEAD



Glass coated bead thermistors feature small size, fast response. Have improved high temperature stability (to 400°C.). Leads, fired-in platinum-iridium. ±20% tolerance. Tolerances down to ±1% available. All types have dissipation constant of .7 mW/°C, and time constant of two seconds.

Stock No.	Type	Ohms@ 25°C	Res. Ratio 25°C/125°C	1-9	10-24	25-49	50-99
30F1100	81B105	1000K	51.5				
30F1101	81B504	500K	46.5				
30F1102	81B154	150K	39.7				
30F1103	81B503	50K	35.0	6.00	5.47	5.00	4.87
30F1104	81B153	15K	29.85				
30F1105	81B103	10K	29.85				
30F1106	81B202	2K	19.8				

BEAD PROBES



Glass coated bead in the tip of a glass probe. Rugged construction. Tinned Dumet leads. Can be used in liquid medium. Max. temperature: 400°C. ±20% tol. Tolerances to ±5% available. ¼" body, ¾" leads. All types have dissipation constant of 1 mW/°C., time const. of 25 sec.

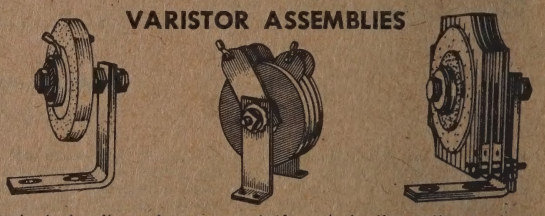
Stock No.	Type	Ohms@ 25°C	Res. Ratio 25°/125°C	1-9	10-24	25-49	50-99
47F2400	81G10505	1000K	51.5				
47F2401	81G50450	500K	46.5				
47F2402	81G15450	150K	39.7				
47F2403	81G50350	50K	35.0	6.15	5.46	4.97	4.50
47F2404	81G15350	15K	29.85				
47F2405	81G10350	10K	29.85				
47F2406	81G20250	2K	19.8				

H SERIES

Small, rugged hermetically sealed thermistors. Ideal for automatic insertion in printed circuit boards. Gold plated Dumet leads. Use up to 250°C. All types have diss. const. of 2 mW/°C., time const. 8 sec.

Stock No.	Type	Ohms@ 25°C	Res. Ratio 25°C/125°C	1-9	10-24	25-49	50-99
47F2407	1H104	100K	29.85				
47F2408	1H503	50K	29.85	3.25	2.93	2.50	2.25
47F2409	1H203	20K	29.85				
47F2410	2H103	10K	19.80				
47F2411	2H502	5K	19.80	6.00	5.00	4.40	3.90
47F2412	2H202	2K	19.80				

VARISTOR ASSEMBLIES

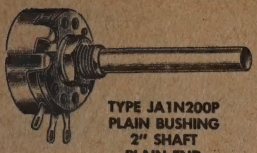


Protect circuits and components from inductive voltage surges. Assemblies have one or more Thyrite® washers, bracket mounted with spring lock washer for contact pressure. Washer insulated from central bolt and mounting brackets (see illustrations). To order bracket mounted assemblies for stud mounting substitute "C" for "A" in type number. Varistors moisture protected with silicone impregnation. AC voltage Rating: 90% of DC voltage rating. Cont. Temp. Rating: 110°C.

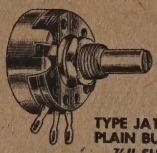
Stock No.	Type	Disks	Cont. DC Volts	Power Loss Watts	1-4	5-9	10-24	25-49
30F1252	9RV3A10	4	50	12	53.98	43.90	29.91	24.76
30F1254	9RV3A12	1	150	3	27.64	22.48	15.32	12.68
30F1255	9RV3A14	1	300	3	27.64	22.48	15.32	12.68
30F1256	9RV3A15	2	600	6	40.69	33.09	22.53	18.65
30F1258	9RV3A52	2	3000	7	50.49	37.39	29.92	26.02
30F1259	9RV3A53	3	4500	10.5	59.53	51.51	41.20	35.83
30F1268	9RV6A1	1	150	10	41.18	37.29	26.99	23.50
30F1269	9RV6A2	2	150	20	70.27	63.70	46.32	40.44
30F1273	9RV6A6	1	275	10	41.18	37.29	26.99	23.50
30F1274	9RV6A7	2	275	20	70.27	63.70	46.32	40.44
30F1275	9RV6A8	3	275	30	98.68	89.50	65.23	57.02
30F1276	9RV6A9	4	275	40	123.20	111.80	81.67	71.48
47F2414	9RV1A82	1	250	1.5	41.18	37.29	26.99	23.50
47F2415	9RV6A4	4	150	40	123.20	111.80	81.67	71.48

ALLEN-BRADLEY POTENTIOMETERS

TYPE J-STYLE RV4N VARIABLE POTENTIOMETERS



TYPE JA1N200P
PLAIN BUSHING
2" SHAFT
PLAIN END



TYPE JA1N056S
PLAIN BUSHING
⅜" SHAFT
SLOTTED END

TYPE "J". Hot-molded composition variable resistors for use as rheostats and potentiometers in military and industrial applications where superior performance is desired. Many available as Style RV4N of MIL-R-94. Corrosion resistant, nonmagnetic materials. Dust and splash resistant. Terminals treated for easy soldering. Linear Taper "U". Locating lug provided. Supplied with mounting nut M-2786 and internal tooth lock washer M-2898. Additional hardware and SPST switch also available. (See below).

TEMP. RANGE	−55°C to +120°C
POWER RATING	2.25 watt maximum @ +70°C
POWER DERATING	Linearly to 0 watt @ +120°C for linear taper Log taper: derate by .05.
RESISTANCE RANGE	Nominal values from 50 ohms to 5 megohms
VOLTAGE	500 V. max. working voltage (RMS or DC)
LOAD LIFE	Less than 10% change of total res. (1000 hrs)
ROTATIONAL LIFE	Less than 10% change (100,000 cycle life test)
MARKING	Type "J", A-B trade and part number, nom. res. value. Mil spec where applicable.

ADDITIONAL HARDWARE

Stk. No.	Type	Description	Price
10F1953	M-2786	Mounting Nut	.08
10F1954	M-2898	Lock Washer	.08
10F1955	B-13750	Hex Locking Nut	.32
10F1956	M-3236	Acorn Locking Nut	.80
10F1957	M-3318	Knurled Locking Nut	.92
10F605	JS-1	SPST Switch*	Price code C

(*) **SPST SWITCH.** Single Pole, single throw snap switch available only for "turns on at start of clockwise rotation." 2 amperes, 125 volts RMS, 60 Hertz. Also rated 10 amperes, 10 volts DC, non-inductive. **Use with single section only.**

PRICE CODE

CODE LETTER	1-9	10-24	25-49	50-99
A	3.14	2.58	2.48	2.35
AA	3.86	3.16	2.97	2.76
BB	6.50	5.91	5.77	5.65
C	1.53	1.30	1.24	1.20

10% TOLERANCE-LINEAR TAPER

⅜" SHAFT Stk. No.	Type JA1N056S	Mil. No. RV4NAYSD	2" SHAFT Stk. No.	Type JA1N200P	Ohms	Price
10F453	500UA	500A	10F506	500UA	50	A
10F454	101UA	101A	10F507	101UA	100	A
10F455	151UA	151A	10F508	151UA	150	A
10F456	201UA	201A	10F509	201UA	200	A
10F457	251UA	251A	10F510	251UA	250	A
10F458	351UA	351A	10F511	351UA	350	A
10F459	501UA	501A	10F512	501UA	500	A
10F460	751UA	751A	10F513	751UA	750	A
10F461	102UA	102A	10F514	102UA	1.0K	A
10F462	152UA	152A	10F515	152UA	1.5K	A
10F463	202UA	202A	10F516	202UA	2.0K	A
10F464	252UA	252A	10F517	252UA	2.5K	A
10F465	352UA	352A	10F518	352UA	3.5K	A
10F466	502UA	502A	10F519	502UA	5.0K	A
10F467	752UA	752A	10F520	752UA	7.5K	A
10F468	103UA	103A	10F521	103UA	10K	A
10F469	153UA	153A	10F522	153UA	15K	A
10F470	203UA	203A	10F523	203UA	20K	A
10F471	253UA	253A	10F524	253UA	25K	A
10F472	353UA	353A	10F525	353UA	35K	A
10F473	503UA	503A	10F526	503UA	50K	A
10F474	753UA	753A	10F527	753UA	75K	A
10F475	104UA	104A	10F528	104UA	.10M	A
10F476	154UA	154A	10F529	154UA	.15M	A
10F477	204UA	204A	10F530	204UA	.20M	A
10F478	254UA	254A	10F531	254UA	.25M	A
10F479	354UA	354A	10F532	354UA	.35M	A
10F480	504UA	504A	10F533	504UA	.50M	A

10% TOLERANCE— LOG TAPER

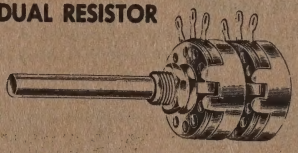
Stk. No.	JA1N200P CW	Stk. No.	JA1N200P CCW	Ohms	Price
10F554	501AA	10F567	501BA	500	A
10F555	102AA	10F568	102BA	1.0K	A
10F556	252AA	10F569	252BA	2.5K	A
10F557	502AA	10F570	502BA	5.0K	A
10F558	103AA	10F571	103BA	10K	A
10F559	253AA	10F572	253BA	25K	A
10F560	503AA	10F573	503BA	50K	A
10F561	104AA	10F574	104BA	.10M	A
10F562	254AA	10F575	254BA	.25M	A
10F563	504AA	10F576	504BA	.50M	A

TYPE J-STYLE RV4L AND DUAL RESISTOR

LINEAR TAPER 10% TOLERANCE

Stk. No.	Type	Mil. No.	Ohms	Price
10F400	JA1L040S500UC	RV4LAYSA500A	50	AA
10F401	JA1L040S101UC	RV4LAYSA101A	100	AA
10F402	JA1L040S151UC	RV4LAYSA151A	150	AA
10F403	JA1L040S201UC	RV4LAYSA201A	200	AA
10F404	JA1L040S251UC	RV4LAYSA251A	250	AA
10F405	JA1L040S351UC	RV4LAYSA351A	350	AA
10F406	JA1L040S501UC	RV4LAYSA501A	500	AA
10F407	JA1L040S751UC	RV4LAYSA751A	750	AA
10F408	JA1L040S102UC	RV4LAYSA102A	1.0K	AA
10F409	JA1L040S152UC	RV4LAYSA152A	1.5K	AA
10F410	JA1L040S202UC	RV4LAYSA202A	2.0K	AA
10F411	JA1L040S252UC	RV4LAYSA252A	2.5K	AA
10F412	JA1L040S352UC	RV4LAYSA352A	3.5K	AA
10F413	JA1L040S502UC	RV4LAYSA502A	5.0K	AA
10F414	JA1L040S752UC	RV4LAYSA752A	7.5K	AA
10F415	JA1L040S103UC	RV4LAYSA103A	10K	AA
10F416	JA1L040S153UC	RV4LAYSA153A	15K	AA
10F417	JA1L040S203UC	RV4LAYSA203A	20K	AA
10F418	JA1L040S253UC	RV4LAYSA253A	25K	AA
10F419	JA1L040S353UC	RV4LAYSA353A	35K	AA
10F420	JA1L040S503UC	RV4LAYSA503A	50K	AA
10F421	JA1L040S753UC	RV4LAYSA753A	75K	AA
10F422	JA1L040S104UC	RV4LAYSA104A	.10M	AA
10F423	JA1L040S154UC	RV4LAYSA154A	.15M	AA
10F424	JA1L040S204UC	RV4LAYSA204A	.20M	AA
10F425	JA1L040S254UC	RV4LAYSA254A	.25M	AA
10F426	JA1L040S354UC	RV4LAYSA354A	.35M	AA
10F427	JA1L040S504UC	RV4LAYSA504A	.50M	AA

FOR LARGER QUANTITIES CONTACT YOUR NEAREST NEWARK FACILITY



TYPE JD1N200P
DUAL POTENTIOMETER
2" PLAIN SHAFT

TYPE JA1L. Hot molded comp. pot. with locking bushing. Linear taper, low noise, infinite resolution. Includes one mtg. nut M-2786, one lock washer M-2898 and one lock nut B-13750. Shpg. Wt. 4 oz.

TYPE JA1L040S
LOCKING BUSHING
⅜" SLOTTED SHAFT

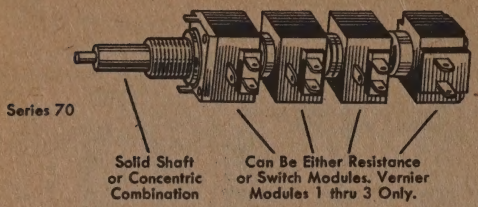
TYPE JD. Dual controls with linear tapers. Panel resistor has the same resistance and taper as the rear resistor. The permissible power dissipation in one resistor element is a function of the power dissipation of the other resistor element. Includes one mounting nut M-2786 and one lock washer M-2898. Max. torque for dual controls is 9 in. oz.; min. 1 in. oz. at 25°C.

DUAL LINEAR-10% TOLERANCE

Stk. No.	Type	Ohms	Price
10F585	JD1N200P500UA	50	BB
10F586	JD1N200P101UA	100	BB
10F587	JD1N200P251UA	250	BB
10F588	JD1N200P501UA	500	BB
10F589	JD1N200P102UA	1.0K	BB
10F590	JD1N200P252UA	2.5K	BB
10F591	JD1N200P502UA	5.0K	BB
10F592	JD1N200P103UA	10K	BB
10F593	JD1N200P253UA	25K	BB
10F594	JD1N200P503UA	50K	BB
10F595	JD1N200P104UA	.10M	BB
10F596	JD1N200P254UA	.25M	BB
10F597	JD1N200P504UA	.50M	BB

Allen-Bradley Mod Pot®

SERIES 70, 72, and 73 POTENTIOMETERS, SWITCHES, VERNIER DRIVE CONTROLS


Series 70
Solid Shaft or Concentric Combination
Can Be Either Resistance or Switch Modules. Vernier Modules 1 thru 3 Only.

Now you can obtain rapid delivery or make A-B MOD POT potentiometers, switches and vernier drive controls. Available in single, dual, triple or four section controls. The controls can be put together in almost any order. We can quickly supply you with special quantities or just an initial quote from our A-B specialist.

Power Rating

Composition	Single Section	Multi-Section
Carbon	1 Watt*	½ Watt/Section
Cermet	2 Watts	1 Watt/Section

*Series 72 rated ½ watt and carbon only.

To Order a Custom MOD POT Control, Submit the Following Information:

- Number and type of sections required (resistance modules listed in **Chart No. 1**, switch modules in **Chart No. 2**, vernier drive sections in **Chart No. 3.**)
- Bushing types (selections listed in **Chart No. 4**).
- Shaft combinations (selection of types in **Chart No. 5**).
- Locating lug options (selection of types in **Chart No. 6**).

CHART NO. 1, RESISTANCE MODULES

Nominal Resistance Values, Ohms

50*	1K	25K	750K
75*	2K	50K	1.0 megs
100	2.5K	75K	2.5 megs
200	5K	100K	5.0 megs
250	7.5K	200K	10.0 megs*
500	10K	250K	
750	20K	500K	

*Carbon composition only.

To Order Resistance Modules, Specify The Following For Each:

- Nominal resistance value in ohms, from **Chart No. 1.**
- Cermet or carbon composition.
- Tol.: Carbon composition, 10% or 20%; Cermet, 5% or 10%.
- Solder lug or square terminals.
- Type of taper: Linear taper. Other tapers available in values of 250 ohms thru 10.0 megohms, carbon composition only, as follows:

Clockwise and counterclockwise modified logarithmic taper.....±10% or ±20% tolerance
Clockwise exact logarithmic taper.....±10% or ±20% tolerance
Modified linear taper.....±10% or ±20% tolerance
Attenuators, L-pad or T-pad.....±15% or ±20% tolerance

CHART NO. 2, SWITCHES

Current Rating: 2 amps rms for 125 V, 60 Hz, non-inductive load.

Switch Type	Contact Arrangement
Rotary	Two sets of contacts per switch*— One set normally open, one set normally closed. Two sets normally open.
Push-Pull or Momentary	Four sets of contacts per switch— Two sets normally open, two sets normally closed.

*Switches are described in the detent position.

To Order Switches, Specify The Following For Each:

- Type of Switch
- Contact Arrangement
- Location of detent required if rotary switch is ordered—either clockwise or counterclockwise end of rotation.

All controls include standard A-B mounting hardware and markings. Extra hardware is available on request. Special markings can be provided on each control, if desired. For additional information, request Allen-Bradley Publication 5217 and Mod Pot Order Form 898.

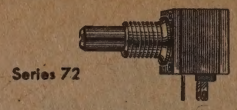


CHART NO. 3, VERNIER DRIVES

Drive	Type of Shaft and Shaft Combination
16-Turn Vernier	Fine adjust shaft only. Fine and coarse adjust shaft.

- To Order Vernier Drive Control, Specify Type of Shaft Or Shaft Combination Required. See Chart No. 5.

CHART NO. 4, MOUNTING BUSHINGS

BUSHING TYPE	DIAMETER	LENGTH ¼"	LENGTH ⅜"	LENGTH ½"
PLAIN	¼"	PA	PC	..
LOCKING	¼"	..	LC	LH
PLAIN	⅜"	PG	PK	..
LOCKING	⅜"	..	BK	BN

To Order Mounting Bushings, Specify Type, Diameter and Length by Choosing Two Letters Listed Under Length Columns, e.g., PA = Plain Mounting Bushing, ¼" dia. x ¼" lg.

CHART NO. 5, SHAFT COMBINATIONS AND LENGTHS

Shaft Operating Combinations	Lengths*
⅛" Dia. Solid	5/16", ⅜", 7/16", ½", ⅝", ¾", ⅞"
¼" Dia. Solid	⅜", ½", ⅝", ¾", ⅞", 1", 1⅛", 1½", 2"
¼" Dia. Outer Concentric ⅛" Dia. Inner Concentric	¾", ⅞", 1" 1", 1⅛", 1¼", 1⅜", 1½"
⅛" Dia. Outer Concentric .078" Dia. Inner Concentric	¾", ⅞", 1" 1", 1⅛", 1¼", 1⅜", 1½"

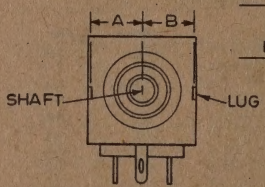
*Lengths are measured from the bushing mounting surface.

To Order Shaft Combination and Length, Specify The Following Information.

- Shaft combination desired
- For dual shaft combinations, specify which sections are to be operated by each shaft.
- Shaft lengths.

Shaft endings. Standard plain round, screw driver slot and flatted shaft endings available on ¼" and ⅛" dia. shafts. .078" dia. shafts available with only plain round endings.

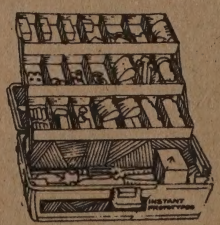
CHART NO. 6 LOCATING LUGS



Dimension A or B, or both, specify distance from shaft center to lug center

Locating Lug Option No. or Letter	A	B
1	.306"	No Lug
3	.375"	No Lug
6	.437"	No Lug
8	.531"	No Lug
2	.305"	.305"
5	.375"	.375"
7	.437"	.437"
9	.531"	.531"
A	No Lug	.365"
B	No Lug	.375"
C	No Lug	.437"
D	No Lug	.531"

To Order Locating Lugs, Specify Lug Option No. or Letter.



MOD POT INSTANT PROTOTYPE

Ingenious MOD POT concept lets you construct the exact control you need. And NEWARK can duplicate your prototypes in volume quantity —fast. Everything needed to assemble practically any pot. Over 300 parts in all: bushings, shafts, vernier drive, resistance elements, switches, a 40 page instruction manual, tools, screws, mounting hardware, lubricants and assembly jig.

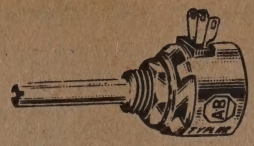
Stock No.	Type	Description	Each
10F1770	24000	Basic Carbon Kit	97.50
10F1771	24001	Basic Cermet Kit	

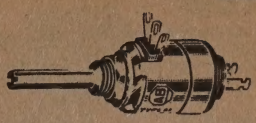
Because of the wide range of standard combinations available, pricing is quoted on an individual specification basis.

Variable and Multiturn Trimmers

TYPES WRA AND WRS HOT-MOLDED VARIABLE RESISTOR – ½ WATT

Carbon comp. pots. offer behind panel depth of less than ½". Type WRS has 1A line switch actuated at beginning of clockwise rotation. Tol.: ±10%. Linear "U" taper. Power: ½ watt max. at +70°C, at rated voltage. Volt: 350V RMS or DC max. working. Temp: Range: Resistor, −55°C to +120°C; switch, −55°C to +100°C Switch: 1A, 125 V, 60 Hz and 1.5A, 28 VDC non-ind.





PRICES

Type	1-9	10-24	25-49	50-99
WRA	6.34	4.51	3.74	2.94
WRS	12.05	9.03	7.13	5.62

DIMENSIONS (in.)

WRA SERIES
Diameter: .500
Shaft Length: .125 min., 2.38 max.
Panel Depth: .422 max.

WRS SERIES
Diameter: .500
Shaft Length: .125 min., 2.5 max.
Panel Depth: .612 max.

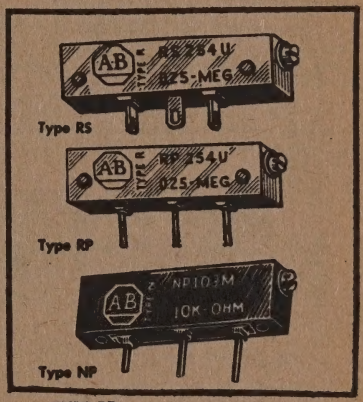
TYPE WRA-LESS SWITCH/TYPE WRS-WITH SWITCH

Stock No.	Type	Ohms	Stock No.	Type	Ohms	Stock No.	Type	Ohms	Stock No.	Type	Ohms
10F2300	WRA1G056S101U	100	10F2310	WRA1G056S253U	25K	10F2320	WRS1G056S101U	100	10F2330	WRS1G056S253U	25K
10F2301	WRA1G056S201U	200	10F2311	WRA1G056S503U	50K	10F2321	WRS1G056S201U	200	10F2331	WRS1G056S503U	50K
10F2302	WRA1G056S251U	250	10F2312	WRA1G056S104U	100K	10F2322	WRS1G056S251U	250	10F2332	WRS1G056S104U	100K
10F2303	WRA1G056S501U	500	10F2313	WRA1G056S204U	200K	10F2323	WRS1G056S501U	500	10F2333	WRS1G056S204U	200K
10F2304	WRA1G056S102U	1K	10F2314	WRA1G056S254U	250K	10F2324	WRS1G056S102U	1K	10F2334	WRS1G056S254U	250K
10F2305	WRA1G056S202U	2K	10F2315	WRA1G056S504U	500K	10F2325	WRS1G056S202U	2K	10F2335	WRS1G056S504U	500K
10F2306	WRA1G056S252U	2.5K	10F2316	WRA1G056S105U	1 meg	10F2326	WRS1G056S252U	2.5K	10F2336	WRS1G056S105U	1 meg
10F2307	WRA1G056S502U	5.0K	10F2317	WRA1G056S205U	2 meg	10F2327	WRS1G056S502U	5K	10F2337	WRS1G056S205U	2 meg
10F2308	WRA1G056S103U	10K	10F2318	WRA1G056S255U	2.5 meg	10F2328	WRS1G056S103U	10K	10F2338	WRS1G056S255U	2.5 meg
10F2309	WRA1G056S203U	20K	10F2319	WRA1G056S505U	5 meg	10F2329	WRS1G056S203U	20K	10F2339	WRS1G056S505U	5 meg

TYPES NP, RP AND RS MULTI-TURN TRIMMERS

- 300 VOLTS MAXIMUM CONTINOUS WORKING VOLTAGE RMS OR DC
- TYPE "RJ11" MIL-R-22097
- TYPE "NP" INDUSTRIAL GRADE

Hot-molded composition, continously adjustable 25-turn variable resistors intended primarily for trimmer applications. Immersion sealed enclosure. Corrosion resistant, non-magnetic materials. Sealed; molded, insulating enclosure with "O" ring equipped adjustment screw. **Type "R"**. MIL approved. Pin or lug terminals spaced on 0.1" grid system for PC boards. **Type RJ11**. Mil-R-22097. Marked with MIL designation and circuit diagrams if applicable. **Type "N"**. Performance similar to Type RP except industrial grade. Available in pin leads only.



	TYPE "R"	TYPE "N"
TEMP. RANGE	−55°C to +125°C	−55°C to +100°C
POWER RATING	¼ watt @70°C	½ watt @ 50°C
DERATE TO 0 WATT	@125°C	@100°C
ROTATION	25 ±3 turns-5% max. res. change/500 cycles	
TORQUE	0.10 to 8 in. oz. +25°C	
RESISTANCE RANGE	100 ohms to 2.5 megohms.	
VOLTAGE	300 Volts max. woking voltage (RMS or DC)	
MOISTURE RESISTANCE	Less than 10% temporary change	
SHOCK/VIBRATION	Less than 3% overall res change	
LOAD LIFE	Less than 10% change in total res. after 1000 hrs.	
ENCLOSURE	Immersion sealed	
MARKING	A-B trademark, resistance value	

TYPE RS

			10% TOLERANCE			20% TOLERANCE		
Stk. No.	Type	MIL-R 22097 RJ11AS	Ohms	Pr.	Stk. No.	Type	Ohms	Pr.
10F1135	RS101U	101	100	A	10F1154	RS101M	100	B
10F1136	RS201U	201	200	A	10F1155	RS201M	200	B
10F1137	RS251U	...	250	A	10F1156	RS251M	250	B
10F1138	RS501U	501	500	A	10F1157	RS501M	500	B
10F1139	RS102U	102	1.0K	A	10F1158	RS102M	1.0K	B
10F1140	RS202U	202	2.0K	A	10F1159	RS202M	2.0K	B
10F1141	RS252U	...	2.5K	A	10F1160	RS252M	2.5K	B
10F1142	RS502U	502	5.0K	A	10F1161	RS502M	5.0K	B
10F1143	RS103U	103	10K	A	10F1162	RS103M	10K	B
10F1144	RS203U	203	20K	A	10F1163	RS203M	20K	B
10F1145	RS253U	253	25K	A	10F1164	RS253M	25K	B
10F1146	RS503U	503	50K	A	10F1165	RS503M	50K	B
10F1147	RS104U	104	.10M	A	10F1166	RS104M	.10M	B
10F1148	RS204U	...	.20M	A	10F1167	RS204M	.20M	B
10F1149	RS254U	254	.25M	A	10F1168	RS254M	.25M	B
10F1150	RS504U	504	.50M	A	10F1169	RS504M	.50M	B
10F1151	RS105U	105	1.0M	A	10F1170	RS105M	1.0M	B
10F1152	RS205U	...	2.0M	A	10F1171	RS205M	2.0M	B
10F1153	RS225U	...	2.5M	A	10F1172	RS225M	2.5M	B

PRICE CODE

Code Letter	1-9	10-24	25-49	50-99
A	4.83	4.54	4.31	4.08
B	4.60	4.31	4.08	3.85
C	4.00	3.75	3.55	3.35

The Type N dimensions are similar to the RP except the Type N has no holes for stack mounting and N slot depth is .035" x .010-.005 instead of .031". Type N available on special order in 10% tolerance. Minimum order 10 pcs. Order in multiples of 10.

TYPE RP

	10% TOLERANCE				20% TOLERANCE			
Stk. No.	Type	Ohms	Pr.	Stk. No.	Type	Ohms	Pr.
10F1090	RP101U	100	A	10F1109	RP101M	100	B
10F1091	RP201U	200	A	10F1110	RP201M	200	B
10F1092	RP251U	250	A	10F1111	RP251M	250	B
10F1093	RP501U	500	A	10F1112	RP501M	500	B
10F1094	RP102U	1.0K	A	10F1113	RP102M	1.0K	B
10F1095	RP202U	2.0K	A	10F1114	RP202M	2.0K	B
10F1096	RP252U	2.5K	A	10F1115	RP225M	2.5K	B
10F1097	RP502U	5.0K	A	10F1116	RP502M	5.0K	B
10F1098	RP103U	10K	A	10F1117	RP103M	10K	B
10F1099	RP203U	20K	A	10F1118	RP203M	20K	B
10F1100	RP253U	25K	A	10F1119	RP253M	25K	B
10F1101	RP503U	50K	A	10F1120	RP503M	50K	B
10F1102	RP104U	.10M	A	10F1121	RP104M	.10M	B
10F1103	RP204U	.20M	A	10F1122	RP204M	.20M	B
10F1104	RP254U	.25M	A	10F1123	RP254M	.25M	B
10F1105	RP504U	.50M	A	10F1124	RP504M	.50M	B
10F1106	RP105U	1.0M	A	10F1125	RP105M	1.0M	B
10F1107	RP205U	2.0M	A	10F1126	RP205M	2.0M	B
10F1108	RP225U	2.5M	A	10F1127	RP255M	2.5M	B

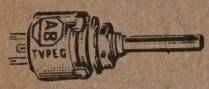
TYPE NP

	20% TOLERANCE					
Stk. No.	Type No.	Ohms	Pr.	Stk. No.	Type No.	Ohms	Price
10F1020	NP101M	100	C	10F1029	NP203M	20K	C
10F1021	NP201M	200	C	10F1030	NP253M	25K	C
10F1022	NP251M	250	C	10F1031	NP503M	50K	C
10F1023	NP501M	500	C	10F1032	NP104M	.10M	C
10F1024	NP102M	1.0K	C	10F1033	NP204M	.20M	C
10F1025	NP202M	2.0K	C	10F1034	NP254M	.25M	C
10F1026	NP252M	2.5K	C	10F1035	NP504M	.50M	C
10F1027	NP502M	5.0K	C	10F1036	NP105M	1.0M	C
10F1028	NP103M	10K	C	10F1037	NP205M	2.0M	C
.....	.....	...	..	10F1038	NP255M	2.5M	C

Cermet Variable Resistors

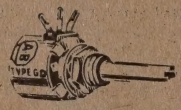
TYPES G, GD, W

Type GA2-L040S and WA2-L040S Locking Bushing



Type GA2-G056S and WA2-G056S Plain Bushing

ACTUAL SIZE



Type GD1-G056S Dual Variable Resistors

TYPE G, GD and W. High quality hot molded carbon composition type. TYPE G approved under MIL-R-94 style RV6. TYPE W similar to TYPE G but is industrial grade. TYPE GD is dual minature type. Plain bushing resistors are supplied with one monting nut M-4721 and one lock washer M-4748. Shaft lock bushings furnished with one locknut M-4761, M-4721 and EM-4748. Shpg. wt. 4 oz.

Type G Type W	Type GD
Torque .5 to 3 in oz @ 25° C	4.5 in oz. @ 25° C
Temp. Range	-55°C to +120°C
Power Rating	1/2 watt @ 70°C
Derate to 0 Watt	@ 120° C
Rotation	295° ±5°
Voltage	350 Volts maximum
Moisture Resis.	Less than 10% of total resistance
Shock & Vibration	Less than 5%
Load Life	Less than 10% after 1000 hrs. of operation
Enclosure	Immersion sealed
Diameter	1/2 in. / 1/2 in.
Shaft length	7/8 in. / 7/8 in.
Panel Depth	45/64 in. / 25/32 in.

ADDITIONAL HARDWARE

Stk. No.	Type	Description	Each
10F1920	M4721	Mounting Nut	.08
10F1921	M4748	Lock Washer	.08
10F1922	M4761	Hex Lock Nut	.24

10% TOLERANCE

Stk. No.	Type GA2 L040S	MIL-R-94 RV6 LAYSA	Ohms	Price
10F660	101UC	101A	100	A
10F661	251UC	251A	250	A
10F662	501UC	501A	500	A
10F663	102UC	102A	1K	A
10F664	252UC	252A	2.5K	A
10F665	502UC	502A	.5K	A

Stk. No.	Type GA2 L040S	MIL-R-94 RV6 LAYSA	Ohms	Price
10F666	103UC	103A	10K	A
10F667	253UC	253A	25K	A
10F668	503UC	503A	50K	A
10F669	104UC	104A	.10M	A
10F670	254UC	254A	.25M	A
10F671	504UC	504A	.50M	A

10% TOLERANCE

Stk. No.	Type GA2 G056S	MIL-R-94 RV6-NAYSD	Ohms	Price
10F636	101UA	101A	100	E
10F637	251UA	251A	250	E
10F638	501UA	501A	500	E
10F639	102UA	102A	1.0K	E
10F640	252UA	252A	2.5K	E
10F641	502UA	502A	5.0K	E
10F642	103UA	103A	10K	E
10F643	253UA	253A	25K	E
10F644	503UA	503A	50K	E
10F645	104UA	104A	.10M	E
10F646	254UA	254A	.25M	E
10F647	504UA	504A	.50M	E

20% TOLERANCE

Stk. No.			Ohms	Price
10F648	105MA	105B	1.0M	F
10F649	205MA	205B	2.0M	F
10F650	255MA	255B	2.5M	F
10F651	505MA	505B	5.0M	F

10% TOLERANCE

Stk. No.	Type GD1-G056S	Ohms	Price
10F610	101UA	100	I
10F611	201UA	200	I
10F612	251UA	250	I
10F613	501UA	500	I
10F614	102UA	1.0K	I
10F615	202UA	2.0K	I
10F616	252UA	2.5K	I
10F617	502UA	5.0K	I
10F618	103UA	10K	I
10F619	203UA	20K	I
10F620	253UA	25K	I
10F621	503UA	50K	I
10F622	104UA	.10M	I
10F623	204UA	.20M	I
10F624	254UA	.25M	I
10F625	504UA	.50M	I
10F626	105UA	1.0M	I
10F627	205UA	2.0M	I
10F628	255UA	2.5M	I
10F629	505UA	5.0M	I

PRICE CODE

Code Letter	1-9	10-24	25-49	50-99
A	5.38	4.37	3.92	2.63
C	4.75	4.10	3.40	2.50
D	4.40	3.70	3.15	2.30
E	5.04	4.20	3.53	2.52
F	4.48	3.92	3.36	2.46
G	4.20	3.55	3.00	2.30
H	4.00	3.35	2.80	2.10
I	10.09	7.42	6.67	5.57

10% TOLERANCE

Stk. No.	Type WA2-L040S	Ohms	Price
10F680	101UC	100	C
10F681	201UC	200	C
10F682	251UC	250	C
10F683	501UC	500	C
10F684	102UC	1.0K	C
10F685	202UC	2.0K	C
10F686	252UC	2.5K	C
10F687	502UC	50K	C
10F688	103UC	10K	C
10F689	203UC	20K	C
10F690	253UC	25K	C
10F691	503UC	50K	C
10F692	104UC	.10M	C
10F693	204UC	.20M	C
10F694	254UC	.25M	C
10F695	504UC	.50M	C

20% TOLERANCE

Stk. No.		Ohms	Price
10F696	105MC	1.0M	D
10F697	205MC	2.0M	D
10F699	505MC	5.0M	D

10% TOLERANCE

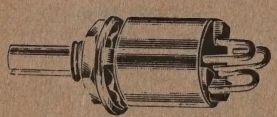
Stk. No.	Type WA2-G056S	Ohms	Price
10F705	101UA	100	G
10F706	201UA	200	G
10F707	251UA	250	G
10F708	501UA	500	G
10F709	102UA	1.0K	G
10F710	202UA	2.0K	G
10F711	252UA	2.5K	G
10F712	502UA	5.0K	G
10F713	103UA	10K	G
10F714	203UA	20K	G
10F715	253UA	25K	G
10F716	503UA	50K	G
10F717	104UA	.10M	G
10F718	204UA	.20M	G
10F719	254UA	.25M	G
10F720	504UA	.50M	G

20% TOLERANCE

Stk. No.		Ohms	Price
10F721	105MA	1.0M	H
10F722	205MA	2.0M	H
10F723	255MA	2.5M	H
10F724	505MA	5.0M	H

TYPE SP

TEMP. RANGE	-65° to + 150°C	TEMP. COEFF.	Less than ±150ppm/°C
POWER RATING	1 watt @ 70°C	SHOCK & VIBRATION	Less than 2% in total resistance
DERATE TO 0 WATT	@ 150°C	TORQUE	½ to 6 in-oz
VOLTAGE	300	ENCLOSURE	Immersion sealed or water tight
MOISTURE RESIST.	Less than 2% in total resistance		



Type SP. Plain Bushing

TYPE SP. Single turn cermet. Linear taper ±10% tolerance. 1/4" plain bushing 5/8" shaft and 3/8" locking bushing 7/16" shaft. Supplied with hardware and mounting lugs. Diameter: .375". Shaft length: .625". Panel Depth: .626". .250"-32NEF-2A thread.

PRICE CODE

Code	1-9	10-24	25-49	50-99
C	7.60	6.40	5.60	4.60
D	7.90	6.64	5.82	4.80

1/4" PLAIN BUSHING 5/8" SLOTTED SHAFT 10% TOLERANCE

Stock No.	Type SPS-G040S	Ohms	Price Code
10F1500	500U	50	C
10F1501	101U	100	C
10F1502	251U	250	C
10F1503	501U	500	C
10F1504	102U	1K	C
10F1505	252U	2.5K	C
10F1506	502U	5.0K	C

Stock No.	Type SPS-G040S	Ohms	Price Code
10F1507	103U	10.0K	C
10F1508	252U	25.0K	C
10F1509	503U	50.0K	C
10F1510	104U	.10M	C
10F1511	254U	.25M	C
10F1512	504U	.50M	C

3/8" LOCKING BUSHING 7/16" SLOT SHAFT 10% TOLERANCE

Stock No.	Type SPS-M028S	Ohms	Price Code
10F1550	500U	50	D
10F1551	101U	100	D
10F1552	251U	250	D
10F1553	501U	500	D
10F1554	102U	1.0K	D

Stock No.	Type SPS-M028S	Ohms	Price Code
10F1555	252U	2.5K	D
10F1556	502U	5.0K	D
10F1557	103U	10.0K	D
10F1558	253U	25.0K	D
10F1559	503U	50.0K	D

Stock No.	Type SPS-M028S	Ohms	Price Code
10F1560	104U	.10M	D
10F1561	254U	.25M	D
10F1562	504U	.50M	D
10F1563	105U	1.0M	D

ATTENTION INDUSTRIAL BUYERS

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Allen-Bradley Cermet Trimmers

35 TYPE A SINGLE-TURN TRIMMERS

A2B VERTICAL ADJ. .100" OFFSET

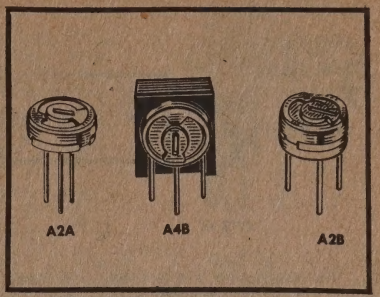
Stock No.	Type	Ohms	Price Code
10F4300	A2B100	10	A2B
10F4301	A2B200	20	A2B
10F4302	A2B500	50	A2B
10F4303	A2B101	100	A2B
10F4304	A2B201	200	A2B
10F4305	A2B251	250	A2B
10F4306	A2B501	500	A2B
10F4307	A2B102	1K	A2B
10F4308	A2B202	2K	A2B
10F4309	A2B252	2.5K	A2B
10F4310	A2B502	5K	A2B
10F4311	A2B103	10K	A2B
10F4312	A2B203	20K	A2B
10F4313	A2B253	25K	A2B
10F4314	A2B503	50K	A2B
10F4315	A2B104	100K	A2B
10F4316	A2B204	200K	A2B
10F4317	A2B254	250K	A2B
10F4318	A2B504	500K	A2B
10F4319	A2B105	1M	A2B
10F4320	A2B205	2M	A2B

A2A VERTICLE ADJ. .070" OFFSET

Stock No.	Type	Ohms	Price Code
10F4321	A2A100	10	A2A
10F4322	A2A200	20	A2A
10F4323	A2A500	50	A2A
10B4324	A2A101	100	A2A
10F4325	A2A201	200	A2A
10F4326	A2A251	250	A2A
10F4327	A2A501	500	A2A
10F4328	A2A102	1K	A2A
10F4329	A2A202	2K	A2A
10F4330	A2A252	2.5K	A2A
10F4331	A2A502	5K	A2A
10F4332	A2A103	10K	A2A
10F4333	A2A203	20K	A2A
10F4334	A2A253	25K	A2A
10F4335	A2A503	50K	A2A
10F4336	A2A104	100K	A2A
10F4337	A2A204	200K	A2A
10F4338	A2A254	250K	A2A
10F4339	A2A504	500K	A2A
10F4340	A2A105	1M	A2A
10F4341	A2A205	2M	A2A

A4B HORIZONTAL ADJ. .100" OFFSET

Stock No.	Type	Ohms	Price Code
10F4342	A4B100	10	A4B
10F4343	A4B200	20	A4B
10F4344	A4B500	50	A4B
10F4345	A4B101	100	A4B
10F4346	A4B201	200	A4B
10F4347	A4B251	250	A4B
10F4348	A4B501	500	A4B
10F4349	A4B102	1K	A4B
10F4350	A4B202	2K	A4B
10F4351	A4B252	2.5K	A4B
10F4352	A4B502	5K	A4B
10F4353	A4B103	10K	A4B
10F4354	A4B203	20K	A4B
10F4355	A4B253	25K	A4B
10F4356	A4B503	50K	A4B
10F4357	A4B104	100K	A4B
10F4358	A4B204	200K	A4B
10F4359	A4B254	250K	A4B
10F4360	A4B504	500K	A4B
10F4361	A4B105	1M	A4B
10F4362	A4B205	2M	A4B



Type A. Miniature, single-turn cermet trimmer for PC board mounting. Rated ½ watt at 85°C. Operating Temperature: -55°C to +150°C. Resistance Tolerance: ±10% standard; others available. Linear taper. Insulation resistance: 1000 megohms minimum. Torque: 0.2 to 2.0 inch ounces. Rotation: 280° ±5. A-B cermet trimmers have extremely long load and wear life. They maintain their setting to give dependable performance even in severe environmental conditions. Leads are permanently fastened, anchored, and bonded. All are immersion-sealed.

PRICING INFORMATION

Price Code	1-9	10-24	25-49	50-99
A2A	1.60	1.54	1.48	1.44
A2B	1.98	1.88	1.78	1.70
A4B	2.40	2.30	2.22	2.16

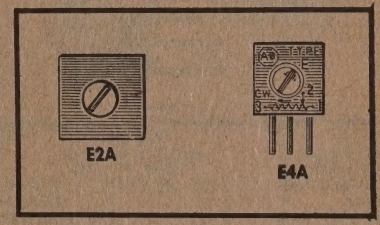
TYPE E SINGLE-TURN CERMET TRIMMERS

E2A VERTICAL ADJUSTMENT .100" OFFSET

Stock No.	Type	Ohms	Price Code
10F3700	E2A100	10	E2
10F3701	E2A200	20	E2
10F3702	E2A500	20	E2
10F3703	E2A101	100	E2
10F3704	E2A201	200	E2
10F3705	E2A501	500	E2
10F3706	E2A102	1K	E2
10F3707	E2A202	2K	E2
10F3708	E2A502	5K	E2
10F3709	E2A103	10K	E2
10F3710	E2A203	20K	E2
10F3711	E2A503	50K	E2
10F3712	E2A104	100K	E2
10F3713	E2A204	200K	E2
10F3714	E2A504	500K	E2
10F3715	E2A105	1M	E2
10F3716	E2A205	2M	E2

E4A HOR. ADJUSTMENT .100" OFFSET

Stock No.	Type	Ohms	Price Code
10F3717	E4A100	10	E4
10F3718	E4A200	20	E4
10F3719	E4A500	50	E4
10F3720	E4A101	100	E4
10F3721	E4A201	200	E4
10F3722	E4A501	500	E4
10F3723	E4A102	1K	E4
10F3724	E4A202	2K	E4
10F3725	E4A502	4K	E4
10F3726	E4A103	10K	E4
10F3727	E4A203	20K	E4
10F3728	E4A503	50K	E4
10F3729	E4A104	100K	E4
10F3730	EAA204	200K	E4
10F3731	E4A504	500K	E4
10F3732	E4A105	1M	E4
10F3733	E4A200	2M	E4



Single turn cermet trimmers for PC board mounting. Linear taper. Rated ½ watt at 70°C. Temperature range, -55°C to +125°C. Plastic case is immersion sealed. Terminals are .037" x .010" at standoff, slightly tapered and on .100" grid spacing. Available in both vertical adjustment and horizontal adjustment types. Tolerance, ±10°.

TYPE RT MULTI-TURN CERMET TRIMMERS

PRICING INFORMATION

Price Code	1-9	10-24	25-49	50-99
E2 E4	.76	.70	.65	.63

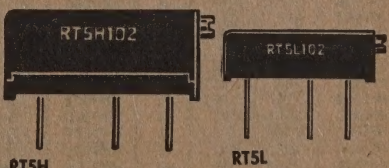
Cermet trimming pots with a 20 turn range. Linear taper. Rated at ¾ watt at 70°C. Temp. range, -65°C to +125°C. Plastic case is immersion sealed. Terms. are .035" x .010" at standoff. Slightly tapered on .100" grid spacing for PC board mounting. Size: Type RT5L, .750"L. x .190" W. x .250" H: Type RT5H, .750"L. x .190" W. x .340"H. Tolerance: ± 10%.

RT5L

Stock No.	Type	Ohms	Price Code
10F3600	RT5L100	10	RT5L
10F3601	RT5L200	20	RT5L
10F3602	RT5L500	50	RT5L
10F3603	RT5L101	100	RT5L
10F3604	RT5L201	200	RT5L
10F3605	RT5L501	500	RT5L
10F3606	RT5L102	1K	RT5L
10F3607	RT5L202	2K	RT5L
10F3608	RT5L502	5K	RT5L
10F3609	RT5L103	10K	RT5L
10F3610	RT5L203	20K	RT5L
10F3611	RT5L503	50K	RT5L
10F3612	RT5L104	100K	RT5L
10F3613	RT5L204	200K	RT5L
10F3514	RT5L504	500K	RT5L
10F3615	RT5L105	1M	RT5L
10F3616	RT5L205	2M	RT5L

RT5H

Stock No.	Type	Ohms	Price Code
10F3650	RT5H100	10	RT5H
10F3651	RT5H200	20	RT5H
10F3652	RT5H500	50	RT5H
10F3653	RT5H101	100	RT5H
10F3654	RT5H201	200	RT5H
10F3655	RT5H501	500	RT5H
10F3656	RT5H102	1K	RT5H
10F3657	RT5H202	2K	RT5H
10F3658	RT5H502	5K	RT5H
10F3659	RT5H103	10K	RT5H
10F3660	RT5H203	20K	RT5H
10F3661	RT5H503	50K	RT5H
10F3662	RT5H104	100K	RT5H
10F3663	RT5H204	200K	RT5H
10F3664	RT5H504	500K	RT5H
10F3665	RT5H105	1M	RT5H
10F3666	RT5H205	2M	RT5H



PRICING INFORMATION

Price Code	1-9	10-24	25-49	50-99
RT5H	1.40	1.30	1.21	1.19
RT5L	.96	.94	.90	.85

Allen-Bradley Trimmers

TYPE S-SINGLE TURN CERMET TRIMMERS

TYPE SH

TYPE SV

Price Code				
Code Letter	1-9	10-24	25-49	50-99
A	3.25	2.25	1.60	1.50
B	3.75	2.75	2.00	1.75

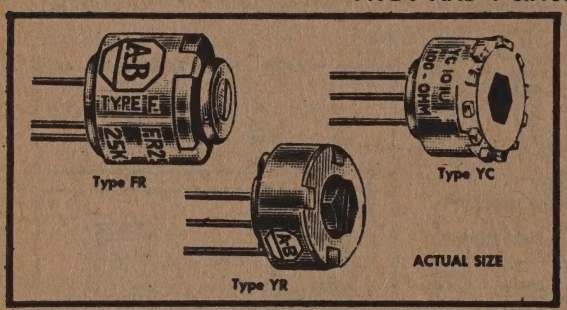
Type S. For applications where severe environmental conditions exist. Have pin terminals for mounting on 0.1" grid circuit boards. **Resistance Range:** 50 ohm to 1 Megohm. **Voltage:** 300 V. **Moisture Resist:** less than 2% total resistance change. **Temp. Coeff:** less than 250ppm/°C. **Load Life:** less than 3% change in total resistance. **Enclosure:** Immersion sealed. **Marking:** AB part number and nominal resistance value.

	Type S
TEMP. RANGE	-65°C to +150°C
POWER	½ Watt @ 85°C
DERATE TO	0 Watt @ 85°C
ROTATION	280° ± 10°

10% TOLERANCE

Stk. No.	Type	Ohms	Price	Stk. No.	Type	Ohms	Price
10F870	SV5001	50	A	10F840	SH5001	50	B
10F871	SV7501	75	A	10F841	SH7501	75	B
10F872	SV1011	100	A	10F842	SH1011	100	B
10F873	SV2011	200	A	10F843	SH2011	200	B
10F874	SV2511	250	A	10F844	SH2511	250	B
10F875	SV5011	500	A	10F845	SH5011	500	B
10F876	SV7511	750	A	10F846	SH7511	750	B
10F877	SV1021	1.0K	A	10F847	SH1021	1.0K	B
10F878	SV2021	2.0K	A	10F848	SH2021	2.0K	B
10F879	SV2521	2.5K	A	10F849	SH2521	2.5K	B
10F880	SV5021	5.0K	A	10F850	SH5021	5.0K	B
10F881	SV7521	7.5K	A	10F851	SH7521	7.5K	B
10F882	SV1031	10K	A	10F852	SH1031	10K	B
10F883	SV2031	20K	A	10F853	SH2031	20K	B
10F884	SV2531	25K	A	10F854	SH2531	25K	B
10F885	SV5031	50K	A	10F855	SH5031	50K	B
10F886	SV7531	75K	A	10F856	SH7531	75K	B
10F887	SV1041	.10M	A	10F857	SH1041	.10M	B
10F888	SV2041	.20M	A	10F858	SH2041	.20M	B
10F889	SV2541	.25M	A	10F859	SH2541	.25M	B
10F890	SV5041	.50M	A	10F860	SH5041	.50M	B
10F891	SV7541	.75M	A	10F861	SH7541	.75M	B
10F892	SV1051	1.0M	A	10F862	SH1051	1.0M	B

TYPE F AND Y SINGLE TURN TRIMMERS



- **Type FR** for demanding rheostat or potentiometer applications.
- **Type YR** and **YC** for trimmer appl. Low profile.
- **Type YR** has pin type term. **Type YC**, slotted and notched actuator.

Type FR. Hot molded carbon composition single turn trimmers. Designed for demanding rheostat or potentiometer applications in electronic equipment. Small ½" dia. size make them ideal for subminiature assemblies and PC applications. Pin type terminals fit 0.1 printed wiring board standard layout. Enclosure: immersion sealed. Pin type terminals and plastic slotted actuator. Shpg. wt. 4 oz.

Type YR and YC. Hot molded carbon composition single turn adjustable resistor for trimmer application. The low profile design fits into commonly used ⅜" PC board stacking. Enclosure: dust and splash resistant.

Type YR pin type terminals. **Type YC** - slotted and notched actuator. Shpg. wt. 4 oz.

	TYPE "FR"	TYPE "YR" AND "YC"
Temp. Range	-55°C to +120°C	-55°C to + 100°C
Power Rating	¼ Watt @ 70°C	¼ watt @ 50°C
Derate to O Watt	@ 120°C	@ 100°C
Rotation	295° ± 5°	
Resistance Range	100 ohms to 5 megohms	
Voltage	350 max.	
Shock/Vibration	Less than 3% in total resistance	
Load Life	10% max. change after 1000 hrs. operation	
Torque	¼ to 3 in. oz.	
Marking	A-B part # and nom. resistance value	

PRICE CODE				
Code Letter	1-9	10-24	25-49	50-99
A	3.20	2.20	1.70	1.60
B	3.00	2.00	1.50	1.40
C	3.35	2.35	1.85	1.75
D	3.15	2.15	1.65	1.55
E	3.10	2.10	1.60	1.50
F	2.90	1.90	1.40	1.30

10% TOLERANCE

Stk. No.	Type FR	Ohms	Price
10F1045	101U	100	A
10F1046	201U	200	A
10F1047	251U	250	A
10F1048	501U	500	A
10F1049	102U	1.0K	A
10F1050	202U	2.0K	A
10F1051	252U	2.5K	A
10F1052	502U	5.0K	A
10F1053	103U	10K	A
10F1054	203U	20K	A
10F1055	253U	25K	A
10F1056	503U	50K	A
10F1057	104U	.10M	A
10F1058	204U	.20M	A
10F1059	254U	.25M	A
10F1060	504U	.50M	A
10F1061	105U	1.0M	A
10F1062	205U	2.0M	A
10F1063	255U	2.5M	A
10F1064	505U	5.0M	A

20% TOLERANCE

Stk. No.	Type FR	Ohms	Price
10F1065	101M	100	B
10F1066	201M	200	B
10F1067	251M	250	B
10F1068	501M	500	B
10F1069	102M	1.0K	B
10F1070	202M	2.0K	B
10F1071	252M	2.5K	B
10F1072	502M	5.0K	B
10F1073	103M	10K	B
10F1074	203M	20K	B
10F1075	253M	25K	B
10F1076	503M	50K	B
10F1077	104M	.10M	B
10F1078	204M	.20M	B
10F1079	254M	.25M	B
10F1080	504M	.50M	B
10F1081	105M	1.0M	B
10F1082	205M	2.0M	B
10F1083	255M	2.5M	B
10F1084	505M	5.0M	B

10% TOLERANCE

Stk. No.	Type YC	Ohms	Price
10F750	101U	100	C
10F751	201U	200	C
10F752	251U	250	C
10F753	501U	500	C
10F754	102U	1.0K	C
10F755	202U	2.0K	C
10F756	252U	2.5K	C
10F757	502U	5.0K	C
10F758	103U	10K	C
10F759	203U	20K	C
10F760	253U	25K	C
10F761	503U	50K	C
10F762	104U	.10M	C
10F763	204U	.20M	C
10F764	254U	.25M	C
10F765	504U	.50M	C
10F766	105U	1.0M	C
10F767	205U	2.0M	C
10F768	255U	2.5M	C
10F769	505U	5.0M	C

20% TOLERANCE

Stk. No.	Type YC	Ohms	Price
10F770	101M	100	D
10F771	201M	200	D
10F772	251M	250	D
10F773	501M	500	D
10F774	102M	1.0K	D
10F775	202M	2.0K	D
10F776	252M	2.5K	D
10F777	502M	5.0K	D
10F778	103M	10K	D
10F779	203M	20K	D
10F780	253M	25K	D
10F781	503M	50K	D
10F782	104M	.10M	D
10F783	204M	.20M	D
10F784	254M	.25M	D
10F785	504M	.50M	D
10F786	105M	1.0M	D
10F787	205M	2.0M	D
10F788	255M	2.5M	D
10F789	505M	5.0M	D

10% TOLERANCE

Stk. No.	Type YR	Ohms	Price
10F795	101U	100	E
10F796	201U	200	E
10F797	251U	250	E
10F798	501U	500	E
10F799	102U	1.0K	E
10F800	202U	2.0K	E
10F801	252U	2.5K	E
10F802	502U	5.0K	E
10F803	103U	10K	E
10F804	203U	20K	E
10F805	253U	25K	E
10F806	503U	50K	E
10F807	104U	.10M	E
10F808	204U	.20M	E
10F809	254U	.25M	E
10F810	504U	.50M	E
10F811	105U	1.0M	E
10F812	205U	2.0M	E
10F813	255U	2.5M	E
10F814	505U	5.0M	E

20% TOLERANCE

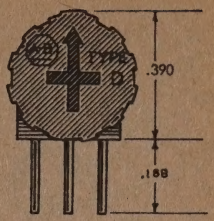
Stk. No.	Type YR	Ohms	Price
10F815	101M	100	F
10F816	201M	200	F
10F817	251M	250	F
10F818	501M	500	F
10F819	102M	1.0K	F
10F820	202M	2.0K	F
10F821	252M	2.5K	F
10F822	502M	5.0K	F
10F823	103M	10K	F
10F824	203M	20K	F
10F825	253M	25K	F
10F826	503M	50K	F
10F827	104M	.10M	F
10F828	204M	.20M	F
10F829	254M	.25M	F
10F830	504M	.50M	F
10F831	105M	1.0M	F
10F832	205M	2.0M	F
10F833	255M	2.5M	F
10F834	505M	5.0M	F

Allen Bradley Cermet Trimmers

SERIES D SINGLE TURN TRIMMERS

- Six Terminal Options
- Multi-Fingered Wiper
- Temp. Coeff. ±100PPM°/C
- 20% Tolerance Standard
- Temp. Range: —55°C to 125°C

Linear taper trimmer potentiometer. Temperature range from —55°C to 125°C. Total resistance tolerances of ±20 percent standard. End resistance is less than 2 ohms at both ends. Power: 0.5 watt @ 70°C, derate to zero @ 125°C. Voltage: 300 volts RMS maximum within power rating limits. Rotation 230°±10° stop to stop. Turning torque of 0.1 to 4.0 inch-ounces at 25°C. Load life of 1000 hours at 70°C, 2 percent maximum change in total resistance or 2 ohms, whichever is greater. Rotation life of 200 cycles, 5 percent max. change in total resistance. **Type D2A**—Vertical Adjust., .100 offset; **Type D2C**—Vertical Adjust. .100 In-line; **Type D4A**—Horizontal Adjust., .100 offset; **Type D4D**—Horizontal Adjust., .100 In-Line.



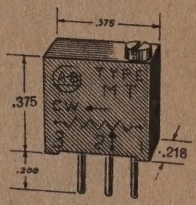
PRICES

Type	1-9	10-24	25-49	50-99
D	.60	.57	.54	.53

Ohms	Stock No.	Type	Stock No.	Type	Stock No.	Type	Stock No.	Type
100	10F4538	D2A101	10F4552	D2C101	10F4564	D4A101	10F4573	D4D101
200	10F4539	D2A201	.....	.....	.....	.....	10F4574	D4D201
500	10F4540	D2A501	10F4553	D2C501	10F4565	D4A501	10F4575	D4D501
1K	10F4541	D2A102	10F4554	D2C102	10F4566	D4A102	10F4576	D4D102
2K	10F4542	D2A202	10F4555	D2C202	.....	.....	10F4577	D4D202
5K	10F4543	D2A502	10F4556	D2C502	10F4567	D4A502	10F4578	D4D502
10K	10F4544	D2A103	10F4557	D2C103	10F4568	D4A103	10F4579	D4D103
20K	10F4545	D2A203	10F4558	D2C203	.....	.....	10F4580	D4D203
50K	10F4546	D2A503	10F4559	D2C503	10F4569	D4A503	10F4581	D4D503
100K	10F4547	D2A104	10F4560	D2C104	10F4570	D4A104	10F4582	D4D104
200K	10F4548	D2A204	10F4561	D2C204	.....	.....	.....	.....
500K	10F4549	D2A504	10F4562	D2C504	10F4571	D4A504	10F4583	D4D504
1 Meg	10F4550	D2A105	10F4563	D2C105	10F4572	D4A105	10F4584	D4D105
2 Meg	10F4551	D2A205	.....	.....	.....	.....	10F4585	D4D205

SERIES MT MULTI-TURN TRIMMERS

Linear taper, 20 turn potentiometer. Multi-fingered wiper. Temperature range: —55°C to 125°C. Total resistance tolerance: ±10 percent standard. End resistance of less than 2 ohms at both ends. Power: 0.5 watt @ 70°C, derate linearly to zero @ 125°C. Voltage: 300 volts RMS maximum within power rating limits. Load life of 1000 hours at 70°C, 2 percent maximum change in total resistance. Rotational life of 200 cycles, 5 percent maximum change in total resistance. Immersion sealed construction. Turning torque of 0.1 to 5 inch-ounces at 25°C. **Notes: Type MT2W**—Vertical adj., .100 in-line; **Type MT4X**—horizontal adj., .100 In-line; **Type MT4P**—horizontal adj., .100 offset.



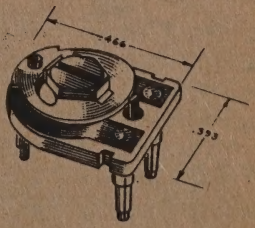
PRICES

Type	1-9	10-24	25-49	50-99
MT	1.71	1.68	1.65	1.57

Ohms	Stock No.	Type	Stock No.	Type	Stock No.	Type
10	10F4500	MT2W100	.....	.....	.....	.....
20	10F4501	MT2W200	.....	.....	.....	.....
50	10F4502	MT2W500	.....	.....	.....	.....
100	10F4503	MT2W101	10F4517	MT4X101	10F4528	MT4P101
200	10F4504	MT2W201	10F4518	MT4X201	.....	.....
500	10F4505	MT2W501	.....	.....	10F4529	MT4P501
1K	10F4506	MT2W102	10F4519	MT4X102	10F4530	MT4P102
2K	10F4507	MT2W202	10F4520	MT4X202	10F4531	MT4P202
5K	10F4508	MT2W502	10F4521	MT4X502	10F4532	MT4P502
10K	10F4509	MT2W103	10F4522	MT4X103	10F4533	MT4P103
20K	10F4510	MT2W203	10F4523	MT4X203	10F4534	MT4P203
50K	10F4511	MT2W503	10F4524	MT4X503	10F4535	MT4P503
100K	10F4512	MT2W104	10F4525	MT4X104	10F4536	MT4P104
200K	10F4513	MT2W204	10F4526	MT4X204	.....	.....
500K	10F4514	MT2W504	.....	.....	.....	.....
1.0M	10F4515	MT2W105	10F4527	MT4X105	10F4537	MT4P105
2.0M	10F4516	MT2W205	.....	.....	.....	.....

SERIES 90 SINGLE-TURN TRIMMERS

Standard "U" linear taper single-turn pot. 20% tot. res. tol. Power: 0.5 watts max. at 70°C provided volt. rating is not exceeded. Voltage: 200 volts max. working voltage. Explanation of Type numbers: Horiz. mtg. top adjust. is indicated by an 'H' in the number. Vert. mtg. side adj. is indicated by a 'V' in the number.



Ohms	Stock No.	Horiz. Mtg.	Stock No.	Vert. Mtg.
100	10F4586	90H1012	10F4600	90V1012
200	10F4587	90H2012	10F4601	90V2012
500	10F4588	90H5012	10F4602	90V5012
1K	10F4589	90H1022	10F4603	90V1022
2K	10F4590	90H2022	10F4604	90V2022
5K	10F4591	90H5022	10F4605	90V5022
10K	10F4592	90H1032	10F4606	90V1032
20K	10F4593	90H2032	10F4607	90V2032
50K	10F4594	90H5032	10F4608	90V5032
100K	10F4595	90H1042	10F4609	90V1042
200K	10F4596	90H2042	10F4610	90V2042
500K	10F4597	90H5042	10F4611	90V5042
1M	10F4598	90H1052	10F4612	90V1052
2M	10F4599	90H2052	10F4613	90V2052

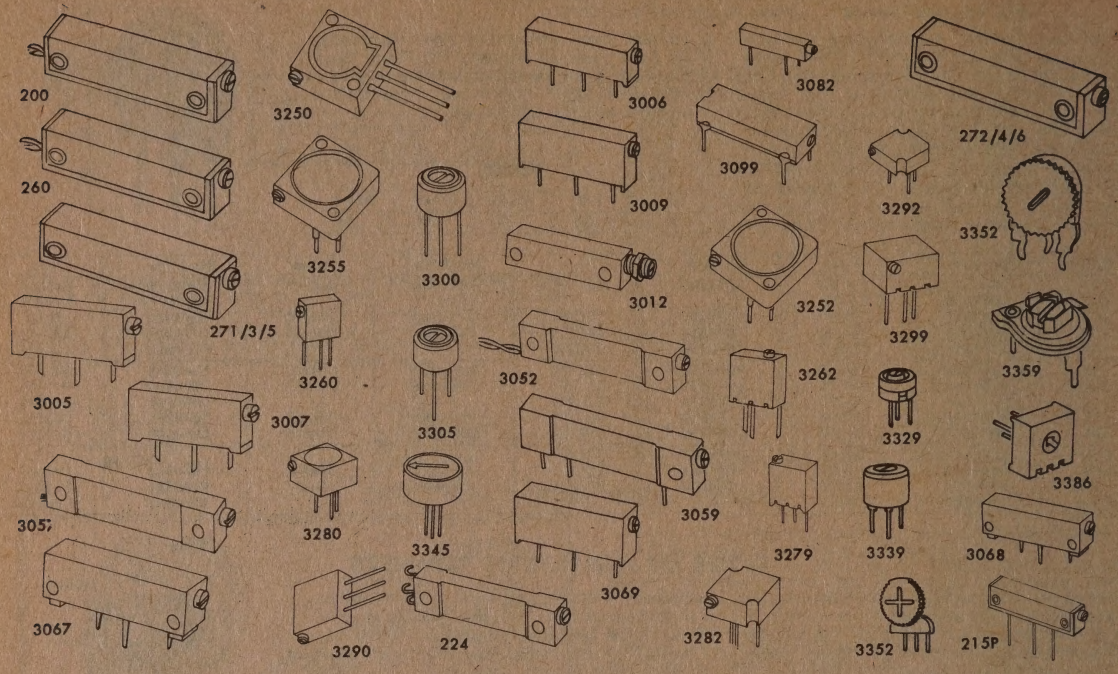
D2E and D4F Series are available on special order. Minimum order 25 pieces per value. Sold only in multiples of 25.

PRICES

Type	1-9	10-24	25-49	50-99
90	1.05	.94	.83	.77

Quick Reference Index

TRIMMING POTENTIOMETERS



KEY TO TERMINAL TYPES

J—J Hook Solder lugs
L—Insulated Stranded Leads
S—Solder Lugs
H—Printed Circuit Pins

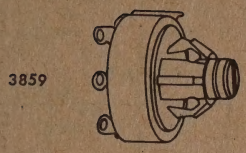
P, T, Y—Printed Circuit Pins (flat mounting)
W—Printed Circuit Pins (edge mounting)
W-66, or X—Printed Circuit Pins (edge mounting, side adjustment for worm gear units only)

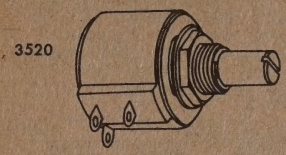
Type	Dimensions H x W x L	Terminals	Res. Tol. (%)	Power (Watt) at 70°C	Max Tem °C	Nom Adj. Turns	Standard Resistances Ω	Page
200	.32x.28x1.25	L, S, P	±10	0.5	105	25	10-100K	157
224	.32x.19x1.25	L, S, P	±5	1.0	175	22	10-10K 20K & 25K 50K	157
260	.32x.28x1.25	S	±10	1.0	175	25	10-100K	157
271 **273** **275**	.32x.28x1.25	L S P	±10	0.50 at 70°C	105	25	10-50K	157
3005	.31x.17x.75	P	±10	1.0 at 40°C	125	20	10-25K	157
3057	.32x.19x1.25	L, P, Y, J	±5	1.0	150	22	10-100K	157
3067	.35x.28x1.00	S, P	±10	0.5 at 25°C	85	15	50-20K	157
3250	.19x.50x.50 .22x.50x.50	L P, W W66	±5	1.0	175	25	10-50K	158
3255	.19x.50x.50 .22x.50x.50	L P, W	±5	1.0 at 50°C	150	25	10-50K	158
3260	.25x.25x.17	H, W	±5	0.2	175	11	10-25K	158
3280	.203x.375x.375	L, P, W W66	±5	1.0	175	25	10-50K	158
3290	.150x.375x.375	L, W, H P	±5	1.0	175	25	10-50K	158
3300	.37x.25x.31 .31 dia. x .18 .31 dia. x .46	W P S	±5	0.5	175	300°	10-25K	158
3305	.31x.25x.375 .31 dia. x .19	W P	±5	0.5 at 70°C	125	280°	10-25K	158
3345	.45 dia. x .25 .45x.32x.57	P W	±5	1.0	150	280°	10-50K	158
3006	.25x.19x.75	P, W, Y	±10	0.75	125	15	10-2 Meg	154
3009	.35x.19x.75	P, Y	±10	0.75 at 25°C	125	20	10-2 Meg	154
3012	.32x.28x1.25	L, P	±10	1.0	175	22	10-2 Meg	154

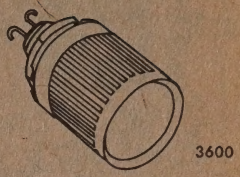
Type	Dimensions H x W x L	Terminals	Res. Tol. (%)	Power (Watt) at 70°C	Max Tem °C	Nom Adj. Turns	Standard Resistances Ω	Page
272 **274** **276**	.32x.28x1.25	L S P	±20	0.20 at 25°C	105	25	5K-5 Meg	159
3052	.32x.19x1.25	L, P, S, Y	±10	1.0	175	22	10-2 Meg	154
3059	.32x.19x1.25	L, P, Y, J	±10	1.0	150	22	10-2 Meg	154
3069	.35x.25x.75	P	±10	0.75 at 25°C	125	20	10-2 Meg	154
3082	.13x.10x.50	P	±10	0.3 at 85°C	150	10	10-2 Meg	155
3099	.25x.19x.75	P	±10	1.0	150	20	10-2 Meg	155
3252	.50x.50x.22	L, P, W, X	±10	1.0	150	23	10-2 Meg	155
3262	.27x.17x.25	P, W, X	±10	0.25 at 85°C	175	12	10-1 Meg	155
3279	.31x.19x.31	W, X	±10	0.3	150	13	10-1 Meg	155
3282	.20x.375x.375	L, P, W, H	±10	0.5 at 85°C	175	25	10-1 Meg	155
3292	.15x.375x.375	L, P, W, X	±10	0.5 at 85°C	175	22	10-1 Meg	155
3299	.39x.37x.25	P, W, X	±10	0.5	125	25	100-1 Meg	155
3329	.250 dia. x.180 .245x.29x.360	P, H W	±10	0.5 at 85°C	150	240°	10-1 Meg 10-1 Meg	156 156
3339	.300 dia. x.25	P, H	±10	0.5 at 85°C	150	4	10-1 Meg	156
3352	.415x.365x.145	T, E, P, W, H, V	±20	0.75 at 40°C	125	230°	10-5 Meg	156
3359	7/16" dia.	P, W	±20	0.5	125	270°	100-2 Meg	156
3386	.375x.375x.19	F, P, R, K W, S, H	±10	0.5 at 85°C	125	280°	10-2 Meg	156
3068	.36x.28x1.0	S, P	±20	0.20 at 25°C	85	15	20K-1 Meg	159
215P	.32x.28x1.25	L, S, P	±20	0.25 at 50°C	135	22	5K-5 Meg	159

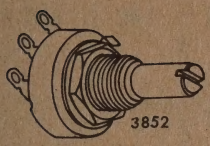
Quick Reference Index

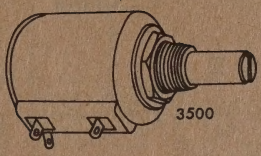
CONTROLS AND PRECISION POTENTIOMETERS

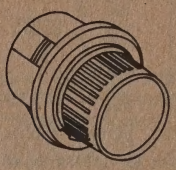


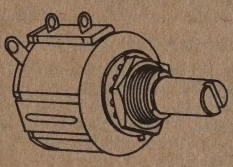


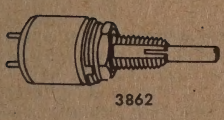


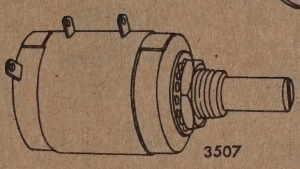


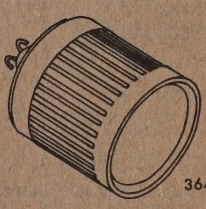


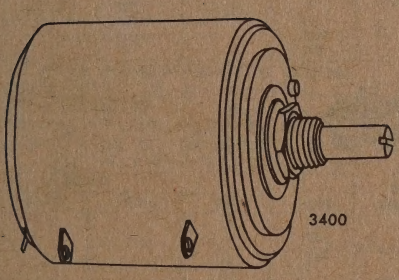


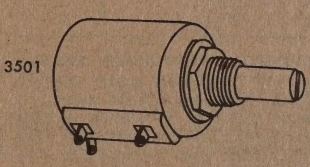


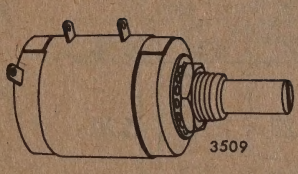












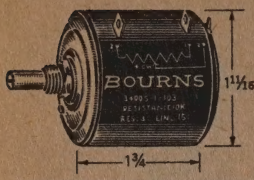
Type	Resistances (Ohms)	Tol.	Rotation	Power	Size Dia. x Lt.	Pg.
3400	100-250K 500K	±3%	3600° (+4°/—0°)	5W at 40°C	1 13/16"x1¾"	152
3500	50-125K, 150K, 200K, 250K, 500K	±3%	3600° (+10°/—0°)	2W at 70°C	⅞"x1"	152
3501	1K-500K 1, 2, 4 Meg	±10%	3600° (+10°/—2°)	2W at 70°C	⅞"x1"	152
3507	50 to 250K	±5%	3600° (+10°/—0°)	2W at 25°C	⅞"x1⅛"	152
3509	100 to 100K	±5%	3600° (+10°/—2°)	2W at 25°C	⅞"x1⅛"	152
3520	25-75K 100K, 250K	±3%	1080° (+10°/—0°)	1.5W at 70°C	⅞"x1 1/16"	152
3540	100-100K	±5%	3600° (+10°/—0°)	2.0W at 70°C	⅞"x¾"	152
3600	100 to 250K	±5%	3600° nom.	1.5W at 25°C	¾"x1⅜"	159
3610	100 to 250K	±5%	3600° nom.	1.5W at 25°C	⅞"x1¾"	159
3640	100 to 500K	±3%	3600° nom.	2.5W at 25°C	1¼"x1½"	159

Type	Resistances Ohms	Tol.	Rotation	Power	Max. Oper. Temp. Range	Size Dia. x Lt.	Pg.
3650	100 to 100K	±3%	3600° nom.	2.5W at 25°C	—25 to +85°C	1¼"x2 15/32"	159
3852A	50 to 5 Meg	±10%	280°±5°	2W at 70°C	—65 to +150°C	¾"x¼"	153
3852B	50 to 5 Meg	±10%	280°±5°	2W at 70°C	—65 to +150°C	¾"x¼"	153
3852C	50 to 5 Meg	±10%	280°±5°	2W at 70°C	—65 to +150°C	¾"x¼"	153
3852E	50 to 5 Meg	±10%	280°±5°	2W at 70°C	—65 to +150°C	¾"x¼"	153
3859A	50 to 5 Meg	±10%	280°±5°	2W at 70°C	—65 to +125°C	¾"x¼"	153
3859B	50 to 5 Meg	±10%	280°±5°	2W at 70°C	—65 to +125°C	¾"x¼"	153
3862C	100 to 5 Meg	±10%	295°±3°	1W at 125°C	—65 to +175°C	½"x.453"	153
3862E	100 to 5 Meg	±10%	295°±3°	1W at 125°C	—65 to +175°C	½"x.453"	153

Potentiometers

BUSHING MOUNT PRECISION POTENTIOMETERS

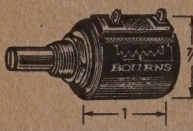
10-TURN 1 1/16" DIAMETER MODEL 3400S-1



Exceeds humidity cycling requirements of MIL-R-12934. Shaft supported front and rear by sleeve bearings. Power rating: 5.0 watts at 40°C. Absolute min. resistance: 1.0 ohms or 0.15%, whichever is greater. Independent linearity: ±0.15% maximum. Max. oper. temp. 105°C. Tolerance: ±3%. Size: 1 13/16" dia. x 1 3/4" lgth.

Stock Number	Ohms	EACH 1-4	5-9	10-24	25-49
12F9766	100 200 500 1K 2K 10K 20K 30K 50K 100K 200K	13.51	11.48	10.81	10.13
	500K	27.41	23.30	21.93	20.56

10-TURN 7/8" DIAMETER WIRE-WOUND MODEL 3500S-2



Humidity exceeds requirement MIL-R-12934. Power: 2 watts at 70°C. Absolute min. Resistance: 1 ohm or 0.1%, whichever is greater. Independent linearity: ±0.20%. Oper. temp. 125°C max. Tolerance: ±3%. Size: 7/8" dia. x 1" lgth.

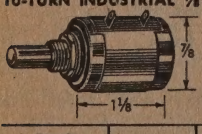
Stock Number	Ohms	EACH 1-4	5-9	10-24	25-49
12F9767	500 1K 2K 5K 10K 20K 50K 100K	13.60	11.56	10.88	10.20

10-TURN 7/8" DIAMETER CONDUCTIVE PLASTIC MODEL 3501S-1

Infinitron® conductive plastic element provides essentially infinite resolution. Exceeds moisture resistance requirements of MIL-R-39023. Power: 2.0 watts at 70°C (325 volts maximum). Independent Linearity: ±.5% maximum. Max. Oper. Temp.: 105°C. Tolerance: ±10%. Size: 7/8" dia. x 1" lgth.

Stock Number	Ohms	EACH 1-4	5-9	10-24	25-49
12F9768	1K 2K 5K 10K 20K 50K 100K 500K	20.26	17.22	16.21	15.20
	1M	51.15	43.48	40.92	38.36

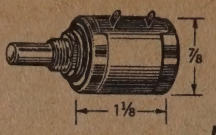
10-TURN INDUSTRIAL 7/8" DIAMETER WIRE-WOUND MODEL 3507S-1



Excellent wiper stability. Power: 2 watts at 25°C. Absolute min. Resistance: 1.0 or 0.25%, whichever is greater. Max. oper. temp.: 105°C. Size: 7/8" dia. x 1 1/8" lg. Screwdriver slot standard.

Stock Number	Ohms	EACH 1-4	5-9	10-24	25-49
12F9769	50 100 200 500 1K 2K 5K 10K 20K 30K 50K 100K	9.63	8.19	7.70	7.22
	250K	23.52	19.99	18.82	17.64

10-TURN 7/8" DIAMETER WIRE-WOUND MODEL 3509S-1 and 3509S-8



Nonmetallic shaft and bushing. Power: 2 watts at 25°C. Absolute Min.: 1 ohm or .25%, whichever is greater. Independent Linearity: ±.25% max. Oper. Temp. Max.: 105°C. Tolerance: ±5%. 3509S-8 has metallic shaft bushing. Size: 7/8" dia. x 1 1/8" lgth.

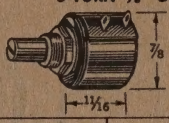
MODEL 3509S-1

Stock Number	Ohms	EACH 1-4	5-9	10-24	25-49
12F9770	100 200 500 1K 2K 5K 10K 20K 50K 100K	8.70	7.40	6.96	6.53

Model 3509S-8

Stock Number	Ohms	EACH 1-4	5-9	10-24	25-49
12F9821	100 200 500 1K 2K 5K 10K 20K 50K 100K	9.63	8.19	7.70	7.22

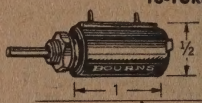
5-TURN 7/8" DIAMETER WIRE-WOUND MODEL 3520S-1



Exceeds humidity cycling requirements of MIL-R-12934. Power: 1.5 w at 70°C. Abs. Min. Resistance: 1.0 ohm or 0.1%, whichever is greater. Independent Linearity: ±0.3% max. Oper. Temp. Max. 125°C. Tolerance: ±3%. Size: 7/8" dia. x .678" lgth.

Stock Number	Ohms	EACH 1-4	5-9	10-24	25-49
12F9771	1K 2K 5K 10K 20K 50K	20.37	17.31	16.30	15.28

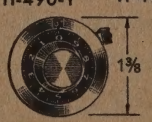
10-TURN 7/8" DIAMETER MODEL 3540S-1



Extends only 3/4" behind panel. Power: 2 watt @ 70°C. Tolerance: ±5%. Linearity ±0.25%. Oper. Temp. Range: −55° to +125°C. Absolute Min.: 1.0 ohm or 0.1% whichever is greater. .875" dia. x 1 9/16" lgth.

Stock Number	Ohms	EACH 1-9	10-24	25-49	50-99
12F9587	100 200 500 1K 2K 5K 10K 20K 50K 100K	6.25	5.65	5.35	5.05

H-490-1 H-490-2



H-510-2

TURNS COUNTING DIALS

For use with precision potentiometers or other rotating devices up to 30 turns. Mounts directly to pot shaft. 0.30 turns. 100 dial div. per turn. Oper. Temp. Range: −15° to +85°C.

Stock No.	Bourns No.	Finish	Shaft Dia.	Brake	EACH 1-4	5-9	10-24	25-49
12F9665	H-491-1	Clear	5/32"	No	10.65	9.05	8.52	7.99
12F9668	H-494-1	Black	5/32"	Yes	11.50	9.78	9.20	8.63
12F9416	H-492-2	Clear	1/8"	Yes	10.65	9.05	8.52	7.99
12F9418	H-494-2	Black	1/8"	Yes	11.50	9.78	9.20	8.63
12F9669	H-491-3	Clear	1/4"	No	10.00	8.50	8.00	7.50
12F9670	H-492-3	Clear	1/4"	Yes	10.00	8.50	8.00	7.50
12F9671	H-493-3	Black	1/4"	No	10.83	9.21	8.66	8.12
12F9672	H-494-3	Black	1/4"	Yes	10.83	9.21	8.66	8.12
12F9674	H-510-2	Clear	1/4"	Yes	12.00	10.20	9.60	9.00

Potentiometers

CERMET CONTROLS

MODEL 3852A

⅜" Plain bushing; ¼" shaft dia.

3852A-162 ½" shaft lgth. Stk. No.	3852A-282 ⅞" shaft lgth. Stk. No.	Ohms
12F9675	12F9903	50 100 250 500 1K 2.5K 5K 10K 25K 50K 100K 250K 500K 1M 2.5M 5M

	EACH			
	1-9	10-24	25-49	50-99
Price	2.65	2.36	2.31	2.20

MODEL 3852B

⅜" Locking bushing; ¼" shaft dia.

3852B-202 ⅝" shaft lgth. Stk. No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9676	50 100 250 500 1K 2.5K 5K 10K 25K 50K 100K 250K 500K 1M 2.5M 5M	2.94	2.62	2.56	2.44

MODEL 3852C

¼" Plain bushing; ⅛" shaft dia.

3852C-122 ⅜" shaft lgth. Stk. No.	3852C-282 ⅞" shaft lgth. Stk. No.	Ohms
12F9677	12F9985	50 100 250 500 1K 2.5K 5K 10K 25K 50K 100K 250K 500K 1M 2.5M 5M

	EACH			
	1-9	10-24	25-49	50-99
Price	3.20	2.85	2.78	2.66

MODEL 3852E

¼" dia. locking bushing; ⅛" shaft dia.

3852E-162 ½" shaft lgth. Stk. No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9678	50 100 250 500 1K 2.5K 5K 10K 25K 50K 100K 250K 500K 1M 2.5M 5M	3.50	3.12	3.05	2.91

MODEL 3859A

⅜" Plain bushing; ¼" shaft dia.

3859A-162 ½" shaft lgth. Stk. No.	3859A-282 ⅞" shaft lgth. Stk. No.	Ohms
12F9679	12F9904	50 100 250 500 1K 2.5K 5K 10K 25K 50K 100K 250K 500K 1M 2.5M 5M

	EACH			
	1-9	10-24	25-49	50-99
Price	2.15	1.91	1.87	1.78

MODEL 3859B

⅜" snap-in bushing; ¼" shaft dia.

3859B-122 ⅜" shaft lgth. Stk. No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9680	50 100 250 500 1K 2.5K 5K 10K 25K 50K 100K 250K 500K 1M 2.5M 5M	2.15	1.91	1.87	1.78

MODEL 3862C

¼" Plain bushing; ⅛" shaft dia.

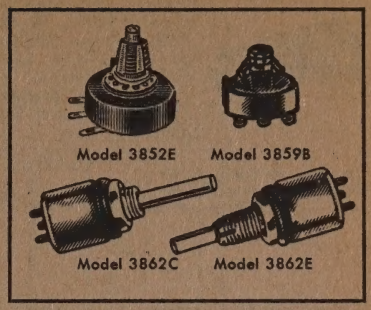
3862C-122 ⅜" shaft lgth. Stk. No.	3862C-282 ⅞" shaft lgth. Stk. No.	Ohms
12F9681	12F9905	100 250 500 1K 2.5K 5K 10K 25K 50K 100K 250K 500K 1M 2.5M 5M

	EACH			
	1-9	10-24	25-49	50-99
Price	4.95	4.35	4.01	3.08

MODEL 3862E

¼" Locking bushing; ⅛" shaft dia.

3862E-202 ⅝" shaft lgth. Stk. No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9682	100 250 500 1K 2.5K 5K 10K 25K 50K 100K 250K 500K 1M 2.5M 5M	5.24	4.60	4.25	3.26



CERMET ELEMENT PANEL MOUNTED POTENTIOMETERS

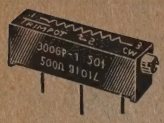
Single turn potentiometers for panel mount have improved adjustability and low noise for outstanding performance. Thin ¾" diameter case has extremely high power rating: 2 watts at +70°C. Resistance tolerance: ±10%. Tapers: Linear, 10% CW or 10% CCW. Contact resistance variation: ±3% maximum of total resistance. Temperature coefficient: ±150 ppm/°C. High Performance Models meet or exceed applicable requirements of MIL-R-94 or MIL-R-23285. **High Performance Model 3852:** Housing ¾" dia. x ¼" length. Resistance range: 50 ohms to 5 megs, linear taper; 1K to 2.5 megs, CW and CCW taper. Power rating: 2 watts at 70°C, linear; 1 watt, CW and CCW taper. Operating temperature: −65° to +150°C. **Commercial Model 3859:** Same as model 3852 except operating temperature range −65°C to +125°C. **High Performance Model 3862:** Housing ½" dia. by 0.453" length. Resistance range: 100 ohms to 5 megs, linear taper; 500 ohms to 2.5 megs, CW and CCW tapers. Power rating: 1 watt at 125°C, linear taper; 0.5 watt, CW and CCW taper. Operating temperature range: −65°C to +175°C. **All models supplied with hardware; other shaft lengths available. Types with locking bushings supplied with locking nut. All models have lug terminals and slotted shaft end. Specify ohms rating desired when ordering.**

MOUNTING HARDWARE

Stock No.	Type	Used For	100/Pkg.
12F9419	H-36-1 Flat Washer	3862C, E 3852C, E	1.00
12F9420	H-36-2 Flat Washer	3852A, B 3859A	1.00
12F9421	H-37-1* Lock Washer	3852C, E 3862C, E	1.00
12F9422	H-37-2* Lock Washer	3852A, B 3859A	1.90
12F9423	H-38-1* Mounting Nut	3852C, E 3862C, E	1.70
12F9424	H-38-2* Mounting Nut	3852A, B 3859A	2.00
12F9425	H-38-3* Locknut	3852E 3862E	2.00
12F9426	H-38-4* Locknut	3852B	3.50
12F9427	H-39 Adapter	3852A, B 3859A	N/C
12F9428	H-40-1 Panel "O" Ring	3852C, E	.10 EA.
12F9429	H-40-2 Panel "O" Ring	3862C, E	.20 EA.

(*) Indicates hardware supplied with unit.

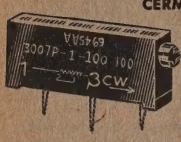
TRIMPOT® MODEL 3006



Low cost, low profile with high power rating: 0.75 watt at 70°C. 15 turns. Sealed to MIL-R-22097, withstands industrial cleaning process. Maximum operating temperature: 125°C. Tolerance: ±10%. Temperature coefficient: ±100 ppm/°C. Size: 0.190″ w. x .250″ h. x .75″ lgth. **When ordering specify ohms.**

3006P Stk. No.	3006W Stk. No.	3006Y Stk. No.	Ohms	EACH 1-49	50-99	100-499	500-999
12F9805	12F9806	12F9450	100 200 500 1K 2K 5K 10K 20K 50K 100K 200K 500K 1M	.96	.88	.80	.72

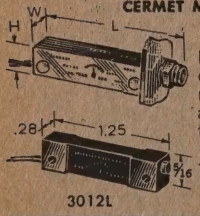
CERMET E-Z TRIM® MODEL 3009



Wiper assembly idles at both ends of trave . 20 turns nominal adjustment. Power rating; 0.75 watt at 25°C. Absolute min. res.; 2.0% or 1 ohm, whichever is greater. Max. oper. temp.: 125°C. Tolerance: 10%, Temp. coefficient: ±100 ppm/°C. Size; .19″ w. x .35″ h. x .75″ lgth. **When ordering specify ohms.**

3009P Stk. No.	3009Y Stk. No.	Ohms	EACH 1-49	50-99	100-499	500-999
12F9610	12F9611	10 20 50 100 200 500 1K 2K 5K 10K 20K 50K 100K 200K 500K 1M 2M	1.65	1.51	1.37	1.24

CERMET MODEL TRIMPOT® 3012 (RJ11)

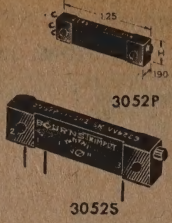


3012L

Requirements of MIL-R-22097 met or exceeded. Power rating: 1.0 watt or 500 volts max. at 70°C. End setting: 2 ohms maximum all resistances. Nominal adjustment: 22 turns. Operating temperature: −65° to +175°C. Tolerance: 10%. 0.280″ w. x .31 x 1.25″. **When ordering specify ohms.**

3012L Stk. No.	3012P Stk. No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9661	12F9662	100 200 500 1K 2K 5K 10K 20K 50K 100K 200K 500K 1M	7.18	6.65	5.98	5.68

CERMET TRIMPOT® MODEL 3052 (RJ12)



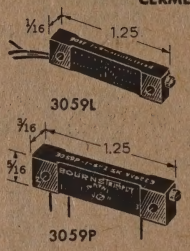
3052P

3052S

Meets all specifications of MIL-R-22097. High operating temp. maximum; 175°C. Power rating: 1.0 watt at 70°C. Idling wiper assembly. End setting: 2 ohms maximum all resistances. Nom. adjustment: 22 turns. Oper. temp.: −65°C to −175°C. .190″ w. x .325″ x 1.25″. **When ordering specify ohms.**

3052P Stk. No.	3052S Stk. No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9659	12F9660	100 200 500 1K 2K 5K 10K 200K 50K 100K 200K 500K 1M	6.53	6.05	5.44	5.17

CERMET MODEL 3059 (RJ12)



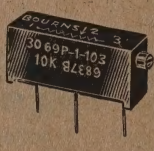
3059L

3059P

MIL spec immersion seal gives trouble-free operation after PC board processes. Solderable pins for compatibility with automated and hand soldering methods. Temperature Coefficient: ±100 ppm/°C max. over entire resistance and temperature range. Power Rating: 1.0 watt or 400 volts max. at 70°C. Abs. Min. Res.: 2 ohms, max. Mechanical Adjustment: 22±5 turns. Oper. Temp.: −55°C to +150°C. Size: 3/16″ w x 5/16″ h x 1¼″ lg. **When ordering specify ohms.**

3059J Stk. No.	3059L Stk. No.	3059P Stk. No.	3059Y Stk. No.	Ohms	EACH 1-49	50-99	100-499	500-999
12F9633	12F9634	12F9635	12F9636	100 200 500 1K 2K 5K 10K 20K 50K 100K 200K 500K 1M	3.32	3.04	2.77	2.49

CERMET E-Z TRIM® MODEL 3069P



MIL Spec immersion seal gives trouble-free operation after P.C. board processes. Tinned pins for compatibility with automated and hand soldering methods. 20 turns nominal adjustment. Power rating: 0.75 watt at 25°C. Absolute minimum resistance: 2% or 1 ohm whichever is greater. Operating maximum temperature: 125°C. Tolerance: ±10%. Temperature coefficient: ±100 ppm/°C. Size: 0.25″ w. x 0.35″ h. x 0.75″ lgth. **When ordering specify ohms.**

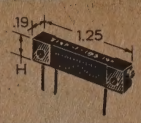
Stock No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9616	20 50 100 200 500 1K 2K 5K 10K 20K 50K 100K 200K 500K 1M 2M	2.13	2.02	1.92	1.87

Potentiometers

BOURNS INC

MICROMINIATURE TRIMPOT® CERMET MODEL 3082P

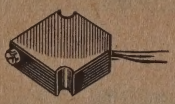
Temp. coefficient: ±100 ppm/°C max. over entire temp. and resistance range. Power: 0.3 watt at 85°C. Abs. min. resist.: 2 ohms max. Mechanical adjustment through entire range: 10 turns nominal. Oper. temp.: −65° to +150°C. Size: 0.100″ w. x 0.500″ lgth. x 0.150″ h. **When ordering specify ohms.**



Stock No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9716	200 500 1K 2K 5K 10K 20K 50K 100K	7.70	7.13	6.42	6.09

½″ SQUARE CERMET TRIMPOT® MODEL 3252 (RJ22)

Meets requirements of MIL-R-22097. Style RJ22, Char. C. Temp. Coeff.: ±100 ppm/°C max. over entire temp. and resist. range. Power: 1.0 watt or 400 volts max. at 70°C. Abs. Min. Resist: 1 ohm, all values. Mechanical Adjustment: 22 turns nominal. Oper. Temp. Range: −65°C to +150°C. Size: ½″ sq. x 3/16″ t. (L): 7/32″ t. (P, W and X). **When ordering specify ohms.**



3252P Stk. No.	3252W Stk. No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9692	12F9693	100 200 500 1K 2K 5K 10K 20K 25K 50K 100K 500K 1M	5.90	5.62	5.31	5.01

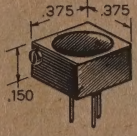
CERMET MULTI-TURN COMMERCIAL MODEL 3279

Meets MIL-R-22097. Mechanical adjustment: 13 turns nominal. Power: 0.3 W at 70°C. Size (HWL): .19″ x .31″ x .31″.

3279W Stk. No.	3279X Stk. No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9451	12F9460	1K	5.09	4.63	4.16	3.97
12F9452	12F9461	2K				
12F9453	12F9462	5K				
12F9454	12F9463	10K				
12F9455	12F9464	20K				
12F9456	12F9465	50K				
12F9457	12F9466	100K				
12F9458	12F9467	200K				
12F9459	12F9468	500K				

⅜″ SQUARE CERMET TRIMPOT® MODEL 3292 (RJ24)

Meets MIL-R-22097. Char. C and F, Style RJ24. Temp. Coeff.: ±100 ppm/°C over entire temp. and resist. range. Power: 0.5 watt or 400 volts max. at 85°C. Abs. Min. Resist: 1 ohm, all values. Mechanical Adjustment: 22 turns nominal. Oper. Temp. Range: −65°C to +150°C. Size: 0.375″ sq. x 0.150″ thk. **When ordering specify ohms.**



3292P Stk. No.	3292W Stk. No.	3292X Stk. No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9708	12F9709	12F9710	200 500 1K 2K 5K 10K 20K 50K 100K 1M	6.83	6.49	6.15	6.01

CERMET DUAL IN-LINE TRIMPOT® MODEL 3099P

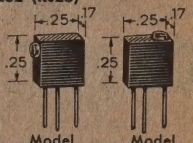
Sealed to meet MIL-R-22097 immersion requirements. Standard DIP size (TO-116) compatible with DIP automatic insertion equipment. Temp. Coeff.: ±100 ppm/°C max. over entire temp. and resist. range. Power: 1.0 watts @ 70°C. Abs. Min. Res.: 2% or 1 ohm, whichever is greater. Mechanical Adjustment: 20 turns nominal. Oper. Temp.: −55°C to +150°C. Size: 0.250″w. x 0.190″h. x 0.750″ lg. **When ordering specify ohms.**

.25x.19x.75

Stock No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9626	100 200 500 1K 2K 5K 10K 20K 50K 100K 200K 500K 1M	3.75	3.35	3.00	2.80

¼″ SQUARE CERMET MODEL 3262 (RJ26)

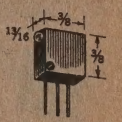
Meets requirements of MIL-R-22097, style RJ26. Temp. coeff.: ±100 ppm/°C max. over entire temp. and resist. range. Power: .25 watt at 85°C. Abs. min. resist.: 1 ohm, all resistances. Mechanical adjustment: 12 ±2 turns. Oper. temp. range: −65° to +175°C. Size: 0.250″ sq. x 0.170″ thk. **When ordering specify ohms.**



3262W Stk. No.	3262X Stk. No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9713	12F9714	100 200 500 1K 2K 5K 10K 20K 25K 50K 100K 1M	7.35	6.83	6.13	5.83

⅜″ SQUARE CERMET TRIMPOT® MODEL 3282

Meets requirements of MIL-R-22097. Power: 0.5 watt at 85°C. Abs. Min. Res: 0.1% or 1.0Ω whichever is greater. Mechanical Adjustment: 25 turns nominal. Temp. Coeff.: ±100 ppm/°C max. at all Resistances. Oper. Temp. Range: −65°C to +175°C. Size: ⅜″ sq. x 13/64″ thk. **When ordering specify ohms.**



Model 3282

3282P Stk. No.	3282W Stk. No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9701	12F9702	100 200 500 1K 2K 5K 10K 20K 50K 100K	8.94	8.49	8.05	7.87

SQUARE MULTI-TURN MODEL 3299

Commercial TRIMPOT Cermet potentiometer. Meets MIL-R-22097. Power Rated at 0.5W at 70°C. Mechanical Adjustment: 25 turns nominal. Max. Oper. Temp.: 125°C. Size (HWL): .39″ x .37″ x .25″.

.39x.37x.25

3299P Stk. No.	3299W Stk. No.	3299X Stk. No.	Ohms	EACH 1-49	50-99	100-499	500-999
12F9565	12F9545	12F9555	100	1.71	1.57	1.42	1.28
12F9566	12F9546	12F9556	500				
12F9567	12F9547	12F9557	1K				
12F9568	12F9548	12F9558	2K				
12F9569	12F9549	12F9559	5K				
12F9570	12F9550	12F9560	10K				
12F9571	12F9551	12F9561	20K				
12F9572	12F9552	12F9562	50K				
12F9573	12F9553	12F9563	100K				
12F9574	12F9554	12F9564	1M				

COMMERCIAL SINGLE-TURN AND MULTI-TURN POTENTIOMETERS

Model 3329H

MODEL 3329 TRIMPOT® SINGLE-TURN

Meets MIL-R-22097. Positive sealed to withstand wave soldering and immersion cleaning. Rated 0.5W @ 85°C. Min. resistance 2 ohms. Max. operating temp. 150°C. Tolerance ±10%. Size: (H & P). 250" dia. x .180" H; (W) .290" W x 0.245" dia. x .360" H.

Stk. No.					Stk. No.		
3329H	3329P	1-49	50-99	Ohms	3329W	1-49	50-99
				10*			
				20*			
				50*			
				100			
				200			
				500			
				1K			
12F9604	12F9605	1.41	1.29	2K	12F9606	1.41	1.29
				5K			
				10K			
				20K			
				50K			
				100K			
				200K			
				500K			
				1M			

(*) Not available in 3329W.

Model 3339P

MODEL 3339 CERMET MULTI-TURN

Precise wiper setting. Sealed to withstand wave soldering and immersion cleaning. Humidity characteristics meet MIL-STD-202. Four turns. 0.5 watt at 85°C. Operating temp. max.: 150°C. Tol.: +10%. Temp. coef.; ±100 ppm/°C. Size: 0.30" dia. x 0.25" H, except (W) .312"W x .315" T x .375" H.

Stk. No.					Stk. No.		
3339H	3339P	1-9	10-24	Ohms	3339W	1-9	10-24
				100			
				200			
				500			
				1K			
				2K			
12F9823	12F9607	2.50	2.32	5K	12F9434	3.50	3.25
				10K			
				20K			
				50K			
				100K			
				200K†			
				500K†			
				1M†			

(†) Not available in 3339H or 3339P.

MODEL 3386 COMMERCIAL CERMET

Meets military specifications for humidity. Nominal adjustment turns 280°. Power rating 0.5 watt at 85°C. Maximum operating temperature 125°C. Resistance Tolerance ±10%. Size .375" H x .375" W x .19" L.

Stk. No.				Stock No.					
3386F	1-49	50-99	Ohms	3386P	3386R	3386S	3386W	1-49	50-99
13F015			100		13F028				
13F016			200		13F029				
13F017			500		13F030				
13F018			1K		13F031				
13F019			2K		13F032				
13F020			5K		13F033				
13F021	.72	.66	10K	12F168	13F034	12F167	12F169	.72	.66
13F022			20K		13F035				
13F023			50K		13F036				
13F024			100K		13F037				
13F025			200K		13F038				
13F026			500K		13F039				
13F027			1M		13F040				

MODEL 3352 COMMERCIAL SINGLE-TURN CERMET

Meets military specifications for humidity. Power rating 0.75 watt at 40°C. Nominal adjustment turns 230°. Maximum operating temperature 125°. Resistance tolerance ±20%. Size .415" H x .365" W x .145" L.

Stk. No.				Stk. No.		
3352P	1-9	10-24	Ohms	3352W	1-9	10-24
12F9992			100	13F004		
12F9993			200	13F005		
12F9994			500	13F006		
12F9995			1K	13F007		
12F9996			2K	13F008		
12F9997	.61	.58	5K	13F009	.61	.58
12F9998			10K	13F010		
12F9999			20K	13F011		
13F001			50K	13F012		
13F002			100K	13F013		
13F003			1M	13F014		

3359P

MODEL 3359 CERMET SINGLE-TURN

Resistance stability under humid conditions. Mech. rotation: 270°. Rated 0.5 watt at 70°C. Max. operating temp.: 125°C. Tolerance: ±20%. Size: 0.395" max. dia., thickness (P) .228", (W) .236". Temp. coef.: to 1K, 0 to +300 ppm/°C; 1K and up, 0 to +200 ppm/°C.

Stk. No.				Stk. No.		
3359P	1-9	10-24	Ohms	3359W	1-9	10-24
			100			
			200			
			500			
			1K			
			2K			
12F9600	1.05	.94	5K	12F9601	1.08	.97
			10K			
			20K			
			50K			
			100K			
			200K			
			500K			
			1M			

TRIMMING POTENTIOMETER PART NUMBERING SYSTEM

3 0 0 6 P - 1 - 1 0 2 M

MODEL

TERMINAL TYPE see key

RESISTANCE CODE see right

CATALOG ITEM 2 or 3 digits indicate a special

PANEL MOUNT if applicable

KEY TO TERMINAL TYPES

S —Solder Lugs
P —Printed Circuit Pins (flat mounting)
H —Printed Circuit Pins
W —Printed Circuit Pins (edge mounting)

Model 3386 only:
H, S, W—Printed Circuit Pins (edge mounting)
P, R, F*—Printed Circuit Pins (flat mounting)*

RESISTANCES

The following values are standard if they fall within limits listed for individual models.

WIREWOUND	CERMET	CARBON	CODE
10	10		100
20	20		200
50	50		500
100	100		101
200	200		201
500	500		501
1K	1K		102
2K	2K		202
5K	5K	5K	502
10K	10K	10K	103
20K	20K	20K	203
50K	50K	50K	503
100K	100K	100K	104
	200K	200K	204
	500K	500K	504
	1 Meg.	1 Meg.	105

NOTE All models except 3352, 3353, 3359 are sealed against sand and dust.

Phone Your NEWARK Branch For Quotes On Larger Quantities

Potentiometers

HIGH-PERFORMANCE SINGLE- AND MULTI-TURN POTENTIOMETERS

GENERAL PURPOSE WIRE-WOUND MODEL 200

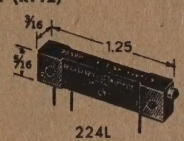
Exceeds steady-state humidity requirements of MIL-STD-202. 25-turns nominal adjustment. Power rating: 0.5 watt at 70°C. Absolute minimum resistance: 0.7% or 0.5 ohm, whichever is greater, 10 ohms to 50K; 5% for 100K. Operating temperature maximum: 105°C. Tolerance: ±10%. Size: 0.280" w. x .313" h. x 1.25" lgth.

200P

Stock No.							
200L	200P	200S	Ohms	1-9	10-24	25-49	50-99
12F9641	12F9642	12F9643	100	6.69	6.19	5.58	5.29
12F9641	12F9642	12F9643	200	6.69	6.19	5.58	5.29
12F9641	12F9642	12F9643	500	6.69	6.19	5.58	5.29
12F9641	12F9642	12F9643	1K	6.69	6.19	5.58	5.29
12F9641	12F9642	12F9643	2K	6.69	6.19	5.58	5.29
12F9641	12F9642	12F9643	5K	6.69	6.19	5.58	5.29
12F9641	12F9642	12F9643	10K	6.69	6.19	5.58	5.29
12F9880	12F9882	12F9884	20K	8.91	8.25	7.43	7.05
12F9880	12F9882	12F9884	25K	8.91	8.25	7.43	7.05
12F9881	12F9883	12F9698	50K	10.40	9.63	8.67	8.23
12F9841	.....	.....	100K	12.63	11.70	10.53	9.99

WIREWOUND TRIMPOT® MODEL 224 (RT12)

Meets MIL-R-27208 requirements. Maximum operating temp.: 175°C. Power dissipation: 1.0 watt at 70°C. 22 turn screwdriver adjustment. Absolute min. resistance: 10 to 200 ohms, the greater of 0.25% or 1 ohm; 500 to 2K, 0.2%; 5K to 50K, 0.1%; Tolerance: ±5%. Operating temp. range: −65 to +175°C. 0.19" w. x .32" x 1.25".



224L

Stock No.							
224L	224P	224S	Ohms	1-9	10-24	25-49	50-99
12F9653	12F9655	12F9654	100	7.72	7.15	6.43	6.11
12F9653	12F9655	12F9654	200	7.72	7.15	6.43	6.11
12F9653	12F9655	12F9654	500	7.72	7.15	6.43	6.11
12F9653	12F9655	12F9654	1K	7.72	7.15	6.43	6.11
12F9653	12F9655	12F9654	2K	7.72	7.15	6.43	6.11
12F9653	12F9655	12F9654	5K	7.72	7.15	6.43	6.11
12F9653	12F9655	12F9654	10K	7.72	7.15	6.43	6.11
12F9893	12F9897	12F9895	20K	9.50	8.80	7.92	7.51
12F9894	12F9898	12F9896	50K	10.10	9.35	8.42	7.99

WIREWOUND TRIMPOT® MODEL 260P

Stable against shock, vibration and acceleration. Surpasses steady state humidity requirements of MIL-STD-202. Power rating: .0 watts at 70°C. Absolute min., resistance: 0 ohms to 1K, 0.2% or 0.5 ohm, whichever s greater; 2K to 50K, 0.1%; Max. oper. emp.: 175°C. Tolerance ±10%, 0.280" w x 312" x 1.25".

260S

Stk. No.	Ohms	1-9	10-24	25-49	50-99
12F9651	100	6.53	6.05	5.44	5.17
12F9651	200	6.53	6.05	5.44	5.17
12F9651	500	6.53	6.05	5.44	5.17
12F9651	1K	6.53	6.05	5.44	5.17
12F9651	2K	6.53	6.05	5.44	5.17
12F9651	5K	6.53	6.05	5.44	5.17
12F9651	10K	6.53	6.05	5.44	5.17
12F9891	20K	8.32	7.70	6.93	6.58
12F9892	50K	8.91	8.25	7.43	7.05

WIRE-WOUND TRIMIT® MODELS 271, 273, 275

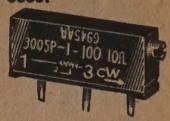
Ideal for industrial controls and lab type applications. Self-locking adjustment shaft for stable electrical settings; wiper assembly idles at both ends. 25-turn screwdriver adjustment. Power rating: 0.5 watt at 25°C. Absolute minimum resistance: 2.0%. Operating temperature range: −55°C to +105°C. Temperature coefficient of wire: 20 ppm/°C max. Size: 0.25"w. x .923"h. x 1.25"lgth.

271

Stock Nos.							
271	273	275	Ohms	1-9	10-24	25-49	50-99
12F9617	12F9809	12F9812	100	3.51	3.25	2.93	2.78
12F9617	12F9809	12F9812	200	3.51	3.25	2.93	2.78
12F9617	12F9809	12F9812	500	3.51	3.25	2.93	2.78
12F9617	12F9809	12F9812	1K	3.51	3.25	2.93	2.78
12F9617	12F9809	12F9812	2K	3.51	3.25	2.93	2.78
12F9617	12F9809	12F9812	5K	3.51	3.25	2.93	2.78
12F9617	12F9809	12F9812	10K	3.51	3.25	2.93	2.78
12F9873	12F9899	12F9901	20K	4.75	4.40	3.96	3.76
12F9874	12F9900	12F9902	50K	5.94	5.50	4.95	4.70

WIREWOUND E-Z TRIM® MODEL 3005P

Sealed to prevent contamination. Humidity meets MIL-STD-202. Method 103. 20-turn screwdriver adjustment. Rated 1.0 watt at 40°C. Min. resistance: 0.5% or 1.0 ohms, whichever is greater. Max. operating temp. 125°C. Tolerance: ±10%. Temp. coefficient: ±100 ppm/°C. Size: .17"W x .31"H x .75"L.



3005P

Stk. No.	Ohms	1-9	10-24	25-49	50-99
12F9608	10	2.00	1.85	1.75	1.72
12F9608	20	2.00	1.85	1.75	1.72
12F9608	50	2.00	1.85	1.75	1.72
12F9608	100	2.00	1.85	1.75	1.72
12F9608	200	2.00	1.85	1.75	1.72
12F9608	500	2.00	1.85	1.75	1.72
12F9608	1K	2.00	1.85	1.75	1.72
12F9608	2K	2.00	1.85	1.75	1.72
12F9608	5K	2.00	1.85	1.75	1.72
12F9608	10K	2.00	1.85	1.75	1.72
12F9608	20K	2.00	1.85	1.75	1.72
12F9608	25K	2.00	1.85	1.75	1.72
12F9935	50K	2.40	2.22	2.10	2.06

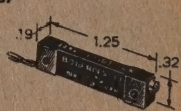
WIRE-WOUND E-Z TRIM® MODEL 3007P

Wiper assembly idles at both ends. Humidity meets MIL-STD-202C, Method 103. 20-turns nom. adj.; welded terminations. Rated 1.0 watt at 40°C. Min. resistance: 0.5% or 1.0 ohm, whichever is greater. Operating temperature max.: 125°C. Tolerance: ±10%. Temp. coefficient: ±100 ppm/C°. Size: .17"W x .31"H x .75"L.

Stock No.	Ohms	1-9	10-24	25-49	50-99
12F9609	10	2.00	1.85	1.75	1.72
12F9609	20	2.00	1.85	1.75	1.72
12F9609	50	2.00	1.85	1.75	1.72
12F9609	100	2.00	1.85	1.75	1.72
12F9609	200	2.00	1.85	1.75	1.72
12F9609	500	2.00	1.85	1.75	1.72
12F9609	1K	2.00	1.85	1.75	1.72
12F9609	2K	2.00	1.85	1.75	1.72
12F9609	5K	2.00	1.85	1.75	1.72
12F9609	10K	2.00	1.85	1.75	1.72
12F9609	20K	2.00	1.85	1.75	1.72
12F9609	25K	2.00	1.85	1.75	1.72
12F9936	50K	2.40	2.22	2.10	2.06

WIREWOUND MODEL 3057

Meets military specifications for humidity. Resistance tolerance ±5%. Maximum operating temperature 150°C. 22 nominal adjustment turns. Power 1.0 watt at 70°C. Low temperature coefficient. Size: .32"H x .19"W x1.25"L.

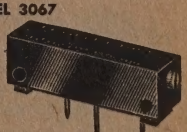


3057P

Stock No.							
3057L	3057P	3057Y	Ohms	1-9	10-24	25-49	50-99
12F9638	12F9639	12F9640	100	6.22	5.50	4.73	4.25
12F9638	12F9639	12F9640	200	6.22	5.50	4.73	4.25
13F9638	12F9639	12F9640	500	6.22	5.50	4.73	4.25
12F9638	12F9639	12F9640	1K	6.22	5.50	4.73	4.25
12F9638	12F9639	12F9640	2K	6.22	5.50	4.73	4.25
12F9638	12F9639	12F9640	5K	6.22	5.50	4.73	4.25
12F9638	12F9639	12F9640	10K	6.22	5.50	4.73	4.25
12F9796	12F9875	12F9877	20K	6.85	6.06	5.25	4.69
12F9797	12F9876	12F9878	50K	7.47	6.60	5.71	5.11
12F9940	12F9928	12F9879	100K	9.45	8.35	7.23	6.79

WIRE-WOUND E-Z TRIM® MODEL 3067

Wiper assembly idles at both ends of travel preventing forced adjustment. 15 turn screwdriver adjustment. Power rating: 0.5 watt at 25°C. Absolute min. resistance: 0-2.0%. Operating temperature maximum: 85°C. Tolerance: ±10%. Size: .28"w. x .36"h. x 1.00"lgth.



Stock No.							
3067S	3067P	Ohms	1-9	10-24	25-49	50-99
12F9612	12F9613	50	2.13	1.97	1.78	1.68
12F9612	12F9613	100	2.13	1.97	1.78	1.68
12F9612	12F9613	200	2.13	1.97	1.78	1.68
12F9612	12F9613	500	2.13	1.97	1.78	1.68
12F9612	12F9613	1K	2.13	1.97	1.78	1.68
12F9612	12F9613	2K	2.13	1.97	1.78	1.68
12F9612	12F9613	5K	2.13	1.97	1.78	1.68
12F9612	12F9613	10K	2.13	1.97	1.78	1.68
12F9612	12F9613	20K	2.13	1.97	1.78	1.68

Potentiometers

WIREWOUND MODEL TRIMPOT® 3250 (RT22)

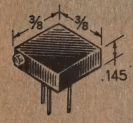
3250L

Humidity-proof; sealed in high-temperature plastic case. Power Rating: 1.0 watt at 70°C. Absolute Minimum Resistance: 0.1% or 1.0 ohm, whichever is greater. Max. Oper. Temp. 175°C. Tolerance: ±5%. Size: ½"sq. x 3/16" thick (L); 7/32" thick (P, W or W66).

Type 3250L	Ohms	Each 1-9	10-24	25-49	50-99
12F9683	100 200 1K 2K 5K 10K	7.38	6.84	6.15	5.84
12F9684	20K	8.32	7.70	6.93	6.58
12F9685	50K	11.00	10.20	9.17	8.70

Type 3250P	Type 3250W	Type 3250W-66	Ohms	Each 1-9	10-24	25-49	50-99
12F9686	12F9840	12F9834	100 200 1K 2K 5K 10K	7.95	7.36	6.62	6.28
12F9813	12F9839	12F9835	20K	8.77	8.12	7.31	6.93
12F9814	12F9838	12F9836	50K	11.58	10.72	9.66	9.16

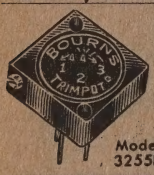
⅜" SQUARE WIREWOUND MODEL 3290 (RT24)



Meets or exceeds MIL-R-27208. All plastic case provides sealing against liquids and potting; positive end stops; reliable moisture resistance. Power Rating: 1.0 watt @ 70°C. Absolute Minimum Resistance: 0.1% or 1.0 ohm, whichever is greater. Maximum Operating Temperature: 175°C. Tolerance: ±5%. Size: ⅜" sq. x 0.150" thk. (L) 0.150" thk.

Type 3290H	Type 3290L	Type 3290P	Type 3290W	Ohms	EACH 1-9	10-24	25-49	50-99
12F9703	12F9704	12F9705	12F9706	100 200 500 1K 2K 5K 10K	8.06	7.46	6.72	6.38
12F9910	12F9980	12F9912	12F9914	20K	9.63	8.92	8.03	7.62
12F9911	12F9981	12F9913	12F9915	50K	11.11	10.29	9.27	8.79

TRIMPOT® MODEL 3255



Model 3255P

High temperature all-plastic cases; 25-turn screwdriver adjustment. Power rating: 1.0 watt at 50°C. End settings: 0.1% or 1.0 ohm, whichever is greater. Operating Temp.: 150°C max. Temp. Coefficient: 70 ppm/°C. Tolerance: ±5%. Size: ½" square x 3/16" thick (L) 7/32" thick (P or W).

Type 3255L	Type 3255P	Type 3255W	Ohms	EACH 1-9	10-24	25-49	50-99
12F9623	12F9624	12F9625	100 200 500 1K 2K 5K 10K	3.51	3.25	2.93	2.78
12F9868	12F9869	12F9871	20K	4.75	4.40	3.96	3.76
12F9944	12F9870	12F9872	50K	5.26	4.87	4.38	4.16

¼" SQUARE WIREWOUND MODEL 3260 (RT26)

3260H

All plastic case provides positive end stops at both ends of travel; sealing against liquids and potting compounds. Clutch action wiper. Power Rating: 0.2 watt at 70°C. Abs. Min. Res.: 0.1% or 1.0 ohm, whichever is greater. Operating Temperature: 175°C max. Tolerance: ±5%. Size: ¼" square x 1 1/64" high.

Type 3260H	Type 3260W	Ohms	EACH 1-9	10-24	25-49	50-99
12F9711	.... 12F9712 12F9712	50 100 200 500 1K	8.25	7.64	6.88	6.53
12F9785 12F9785	12F9786 12F9786	2K 5K	9.08	8.41	7.57	7.18
12F9924 12F9924	12F9925 12F9925	10K 20K	11.55	10.70	9.63	9.14

SPECIFY RESISTANCE WHEN ORDERING

WIREWOUND MODEL 3300P

Meets applicable portions of MIL-R-27208, MIL-R-5272C. Single-turn adjustment. Power Rating: 0.5 watt at 70°C. Abs. Min. Res.: 0.5 ohm or 1.0%, whichever is greater. Operating Temperature: 175°C max. Tolerance: 5%. Size: 5/16" diameter x 3/16" height. (P); ¼" width x ⅜" height.

Stock No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9627	100 200 500 1K 2K 5K	7.18	6.65	5.98	5.68
12F9627	10K	7.18	6.65	5.98	5.68
12F9982	20K	9.15	8.47	7.63	7.24

WIREWOUND SINGLE-TURN MODEL 3305

Model 3305W

Sealed to prevent contamination from fluxing, soldering and cleaning. Stops provided at each end of travel. Power: 0.5 watt at 70°C. Abs. min. res.: 0.5 ohm to 1.0%. Oper. temp.: 125°C max. Tolerance: ±5%. Size: (P) 5/16" dia. x 3/16" thk. (W) 5/16" w. x ¼" d. x ⅜" h.

Type 3305P	Ohms	EACH 1-9	10-24	25-49	50-99
12F9602	100 200 500 1K 5K	1.93	1.85	1.78	1.78
12F9775	10K	2.20	2.11	2.02	1.96
12F9776	20K	2.75	2.64	2.53	2.45

Type 3305W	Ohms	EACH 1-9	10-24	25-49	50-99
12F9603	500 1K 2K 5K	2.48	2.38	2.28	2.21
12F9777	10K	2.75	2.64	2.53	2.45
12F9778	20K	3.30	3.17	3.04	2.94

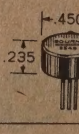
⅜" SQUARE WIREWOUND TRIMPOT® MODEL 3280

3280W

Meets or exceeds requirements of MIL-R-27208. All plastic case provides sealing against liquids and potting compounds plus reliable moisture resistance. Power Rating: 1.0 watt at 70°C. Absolute Minimum Resistance: 0.1% or 1.0 ohm, whichever is greater. Maximum Operating Temperature: 175°C. Tolerance: ±5%. Size: ⅜" sq. x 13/64" thk.

Type 3280P	Type 3280W-1	Ohms	EACH 1-9	10-24	25-49	50-99
12F9696	12F9697	200 500 1K 2K 5K 10K	9.15	8.47	7.63	7.24
12F9906	12F9908	20K	11.11	10.29	9.26	8.79
12F9907	12F9909	50K	11.76	10.89	9.80	9.30

WIREWOUND MODEL 3345P



Single-turn adjustment. Power 1.0 watt at 70°C. Abs. Min. Res.: 1.0% or .5Ω whichever is greater. Tolerance: ±5% standard. Oper. Temp: —55 to +150°C. Temp. Coefficient: per MIL-R-27208, 70 ppm/°C. Mechanical Adjustment: 280° nominal. Size: .450" diameter x .235" thick.

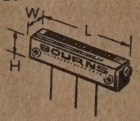
Stock No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9400	10 20 50 100 200 500 1K 2K 5K 10K	2.30	2.09	1.88	1.71
12F9401	20K	2.53	2.30	2.07	1.88
12F9401	50K				

Potentiometers

SPECIFY RESISTANCE WHEN ORDERING

CARBON TRIMPOT® MODEL 215P

Self-locking wiper assembly idles at both ends. 22 turns adjustment. Power rating: 0.25 watt or 300 volts max. at 50°C. Absolute min. resistance: 0 to 1% voltage ratio. Max. operating temp.: 135°C. Tolerance: ±20%. Size: 0.28"w. x 0.315" h. x 1.25" lgth.



Stock No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9646	5K, 10K, 20K, 50K, 100K, 200K, 500K, 1M, 5M	6.69	6.19	5.58	5.29

CARBON TRIMIT® MODELS 272, 274, 276

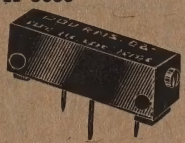
Infinite resolution Resistaloy® carbon element. Self-locking shaft; 25-turn adjustment. Power Rating: 0.2 watt at 50°C. End setting: 0-5.0% voltage ratio. Operating Temperature: 105°C maximum. Tolerance: ±20%. Size: ¼" width x 5/16" height x 1¼" length.

Model 274

Type 272	Type 274	Type 276	Ohms	EACH 1-9	10-24	25-49	50-99
19G9620	19F9621	19F9622	5K, 10K, 20K, 50K, 100K, 200K, 500K, 1M	4.16	3.85	3.47	3.29

CARBON E-Z TRIM® MODEL 3068

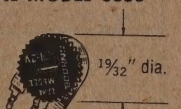
Stable infinite resolution carbon element. Self-locking adjustment screw; 15 turn screwdriver adjustment. Power: 0.2 watt at 25°C. End setting: 0-5% voltage ratio. Operating temp.: 85°C maximum. Tolerance: ±20%. Operating temp. range: −55°C to +85°C. Size: .28" w x .36" h. x 1.00" lgth.


Model 3068P

Type 3068S	Type 3068P	Ohms	EACH 1-9	10-24	25-49	50-99
12F9614	12F9615	20K, 50K, 100K, 200K, 500K, 1M	2.34	2.17	1.95	1.85

SINGLE-TURN CARBON COMMERCIAL MODEL 3353

RESISTON® Carbon element Trimming potentiometer. 19/32" diameter. Power Rating: ⅓ Watt at 60°C. Max. Oper. Temp.: 100°C. Mechanical Adjustment: 300° nominal. Res. Tol.: ±20%.

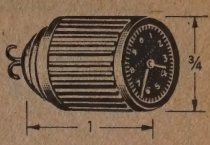


Model 3353W

Type 3353P	Type 3353W	Ohms	EACH 1-49	50-99	100-249	250-499
12F9372	12F9385	500				
12F9373	12F9386	1K				
12F9374	12F9387	2.5K				
12F9375	12F9388	5K				
12F9376	12F9389	10K				
12F9377	12F9390	25K				
12F9378	12F9391	50K	.61	.57	.45	.37
12F9379	12F9392	100K				
12F9380	12F9393	250K				
12F9381	12F9394	500K				
12F9382	12F9395	1M				
12F9383	12F9396	2.5M				
12F9384	12F9397	5M				

10-TURN ¾" DIAMETER KNOBPOT® MODEL 3600S-1

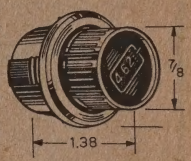
Phasing of dial readout to potentiometer performed at factory with accuracy of ±0.5% (including linearity). Power Rating: 1.5 watts at 25°C. Absolute Minimum Resistance: 1.0 ohm or 0.1%, whichever is greater. Maximum Operating Temp. 85°C. Tolerance: ±5%. Size: ¾" dia. x 1" lgth.



Stock No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9774	500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	21.79	21.27	19.31	18.15

10-TURN ⅞" DIAMETER KNOBPOT® MODEL 3610S-1

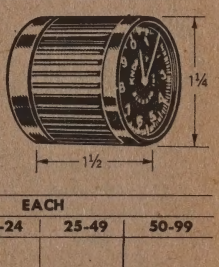
Integral digital readout, knob and potentiometer. Recessed lens. Snap-in mounting cup. ⅞" diameter. Behind panel extension less than ⅞". Power Rating: 1.5 watt at 25°C. Tolerance: ±5%. Accuracy: ±0.5% voltage ratio. Absolute Min. Resistance: 1 ohm or or 0.1% whichever is greater. Oper. Temp. Range: −25° to +85°C. Temp. Coefficient of Wire Res.: 20 ppm/°C max. ⅞" dia. x 1⅓" lgth.



Stock No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F8575	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	22.26	21.73	19.72	18.54

10-TURN 1¼" DIAMETER KNOBPOT® SENIOR MODEL 3640S-1

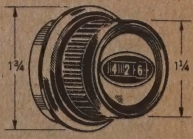
Clock face readout provides excellent readability and setting accuracy. Phasing adjusted to ±0.1%. Repeatability to ±.05% voltage ratio. Power rating: 2.5 watts at 25°C. Abs. min. res.: 1.0 ohm or or 0.1%, whichever is greater. Max. oper. temp.: 85°C. Tolerance: ±3%. Extends 9/16" behind panel. 1¼" diameter, 1½" out from panel. Requires two holes in panel: 0.413" and .0785".



Stock No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9663	1K, 2K, 5K, 10K, 20K, 50K, 100K	28.75	26.62	23.96	22.74

10-TURN 1¼" DIAMETER DIGITAL KNOBPOT® MODEL 3650S-1

Digital readout, knob and potentiometer in one unit requires less front panel space than most dials alone. Readability of 1 part in 10,000. 0.05% repeatability of total applied voltage. Output accuracywithin 0.1% of total applied voltage (including linearity). Power 2.5 watts at 25°C. Absolute min. resistance: 1.0 ohm or 0.1%, whichever is greater. Max. oper. temp.: 85°C. Tolerance: ±3%. Knob dia.: 1¼". Extends total of 1.58" behind panel front.

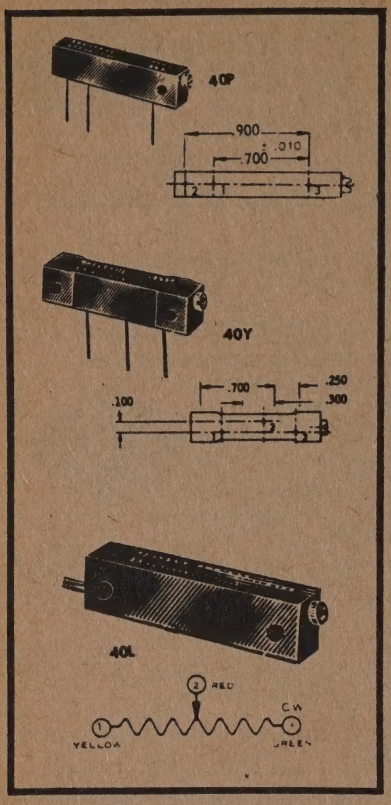


Stock No.	Ohms	EACH 1-9	10-24	25-49	50-99
12F9664	1K, 2K, 5K, 10K, 20K, 50K, 100K	32.78	30.35	27.32	25.92

Rectangular Multi-turn Trimmers

Spectrol

MODEL 40Y-40P



- Meets MIL-R-27208
- 1 Watt @ 70°C.
- 50PPM/°C Max. Temp. Coeff.

For circuits where temp. stability is important. -65°C to 175°C oper. temp. range. Terminal strengths of 2 lbs. min. 22 turn screw-driver adjustment ±5. Slider idles at end stops w/o damage. Body mounting holes 0.093" dia. on 1" centers. Tol: ±5%. Size: 1.250 x 0.315 x 0.190". Wt: 3.4 grams.

Type 40P	Type 40Y	Ohms	1-9	10-24	25-49	50-99
67F3572	67F3578	10				
67F3573	67F3579	20				
67F3574	67F3580	50				
67F3575	67F3581	100				
67F3576	67F3582	200				
67F3577	67F3583	500	3.89	3.63	3.39	3.16
67F3584	67F3591	1K				
67F3585	67F3592	2K				
67F3586	67F3593	5K				
67F3587	67F3594	10K				
67F3588	67F3595	20K	4.96	4.62	4.32	4.03
67F3589	67F3596	50K	7.25	6.77	6.32	5.89
67F3590	67F3597	100K	8.08	7.56	7.05	6.57

MODEL 40L—1¼" RECTANGULAR MULTI-TURN

Type 40L	Ohms	1-9	10-24	25-49	50-99
67F3598	10				
67F3599	20				
67F3600	50				
67F3601	100	4.32	4.03	3.77	3.51
67F3602	200				
67F3603	500				
67F3604	1K				

Type 40L	Ohms	1-9	10-24	25-49	50-99
67F3605	2K	4.32	4.03	3.77	3.51
67F3606	5K	4.32	4.03	3.77	3.51
67F3607	10K	4.32	4.03	3.77	3.51
67F3608	20K	5.39	5.02	4.70	4.38
67F3609	50K	7.68	7.17	6.70	6.24
67F3610	100K	8.52	7.96	7.43	6.92

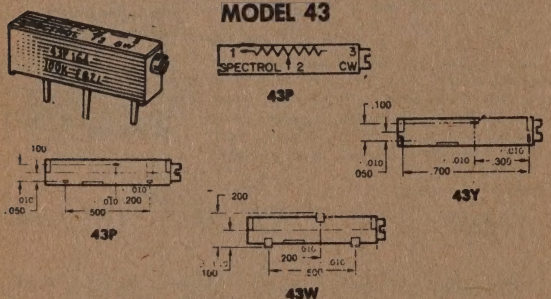
MIL SPEC: RT12C2Y, RT12C2L, RT12C2P

Built to Military standards per MIL-R-27208. Screw turns 22 ±5. 50PPM/°C tempco. Immersion 1 min. in 85°C water. Mntg. holes 0.093" dia. on 1" cntrs. -65°C to 175°C oper. range. Res. Tol: ±5%. 1 watt @ 70°C. Size: 1.250 x 0.135 x 0.190". Wt: 4.3 grms max.

MIL Spec. RT12C2Y	MIL Spec. RT12C2P	Ohms	1-9	10-24	25-49	50-99
67F3611	12F2831	50				
67F3612	12F2832	100				
67F3613	12F2833	200				
67F3614	12F2834	500	4.79	4.47	4.18	3.89
67F3615	12F2835	1K				
67F3616	12F2836	2K				
67F3617	12F2837	5K				
67F3618	12F2838	10K				
67F3619	12F2839	20K	5.86	5.46	5.11	4.76

MIL Spec. RT12C2L	Ohms	1-9	10-24	25-49	50-99
12F2822	50				
12F2823	100				
12F2824	200				
12F2825	500	5.64	5.26	4.93	4.59
12F2826	1K				
12F2827	2K				
12F2828	5K				
12F2829	10K				
12F2830	20K	6.71	6.25	5.86	5.46

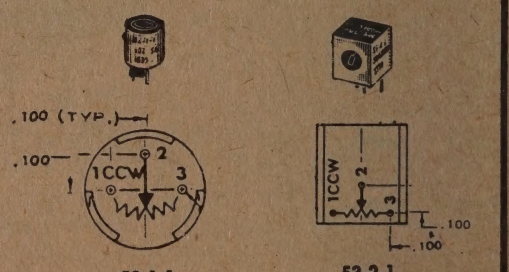
MODEL 43



Designed for general use where cost and space are factors. Has 20 turn screw-driver adjustment with idling and stops. Operating temp. range: -65°C to 125°C. Fully sealed, suitable for automatic soldering. Wedge shaped pins make automatic insertion practical. Choice of 3 pin grids. Perfect for new or replacement purposes. Res. tol.: ±10%. ¾ watt @ 25°C. Size: .750x.25x.19.

Type 43P	Type 43W	Type 43Y	Ohms	1-9	10-24	25-49	50-99
12F4400	12F4418	12F4436	10				
12F4401	12F4419	12F4437	20				
12F4402	12F4420	12F4438	50				
12F4403	12F4421	12F4439	100				
12F4404	12F4422	12F4440	200	1.35	1.25	1.20	1.15
12F4405	12F4423	12F4441	500				
12F4406	12F4424	12F4442	1K				
12F4407	12F4425	12F4443	2K				
12F4408	12F4426	12F4444	5K				
12F4409	12F4427	12F4445	10K				
12F4410	12F4428	12F4446	20K				
12F4411	12F4429	12F4447	50K				
12F4412	12F4430	12F4448	100K				
12F4413	12F4431	12F4449	200K	1.35	1.25	1.20	1.15
12F4414	12F4432	12F4450	250K				
12F4415	12F4433	12F4451	500K				
12F4416	12F4434	12F4452	1 Meg				
12F4417	12F4435	12F4453	2 Meg				

MODEL 53 11/32" Round & Cube Single Turn

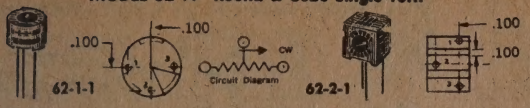


Single turn, PC mount trimmers meet environ sects. of MIL-R-22097. Fully sealed, suitable for automatic soldering. Stop strength of 10 oz. in. Oper. temp.: -65° to 125°. Tol. : ± 20%. ½ watt @ 85°C. Size: .343 dia. Wt.: 1.5 grams max.

Type 53-1-1	Type 53-2-1	Ohms	1-9	10-24	25-49	50-99
12F3029	12F3045	10				
12F3030	12F3046	20				
12F3031	12F3047	50				
12F3032	12F3048	100				
12F3033	12F3049	200				
12F3034	12F3050	500				
12F3035	12F3051	1K				
12F3036	12F3052	2K	1.95	1.82	1.70	1.59
12F3037	12F3053	5K				
12F3038	12F3054	10K				
12F3039	12F3055	20K				
12F3040	12F3056	50K				
12F3041	12F3057	100K				
12F3042	12F3058	200K				
12F3043	12F3059	500K				
12F3044	12F3060	1 meg				

Spectrol

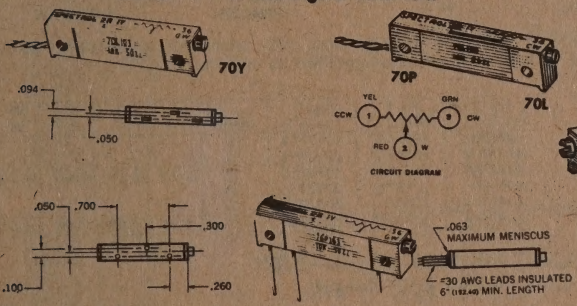
MODEL 62 ¼" Round & Cube Single-Turn



Single turn sub-minature, PC mount trimmers meet MIL-R-22097 environmental specs. Fully sealed, suitable for automatic soldering. Elect. Adjust.: 215 min. End stops. 6.0 oz.-in. stop strength. Oper. temp. -55°C to 125°C. ¾ Watt @25°C. Size: .250. Wt.: 1.0 Gm. max.

Type 62-1-1	Type 62-2-1	Ohms	1-9	10-24	25-49	50-99	100-249
12F4204	12F4220	10					
12F4205	12F4221	20					
12F4206	12F4222	50					
12F4207	12F4223	100					
12F4208	12F4224	200					
12F4209	12F4225	500					
12F4210	12F4226	1K					
12F4211	12F4227	2K					
12F4212	12F4228	5K	1.70	1.60	1.50	1.45	1.35
12F4213	12F4229	10K					
12F4214	12F4230	20K					
12F4215	12F4231	50K					
12F4216	12F4232	100K					
12F4217	12F4233	200K					
12F4218	12F4234	500K					
12F4219	12F4235	1 meg.					

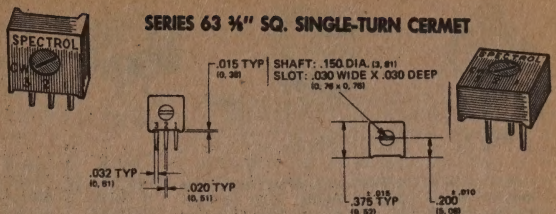
MODEL 70 1 ¼" Rectangular Multi-Turn



For use where higher operating wattage and temperature is desired. Resistance to humidity, shock and vibration. 20 turn screwdriver adjustment with idling end stops. Insulated wire lead or PC pin models. Body mounting holes: .093" on 1" centers. Operating temp. range is .55°C to 150°C. Tolerance: 10% 1 Watt 85°C Size: 1.250 x .315 x .190. Net wt. 3.3 Gms. Maximum.

Type 70P	Type 70Y	Ohms	1-9	10-24	25-49	50-99	100-249
67F3515	67F3534	10					
67F3516	67F3535	20					
67F3517	67F3536	50					
67F3518	67F3537	100					
67F3519	67F3538	200					
67F3520	67F3539	500					
67F3521	67F3540	1K					
67F3522	67F3541	2K					
67F3523	67F3542	5K	2.21	2.06	1.93	1.79	1.68
67F3524	67F3543	10K					
67F3525	67F3544	20K					
67F3527	67F3546	50K					
67F3538	67F3547	100K					
67F3529	67F3548	200K					
67F3530	67F3549	250K					
67F3531	67F3550	500K					
67F3532	67F3551	1 Meg					
67F3533	67F3552	2 Meg					

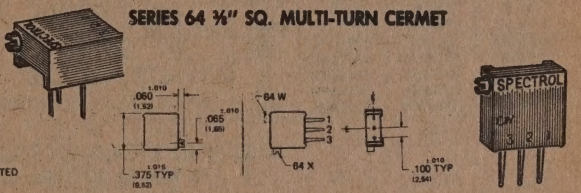
SERIES 63 ⅜" SQ. SINGLE-TURN CERMET



Industrial grade. Positive soldered terminations. +100PPM/°C tempco. Res. Tol: +20%. −55°C to +125°C oper. temp. range. 0.5 watts @70°C power rating. CRV of 3% or 3 ohms. Brush contact. 63S: Side adjust. 63P: Top adjust.

Type 63S	Type 63P	Type 63X	Type 63T	Ohms	1-9	10-24	25-49
67F5719	67F5700	67F5738	67F5800	10			
67F5720	67F5701	67F5739	67F5801	20			
67F5721	67F5702	67F5740	67F5802	50			
67F5722	67F5703	67F5741	67F5803	100			
67F5723	67F5704	67F5742	67F5804	200			
67F5724	67F5705	67F5743	67F5805	500			
67F5725	67F5706	67F5744	67F5806	1K			
67F5726	67F5707	67F5745	67F5807	2K	.99	.89	.80
67F5727	67F5708	67F5746	67F5808	5K			
67F5728	67F5709	67F5747	67F5809	10K			
67F5729	67F5710	67F5748	67F5810	20K			
67F5730	67F5711	67F5819	67F5811	25K			
67F5731	67F5712	67F5749	67F5812	50K			
67F5732	67F5713	67F5750	67F5813	100K			
67F5733	67F5714	67F5751	67F5814	200K			
67F5734	67F5715	67F5820	67F5815	250K			
67F5735	67F5716	67F5752	67F5816	500K			
67F5736	67F5717	67F5753	67F5817	1 Meg			
67F5737	67F5718	67F5754	67F5818	2 Meg			

SERIES 64 ⅜" SQ. MULTI-TURN CERMET



Industrial grade. +100PPM/°C tempco. CRV of 3% or 3 ohms. 25 turns nom. Res. Tol: 10%. 0.5 watts 70°C power rating. −55°C to +125°C oper. temp. range. 2 lbs. min. terminal strength. 64P: Side adjust. 64X: Side Adjust.

Type 64P	Type 64X	Type 64W	Type 64Y	Ohms	1-9	10-24	25-49
67F5755	67F5774	67F5821	67F5840	10			
67F5756	67F5775	67F5822	67F5841	20			
67F5757	57F5776	67F5823	67F5842	50			
67F5758	67F5777	67F5824	67F5843	100			
67F5759	67F5778	67F5825	67F5844	200			
67F5760	67F5779	67F5826	67F5845	500			
67F5761	67F5780	67F5827	67F5846	1K			
67F5762	67F5781	67F5828	67F5847	2K			
67F5763	67F5782	67F5829	67F5848	5K			
67F5764	67F5783	67F5830	67F5849	10K	1.79	1.68	1.57
67F5765	67F5784	67F5831	67F5850	20K			
67F5766	67F5785	67F5832	67F5851	25K			
67F5767	67F5786	67F5833	67F5852	50K			
67F5768	67F5787	67F5834	67F5853	100K			
67F5769	67F5788	67F5835	67F5854	200K			
67F5770	67F5789	67F5836	67F5855	250K			
67F5771	67F5790	67F5837	67F5856	500K			
67F5772	67F5791	67F5838	67F5857	1 Meg			
67F5773	67F5792	67F5839	67F5858	2 Meg			
67F5795	Model 8	Trimmer Adjustment Tool					.80

MODEL 70L 1¼" RECTANGULAR MULTI-TURN

Type 70L	Ohms	1-9	10-24	25-49	50-99	100-249
67F3553	10					
67F3554	20					
67F3555	50					
67F3556	100					
67F3557	200	2.66	2.48	2.32	2.16	2.02
67F3558	500					
67F3559	1K					
67F3560	2K					
67F3561	5K					

Type 70L	Ohms	1-9	10-24	25-49	50-99	100-249
67F3562	10K					
67F3563	20K					
67F3565	50K					
67F3566	100K					
67F3567	200K	2.66	2.48	2.32	2.16	2.02
67F3568	250K					
67F3569	500K					
67F3570	1 Meg					
67F3571	2 Meg					

Spectrol

Trimmers

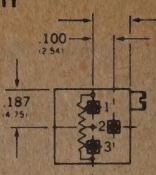
MODEL 50 WIRE WOUND RES. ELEMENTS FOR TEMP. STABILITY

FIG. A

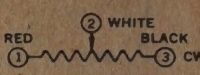
FIG. B

FIG. C

FIG. D



3/8" SQUARE MULTI-TURN METAL CASE



Features an exceptional size/power factor, for service where space is limited. Can be integrated into almost any layout. See mounting arrangements illustrated above. Screw adjustment of 23 turns ±5. Stops/clutch feature. Tempco is 50 PPM/°C. Figure A has 6" Teflon leads and 0.075" diameter mounting holes on 0.375" centers. Resistance tolerance ±5%. .75 watt @ 85°C. Size: .375 x .405 x .190" Nominal. Weight: Figure A, 2.0 Grams; others 1.5 Grams maximum.

Fig. A 50-1-11	Fig. B 50-2-11	Fig. C 50-4-11	Fig. D 50-3-11	Ohms	1-9	10-24	25-49	50-99
67F3646	67F3656	67F3676	67F3666	50				
67F3647	67F3657	67F3677	67F3667	100				
67F3648	67F3658	67F3678	67F3668	200				
67F3649	67F3659	67F3679	67F3669	500	6.89	6.43	6.01	5.60
67F3650	67F3660	67F3680	67F3670	1K				
67F3651	67F3661	67F3681	67F3671	2K				
67F3652	67F3662	67F3682	67F3672	5K				
67F3653	67F3663	67F3683	67F3673	10K				
67F3654	67F3664	67F3684	67F3674	20K	7.77	7.25	6.79	6.32
67F3655	67F3665	67F3685	67F3675	50K	8.30	7.74	7.24	6.75

MODEL 51, 3/8" SQUARE MULTI-TURN

FIG. E

51-3-11 (RT24C2W)

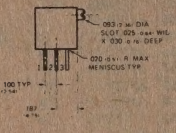


FIG. F

51-2-11 (RT24C2X)

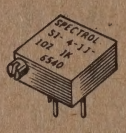
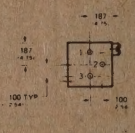
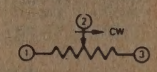


FIG. G



51-4-11 (RT24C2P)



SCHEMATIC

Offers excellent electrical and mechanical properties. This unit provides all P.C. pin configurations common to square trimmers. Total assembly sealed in diallyl phthalate housing. Stops/Clutch mechanism standard in all configurations. Max. power (watts): .75 at 85°C, tempco ±50 PPM/°C, resistance tolerance ±5%, temp: -65° to + 150°C, Weight .035 ounce max. Electrical travel 23 ±3 turns.

Fig. E 51-2-11	Fig. F 51-3-11	Fig.G 51-4-11	Ohms	1-9	10-24	25-49	50-99
67F3686	67F3691	67F3996	10				
67F3687	67F3692	67F3697	20				
67F3688	67F3693	67F3698	50	5.12	4.77	4.47	4.16
67F3689	67F3694	67F3699	100				
67F3690	67F3695	67F3700	200				

Fig. E 51-2-11	Fig. F 51-3-11	Fig. G 51-4-11	Ohms	1-9	10-24	25-49	50-99
67F3701	67F3707	67F3713	500				
67F3702	67F3708	67F3714	1K				
67F3703	67F3709	67F3715	2K	5.12	4.77	4.47	4.16
67F3704	67F3710	67F3716	5K				
67F3705	67F3711	67F3717	10K				
67F3706	67F3712	67F3718	20K	5.66	5.28	4.94	4.60

MIL. SPEC. RT24,3/8" SQUARE MILITARY MULTI—TURN

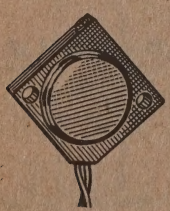
.75 Watt @ 85°C. Size 0.375 x 0.375 x 0.190 Nominal

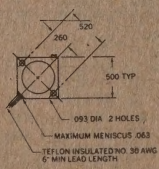
Has same general specifications as Model 51 above plus full compliance to RT24 requirements of MIL-R-27208. Screw adjustment is 25 turns nominal. Designed especially for prototype Military equipment or for field replacement. MIL designation is RT 24 Series. Order by Newark Stock Number.

Fig. E RT24C2X 51-2-10	Fig. F RT24C2W 51-3-10	Fig.G RT24C2P 51-4-10	Ohms	1-9	10-24	25-49	50-99
67F3719	67F3729	67F3739	10				
67F3720	67F3730	67F3740	20				
67F3721	67F3731	67F3741	50	5.64	5.26	4.93	4.59
67F3722	67F3732	67F3742	100				
67F3723	67F3733	67F3743	200				

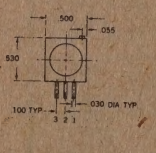
Fig. E RT24C2X 51-2-10	Fig. F RT24C2W 51-3-10	Fig. G RT24C2P 51-4-10	Ohms	1-9	10-24	25-49	50-99
67F3724	67F3734	67F3744	500				
67F3725	67F3735	67F3745	1K				
67F3726	67F3736	67F3746	2K	5.64	5.26	4.93	4.59
67F3727	67F3737	67F3747	5K				
67F3728	67F3738	67F3748	10K				

MODEL 55, ½" SQUARE MULTI-TURN METAL CASE

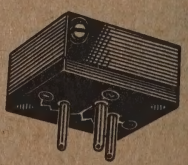




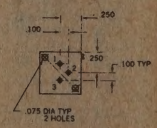
55-1-X



55-3-X



55-4-X



Provides higher wattage in a package only 0.500" square for demanding circuits. Temperature stable to 50 PPM/°C maximum. Screw adjusted with 23 turns ±3. Has idler at stops to prevent damage. Operating temperature range: -65°C to 150°C. Figure A, has 6" Teflon leads and 0.093" diameter mounting holes on 0.520" centers. Circuit diagram above, except red, green and yellow leads from left to right. Resistance tolerance is ±5% 1.5 watt @ 70°C. Size: 0.500x0.500x0.190. Nominal. Weight: 2.5 Grams maximum.

Fig. A 55-1-8	Fig. C 55-4-8	Fig. B 55-2-8	Fig. D 55-3-8	Ohms	1-9	10-24	25-49	50-99
...	12F3011	67F3749	12F3015	20				
12F2622	12F2632	67F3750	12F2791	50				
12F2625	12F2635	67F3751	12F2794	500				
...	12F2636	67F3752	12F2795	1K	6.89	6.43	6.01	5.60
12F2627	12F2637	67F3753	12F2796	2K				
...	12F2638	67F3754	12F2797	5K				
12F2629	12F2639	67F3755	12F2798	10K				
12F2630	12F2640	67F3756	12F2799	20K	7.77	7.25	6.79	6.32
12F2631	12F2641	67F3757	12F2800	50K	8.30	7.74	7.24	6.75

Trimmers and Rotary Switches

Spectrol

MIL. SPEC. STYLE RT22

For Illustration Refer to Fig. on Preceding Page

Fig. A RT22C2L 55-1-10	Fig. B RT22C2X 55-2-10	Fig. D RT22C2W 55-3-10	Fig. C RT22C2P 55-4-10	Ohms	1-9	10-24	25-49	50-99
12F2960	67F3758	8F918	12F2969	50				
12F2961	67F3759	8F919	12F2970	100				
12F2962	67F3760	8F920	12F2971	200				
12F2963	67F3761	8F921	12F2972	500				
12F2964	67F3762	8F922	12F2973	1K	7.59	7.08	6.63	6.17
12F2965	67F3763	8F923	12F2974	2K				
12F2966	67F3764	8F924	12F2975	5K				
12F2967	67F3765	8F925	12F2976	10K				
12F2968	67F3766	8F926	12F2977	20K	8.57	7.99	7.48	6.97

Model 55 complies fully to RT22 requirements of MIL-R-27208. Screw adjustment of 25 turns nominal. RT22C2L lead version, others pin version. Circuit diagram same as above, except color code red, green, and yellow from left to right. Weight: 2.5 grams maximum. Wire element. ±5% tolerance. Maximum power rating: 1.5 watts @ 70°C. Operating temperature range: -65 to +150°C. Temperature coefficient: ±50 PPM/°C. Standard resis. range 50-20K ohms.

MODEL 84 WIREWOUND—½" DIA. ROUND SINGLE-TURN

84-3-8

84-3-10

84-5-6

Higher power miniature trimmers for Military and industrial circuits. Designed to meet applicable portions of MIL-R-27208. Tempco of 50 PPM/°C maximum. Choice of 3 packages above.

Effective adjustment 300° nominal. Temperature range: -65 to 175°C. Tolerance ±5% 1.5 watt @ 70°C. Weight: 1.7 Grams maximum.

TYPE 84-3-8—SCREWDRIVER ADJUST PC PINS

Stk. No.	Ohms	1-9	10-24	25-49	50-99
12F2958	10				
12F2959	20				
12F2680	50	3.62	3.37	3.16	2.94
12F2681	100				
12F2682	200				
12F2683	500				

Stk. No.	Ohms	1-9	10-24	25-49	50-99
12F2684	1K				
12F2685	2K	3.62	3.37	3.16	2.94
12F2686	5K				
12F2687	10K				
12F2688	20K	4.06	3.79	3.55	3.30

TYPE 84-3-10—SCREWDRIVER ADJUST PC PINS

Stk. No.	Ohms	1-9	10-24	25-49	50-99
12F2932	10				
12F2933	20				
12F2934	50	4.41	4.12	3.85	3.59
12F2935	100				
12F2936	200				
12F2937	500				

Stk. No.	Ohms	1-9	10-24	25-49	50-99
12F2938	1K				
12F2939	2K	4.41	4.12	3.85	3.59
12F2940	5K				
12F2941	10K				
12F2942	20K	4.94	4.60	4.30	4.01

TYPE 84-5-6—PANEL BUSHING MOUNT SOLDER HOOKS

Stk. No.	Ohms	1-9	10-24	25-49	50-99
12F2945	10				
12F2946	20				
12F2947	50	5.73	5.35	5.00	4.66
12F2948	100				
12F2949	200				
12F2950	500				

Stk. No.	Ohms	1-9	10-24	25-49	50-99
12F2951	1K				
12F2952	2K	5.73	5.35	5.00	4.66
12F2953	5K				
12F2954	10K				
12F2955	20K	6.36	5.94	5.55	5.17

MODEL 87 MINIATURE ROTARY SWITCHES

87-11-XX

87-21-XX

87-31-XX

2-Pole

1-Pole

3-Pole

Miniature rotary switches suitable for many dry circuits as well as loads up to ¼ ampere at 28 VDC. Positive detent action and proven rotational life of 4000 operations per position. Has stops. Dielectric strength: 1000 VAC at sea level.

Stock No.	Type	Poles	1-9	10-24	25-49	50-99
8F900	87-11-10	1	4.10	3.75	3.50	3.25
8F901	87-21-10	1	4.75	4.35	4.05	3.80
8F902	87-31-10	1	5.25	4.80	4.50	4.20
8F903	87-11-25	2	4.60	4.20	3.90	3.65
8F904	87-21-25	2	5.25	4.80	4.50	4.20

Capacitance: pin to pin, or pin to case, 2PF maximum. Sealed. Suitable for automatic soldering. Bushing mount has 12-28 threads, 0.275 long. Weight: 3.0 Grams maximum.

Stock No.	Type	Poles	1-9	10-24	25-49	50-99
8F905	87-31-25	2	5.80	5.25	4.95	4.60
8F906	87-11-33	3	4.95	4.50	4.20	3.90
8F907	87-21-33	3	5.60	5.10	4.80	4.45
8F908	87-31-33	3	6.10	5.55	5.20	4.85

Spectrol Precision Potentiometers

PRECISION LINEAR WIREWOUND

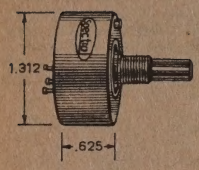


FIG. A
MODEL 132

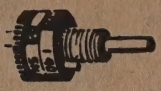


FIG. B
MODEL 140

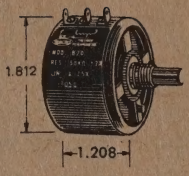


FIG. C
MODEL 830

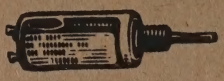


FIG. D
MODEL 162

FIG. E
HEL 05-B10
.500 1.000

SINGLE-TURN MODEL 132 WIRE WOUND 2.75 WATTS @ 40°C. SIZE: 0.625" x 1.312 DIAMETER

Precision potentiometer for general purpose industrial-use. Independent linearity: Up to 200 ohms, ±1%; above 200 ohms, ±0.5%. Electrical rotation: 352° ±2°. Temperature range: -55°C to +125°C. Shaft length including bushing: 0.875" x 0.250" diameter. Bushing: ⅜-32x⅜". Resistance Tol. ±3% Weight: 1.0 oz.

Fig. A	Ohms	1-4	5-9	10-24	25-49
12F4043	100				
67F3513	200				
12F4044	500	8.75	8.15	7.65	7.10
12F4045	1K				
12F4046	2K				

Fig. A	Ohms	1-4	5-9	10-24	25-49
12F4047	5K				
12F4048	10K				
12F4049	20K	8.75	8.15	7.65	7.10
.....	.....				
.....	.....				

SINGLE-TURN MODEL 140 WIREWOUND 2.0 WATTS @ 40°C SIZE: 0.305" x 0.500" DIAMETER

Precision miniature potentiometer. Independent linearity: ±1.0%. Has stops. Electrical rotation: 320° ±5°. Shaft length including bushing: 0.700" x 0.1248" diameter maximum. Bushing: ¼-32×5/16." Resistance Tolerance: ±5%. Weight: 0.1 oz. maximum.

Fig. B	Ohms	1-4	5-9	10-24	25-49
12F2698	50				
12F2699	100				
12F2700	200	7.70	7.15	6.70	6.20
12F2701	500				
12F2702	1K				

Fig. B	Ohms	1-4	5-9	10-24	25-49
12F2703	2K				
12F2704	5K				
12F2705	10K	7.70	7.15	6.70	6.20
12F2706	20K				
12F2707	50K				

3-TURN MODEL 830 WIREWOUND 3.0 WATTS @ 40°C SIZE: 1.218" x 1.812" DIAMETER

Extra rugged design for machine controls and industrial test instruments. Independent linearity: ±0.25%. Has stops. Electrical rotation: 1080° +4° to -0°. Temperature range: -55°C to +125°C. Shaft length including bushing: 0.812" x 0.2497" diameter. Bushing: ⅜-32x5/16." Resistance Tolerance: ±3%. Weight: 3.0 oz. maximum.

Fig. C	Ohms	1-4	5-9	10-24	25-49
12F2746	100				
12F2747	500				
12F2748	1K	10.50	10.20	10.00	9.45
12F2749	2K				
12F2750	5K				

Fig. C	Ohms	1-4	5-9	10-24	25-49
12F2751	10K				
12F2752	20K				
12F2754	50K	10.50	10.20	10.00	9.45
.....	.....				
.....	.....				

10-TURN MODEL 162 WIREWOUND 2.0 WATTS @ 40°C SIZE: 1.000" x 0.500" DIAMETER

Precision potentiometer for limited panel space. Independent linearity: ±0.3%. Has stops. Electrical rotation: 3600° +15° to -0°. Temperature range: -55°C to +125°C. Shaft length including bushing: 0.687" x 0.935" diameter. Bushing: ¼-32x0.281" Resistance Tolerance: ±5%. Weight: 1.0 oz. maximum.

Fig. D	Ohms	1-4	5-9	10-24	25-49
12F2899	100				
12F2900	200				
12F2901	500	13.40	12.55	11.75	10.90
12F2902	1K				
12F2903	2K				

Fig. D	Ohms	1-4	5-9	10-24	25-49
12F2904	5K				
12F2905	10K				
12F2906	20K	13.40	12.55	11.75	10.90
12F2908	50K				
.....	.....				

MODEL HEL 05-B10

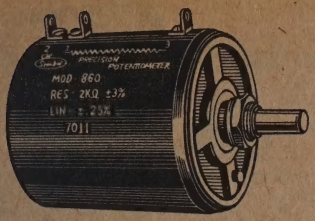
Low cost ½" industrial wirewound pot. Ideal for tight applications. Linearity ±1%. Elec. rotation 3600° +10° -0° Power-rating: 1.5 w at 40°C. Rotational life 100,000 shaft revs. Oper. Temp.: -20° to +100°C. Size: 1.628" x .500" dia.

Fig. E	Ohms	1-4	5-9	10-24	25-49
67F3501	100				
67F3502	200				
67F3503	500	9.30	8.70	8.10	7.55
56F3504	1K				
67F3506	2K				

Fig. E	Ohms	1-4	5-9	10-24	25-49
67F3507	5K				
67F3508	10K				
56F3509	20K	9.30	8.70	8.10	7.55
.....	.....				
.....	.....				

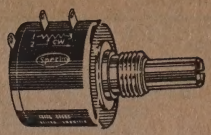
Precision Pots & Turns Counting Dials

Spectrol



MODEL 860

- **Wide Temperature Range**
- **Independent Linearity**
- **Excellent Stop Strength**



MODEL 534

10-TURN MODEL 534

Low cost industrial wirewound precision potentiometer available as three turn (533), five turn (535) and dual gang units as well as 10-turn (534) standard. Choose between bushing and servo-mounting styles. Rugged construction and superior stop strength inherent in design. Resistance tolerance ±5%. Max. power 2.0 watts at 70°C. Operating temp. −55 to 125°C. Linearity tolerance ±.25%. Shaft revolutions 1 million. Temperature coefficient 20 ppm/°C. Size: .750" x .875" dia.

Stk. No.	Ohms	1-4	5-9	10-24	25-49
12F4463	100				
12F4464	200				
12F4465	500	5.95	5.80	5.65	5.35
12F4466	1K				
12F4467	2K				

Stk. No.	Ohms	1-4	5-9	10-24	25-49
12F4468	5K				
12F4469	10K				
12F4470	20K	5.95	5.80	5.65	5.35
12F4471	50K				
12F4472	100K				

10-TURN MODEL 860

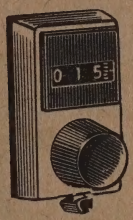
High power model for wide service. Independent linearity: ±0.25%. Has stops. Electrical rotation: 3600° +4° to 0°. Temperature range: −55°C to 125°C. Shaft length including bushing: 0.812" x 0.2497 diameter. Bushing: ⅜-32 x 9/16". Resistance Tolerance: Up to 200 ohms, ±5%; above, ±3%. 8.0 watts @ 40°C. Size: 2.000" x 1.812" diameter. Weight: 4.5 oz. maximum.

Stk. No.	Ohms	1-4	5-9	10-24	25-49
12F2755	20				
12F2756	50				
12F2757	100				
12F2758	200	10.50	10.20	10.00	9.45
12F2759	500				
12F2760	1K				
12F2761	2K				

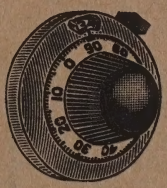
Stk. No.	Ohms	1-4	5-9	10-24	25-49
12F2762	5K				
12F2763	10K				
12F2764	20K				
12F2765	30K	10.50	10.20	10.00	9.45
12F2766	50K				
12F2767	100K				
12F2768	200K				

TURNS COUNTING DIALS

Model 11



Model 15



Model 21

Model 11. Eleven turns. Counts to 1099. Satin body finish. Black knob and brake lever. Black numerals. 1" diameter. For ¼" and ⅛" shaft. Order by stock number. Weight: 0.7 oz. maximum.

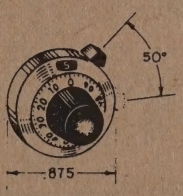
Stk. No.	Type	Shaft Dia.	1-4	5-9	10-24	25-49
12F2773	11-1-11	¼"	9.65	9.00	8.40	7.85
12F2774	11-3-11	⅛"	10.20	9.55	8.90	8.35

Model 15. Ten turns. Counts to 999. Satin body finish. Black removable knob, for shaft access after mounting. Smooth operating mechanism and positive brake. Size: 1.750" H x 1.0" W x 1.0" Lg. Weight 1.6 ozs.

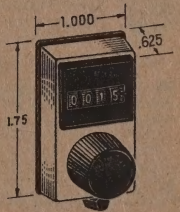
Stk. No.	Type	Shaft Dia.	1-4	5-9	10-24	25-49
12F4492	15-1-11	¼"	13.40	12.50	11.75	10.90
67F3512	15-3-11	⅛"	13.95	13.05	12.25	11.40

Model 21. Fifteen turns. Counts to 1499. Satin body finish; black knob and brake lever. Black numerals. 1 13/16" diameter. For ¼" and ⅛" shaft. Order by stock number. Weight: 3.0 oz. maximum.

Stk. No.	Type	Shaft Dia.	1-4	5-9	10-24	25-49
8F898	21-1-11	¼"	9.30	8.70	8.10	7.55
8F899	21-3-11	⅛"	9.85	9.25	8.60	8.05



Model 16-1-11



Model 15-2-11

Model 16-1-11. Fifteen turns. Counts to 1499. Clear anodize body finish. Black turning and brake lever knobs. Size: .875" deep, .875" diameter, .250" shaft bore. Wt. .7 oz.

Stk. No.	Type	Shaft Dia.	1-4	5-9	10-24	25-49
12F4498	16-1-11	¼"	6.95	6.75	6.55	6.40

Model 15-2-11. 100 turns. Counts to 9999. Satin chrome body finish. Knobs, bezel, and base are matte black plastic. White numerals on black background. Size: 1.75H x 1.00W x 1.00 Lg. Weight: 1.6 ounces.

Stk. No.	Type	Shaft Dia.	1-4	5-9	10-24	25-49
12F4497	15-2-11	¼"	16.85	14.75	13.80	12.85

Potentiometers & Resistors

CENTRALAB

0.4 WATT@ +70°C CARBON

SERIES TSC-1 TRIMMER RESISTORS

- RESISTANCES FROM 100 OHMS TO 500 MEGOHMS
- TERMINAL TYPE MOUNTING
- LINEAR TAPER

High-quality trimmer pot features include terminal mounting, wide range of resistances to choose from and linear taper. Resistance tolerance on all trimmers is ±30%. Contact resistance varies 1% max. for low values to 3% max. for 1 megohm trimmers. Operating temp. –55°C to +105°C. Watt Derating: 0 watts @+105°C up to 250K, +95°C 250K and above. Size: .594" wide x .68" high. With blue knob.

Stock No.	Type	Ohms
09F383	TSC1BB101C	100
09F384	TSC1BB151C	150
09F385	TSC1BB251C	250
09F386	TSC1BB501C	500
09F387	TSC1BB102C	1000
09F388	TSC1BB252C	2500
09F389	TSC1BB502C	5000
09F390	TSC1BB103C	10K
09F391	TSC1BB253C	25K
09F392	TSC1BB503C	50K
09F393	TSC1BB104C	100K
09F394	TSC1BB254C	250K
09F395	TSC1BB504C	500K
09F396	TSC1BB105C	1Meg
09F397	TSC1BB225C	2.2Meg
09F398	TSC1BB305C	3Meg
09F399	TSC1BB505C	5Meg

PRICE CHART

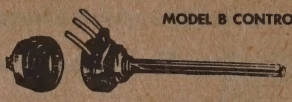
1-99	100-999	1000-9999	10,000-up
.47	.32	.28	.17

Type B16: Dielectric strength 900 VAC-RMS. Tol. ±20%. Audiotaper except (*) which is linear. Wt. 2 oz.

Plain Type Stud Mounted — 260° Rotation

Stk. No.	Type	Ohms
09F621	B16-107*	500
09F622	B16-109*	1K
09F623	B16-111*	2.5K
09F624	B16-112	2.5K
09F625	B16-113*	5K
09F627	B16-115*	10K
09F628	B16-116	10K
09F629	B16-117	25K
09F630	B16-119*	50K
09F631	B16-121*	100K
09F633	B16-118	500K
09F634	B16-120	1Meg

MODEL B CONTROLS



½ watt, 15/16" diam., universal fluted shaft 3" long. Use KR switches. Less switch. C1. Lin. C2. Semi-log (audio) 10% ctr.

Stk. No.	Type	Ohms	Taper
09F824	B-4	500	C1
09F800	B-5	1K	C1
09F825	B-6	2K	C1
09F826	B-7	2.5K	C1
09F801	B-10	5K	C1
09F828	B-11	5K	C2
09F802	B-14	10K	C1
09F835	B-15	10K	C2
09F840	B-22	20K	C1
09F804	B-26	25K	C1
09F805	B-31	50K	C1
09F806	B-32	50K	C2
09F807	B-40	100K	C1
09F808	B-41	100K	C2
09F847	B-50	250K	C1
09F810	B-59	.5 meg.	C1
09F811	B-60	.5 meg.	C2
09F853	B-69	1 meg.	C1
09F812	B-70	1 meg.	C2
09F857	B-75	2 meg.	C1
09F860	B-84	3 meg.	C1
09F814	B-87	5 meg.	C1
09F815	B-98	10 meg.	C1

1-24	25-49	50-99	100-up
1.88	1.74	1.50	1.18

TYPE KR FASTATCH SWITCHES FOR MODEL B CONTROLS

3 Amps — 125 Volts AC

Stk. No.	Type	Circuit	Each
09F466	KR-1	SPST	.89
09F467	KR-2	DPST	.89
09F468	KR-3	DP(1 on 1 off)	.89

15 Amps - 10 Volts DC *With dummy lug.

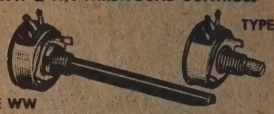
09F469	KR-4	SPST	.89
09F470	KR-6*	SPST	.89
09F471	KR-7	DPST	.89

1/10 WATT MINIATURE CONTROLS

PRICE CHART

1-24	25-49	50-99	100-up
2.08	1.95	1.67	1.28

WW & WN WIREWOUND CONTROLS



TYPE WW

Rated 5 watts, 1 3/32" dia. 5/16" depth, WW shaft ¼" dia. full round, 2⅝" lg. WN screwdriver slotted, ⅜" lg. from end of bushing. Linear taper. Shpg. wt., 4 oz.

Ohms	Stk. No.	Type WW	Key	Stk. No.	Type WN	Key
1	09F400	010	E	09F433	010	A
2	09F401	020	E	09F434	020	A
3	09F402	030	E	09F435	030	A
4	09F403	040	E	09F436	040	A
5	09F404	050	E	09F437	050	A
6	09F405	060	E	09F438	060	A
8	09F406	080	E	09F439	080	A
10	09F407	100	E	09F440	100	A
15	09F408	150	E	09F441	150	A
20	09F409	200	E	09F442	200	A
25	09F410	250	E	09F443	250	A
30	09F411	300	E	09F444	300	A
40	09F412	400	E	09F445	400	A
50	09F413	500	E	09F446	500	A
60	09F414	600	E	09F447	600	A
75	09F415	750	E	09F448	750	A
100	09F416	101	E	09F449	101	A
200	09F417	201	E	09F450	201	A
250	09F418	251	E	09F451	251	A
300	09F419	301	E	09F452	301	A
400	09F420	401	E	09F453	401	A
500	09F421	501	E	09F454	501	A
750	09F422	751	E	09F455	751	A
1K	09F423	102	E	09F456	102	A
1.5K	09F424	152	E	09F457	152	A
2K	09F425	202	E	09F458	202	A
2.5K	09F426	252	E	09F459	252	A
3K	09F427	302	E	09F460	302	A
4K	09F428	402	E	09F461	402	A
5K	09F429	502	E	09F462	502	A
7.5K	09F430	752	E	09F463	752	A
10K	09F431	103	F	09F464	103	B
15K	09F432	153	F	09F465	153	B
20K	09F683	203	F	09F690	203	B
25K	09F684	253	F	09F691	253	B
30K	09F685	303	F	09F692	303	B
40K	09F686	403	G	09F693	403	C
50K	09F687	503	G	09F694	503	C
75K	09F688	753	H	09F695	753	D
100K	09F689	104	H	09F696	104	D

PRICE CODE

Code	1-24	25-49	50-99	100-Up
A	1.87	1.74	1.60	1.19
B	2.27	2.09	1.94	1.45
C	2.54	2.34	2.18	1.64
D	2.80	2.59	2.41	1.79
E	1.85	1.71	1.57	1.19
F	2.25	2.07	1.95	1.47
G	2.38	2.19	2.04	1.54
H	2.82	2.59	2.41	1.77

CLAROSTAT

These resistors save considerable space because of elimination of mounting brackets and terminal lugs. Standard resistance tolerance is ±5%. Finished in vitreous shade of tealgreen. Will operate with stability and reliability under most variable environmental conditions. Economically quantity priced.

OHM CHART

1	30	180	600	2K	6.8K	18K
1.5	33	200	680	2.2K	7K	20K
2	35	220	700	2.25K	7.5K	22K
3	39	225	750	2.5K	8K	22.5K
4	40	250	800	2.7K	8.2K	25K
5	47	270	820	3K	8.5K	27K
7.5	50	300	900	3.3K	9K	30K
10	56	330	1K	3.5K	10K	33K
12	68	350	1.1K	3.9K	11K	35K
15	75	390	1.2K	4K	12K	39K
18	82	400	1.25K	4.5K	12.5K	40K
20	100	450	1.3K	4.7K	13.5K	45K
22	120	470	1.5K	5K	15K	47K
25	125	500	1.75K	5.6K	16K	50K
27	150	560	1.8K	6K	17.5K	

AXIAL LEAD VITREOUS RESISTORS

VC3D 1Ω TO 10K — 3.25 WATTS

Stock No.	Range Ohms	1-9	10-24	25-99	100-249
12F480	1.0-100	.65	.56	.45	.36
	101-2.5K	.59	.52	.41	.33
	2501-5.5K	.68	.58	.47	.38
	5501-7.5K	.73	.63	.50	.41
	7501-10K	.85	.74	.59	.48

VC5E 1Ω TO 25K — 6.5 WATTS

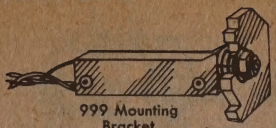
12F481	1.0-1K	.65	.56	.44	.36
	1001-5K	.68	.58	.47	.38
	5001-10K	.73	.63	.50	.41
	10001-15K	.84	.68	.53	.44
	15001-20K	.88	.76	.61	.50
	20001-25K	1.17	1.00	.80	.66

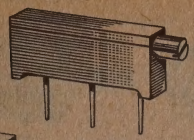
VC10F 1Ω TO 50K — 11 WATTS

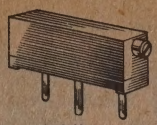
12F482	1.0-1K	.70	.61	.48	.40
	1001-5K	.77	.68	.53	.44
	5001-10K	.85	.74	.59	.48
	10001-20K	.97	.84	.68	.55
	20001-40K	1.09	.96	.76	.62
	40001-50K	1.29	1.11	.89	.73

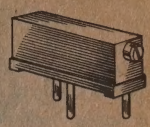
Trimmers

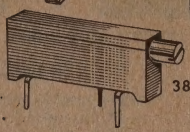
AMPHENOL® CONNECTORS FROM BUNKER RAMO

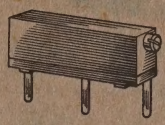












MODEL 992—COMMERCIAL 1-WATT TRIMMER

Meets MIL-STD-202 steady state humidity specifications. Wire wound with damage-proof friction clutch. Rivetless case design for maximum component density. Resistance tolerance: ±10% to 100 ohms, ±5% 100 ohms and over. End resistance: .1% or .5 ohms, whichever is greatest. Insulation resistance: per MIL-R-27208. Linear resistance change with adjustment. Operating temp. range: −55° to +125°C. 22-turn adjustment, end-to-end. Rotational life: 200 cycles min. with no discontinuity. **Specify Resistance When Ordering**

TYPE 992P PRINTED CIRCUIT MOUNTING TERMINALS

Stk. No.	Type	Resistance (Ohms)	1-9	10-24	25-49	50-99
12F956	992P-500	50	2.95	2.73	2.46	2.33
	992P-101	100				
	992P-201	200				
	992P-501	500				
	992P-102	1,000				
	992P-202	2,000				
	992P-502	5,000				
	992P-103	10,000				
	992P-203	20,000				

TYPE 992L TEFLON INSULATED STRANDED LEADS

Stk. No.	Type	Resistance (Ohms)	1-9	10-24	25-49	50-99
12F941	992L-101	100	3.70	3.52	3.30	3.10
	992L-501	500				
	992L-102	1,000				
	992L-202	2,000				
	992L-502	5,000				
	992L-103	10,000				
	992L-203	20,000				

999 PANEL MOUNT

Trimmer panel mount for **Model 992** trimmers. Requires panel mounting hole .1935" in diameter (No. 10 drill). .13" max. panel thickness.

Stk. No.	Type	1-9	10-24	25-49	50-99
12F1635	999	.81	.75	.68	.64

3810 SERIES—WIREWOUND TRIMMER

Features silicon "O" ring to seal out dust and humidity. Res. tolerance ±10%. Adjustment: 20 turns end-to-end. Linear slope. Vibration and shock tested per MIL-R-27208. Operating temp. range: −65 to +125°C. Temp. coefficient wire: 20 ppm max. Humidity tested per MIL-STD-202, Method 103. Rotational life: 200 cycles min. with no discontinuity. Power rating: 1 watt at 40°C derated to zero at 125°C. Corrosion-proof, gold-plated pins are silver brazed to resistance element. **Specify Resistance When Ordering**

3810P TRIMMERS PRINTED CIRCUIT TERMINALS, .10" SPACING

Stk. No.	Type	Resistance (Ohms)	1-9	10-24	25-49	50-99
30F1521	3810P-100	10	1.75	1.62	1.46	1.39
	3810P-200	20				
	3810P-500	50				
	3810P-101	100				
	3810P-201	200				
	3810P-501	500				
	3810P-102	1,000				
	3810P-202	2,000				
	3810P-502	5,000				
	3810P-103	10,000				
	3810P-203	20,000				

3810K TRIMMERS—PRINTED CIRCUIT TERMINALS, .20" SPACING

Stk. No.	Type	Resistance (Ohms)	1-9	10-24	25-49	50-99
12F5010	3810K-201	200	1.75	1.62	1.46	1.39
	3810K-501	500				
	3810K-102	1,000				
	3810K-202	2,000				
	3810K-502	5,000				
	3810K-103	10,000				
	3810K-203	20,000				

6034 SERIES CEREMET TRIMMERS

Multifinger contact reduces contact resistance variation to 3% of to of total resistance or 20 ohms, whichever is greatest, and extends rotational life to 200 cycles minimum with no discontinuity. Resistance tolerance: ±10%. Linear resistance slope. Vibration tested per MIL-STD-202B, Method 204A, Condition D, shock tested per MIL-STD-202B, Method 213, Condition I, and humidity tested per MIL-STD-202, Method 103. Operating temperature range −55° to +125°C. Power rating: ½ watt at 85°C, derated to zero at 125°C. Adjustment: 15 turns end-to-end. Temperature coefficient: 100 ppm/°C. End resistance: 1% or 20 ohms, whichever is greater. Infinite resolution. Commercial ¾" rectangular style with solvent-resistant nylon case. Sealed construction allows use in automated board cleaning processes. **Specify Resistance When Ordering**

TYPE 6034K .50" SPACING

Stk. No.	Type	Resistance (Ohms)	1-9	10-24	25-49	50 -99
12F4350	6034K-101	100	1.40	1.30	1.21	1.19
	6034K-201	200				
	6034K-501	500				
	6034K-102	1,000				
	6034K-202	2,000				
	6034K-502	5,000				
	6034K-103	10,000				
	6034K-203	20,000				
	6034K-253	25,000				
	6034K-503	50,000				
	6034K-104	100,000				
	6034K-204	200,000				
	6034K-254	250,000				
	6034K-504	500,000				
	6034K-105	1,000,000				

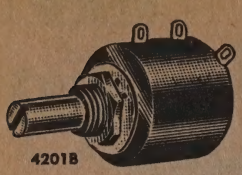
TYPE 6034 .20" SPACING

Stk. No.	Type	Resistance (Ohms)	1-9	10-24	25-49	50-99
12F4365	6034P-100	10	1.40	1.30	1.21	1.19
	6034P-200	20				
	6034P-500	50				
	6034P-101	100				
	6034P-201	200				
	6034P-501	500				
	6034P-102	1,000				
	6034P-202	2,000				
	6034P-502	5,000				
	6034P-103	10,000				
	6034P-203	20,000				
	6034P-253	25,000				
	6034P-503	50,000				
	6034P-104	100,000				
	6034P-204	200,000				
	6034P-254	250,000				
	6034P-504	500,000				
	6034P-105	1,000,000				

TYPE 6034Y .70" SPACING

Stk. No.	Type	Resistance (Ohms)	1-9	10-24	25-49	50-99
12F4383	6034Y-101	100	1.40	1.30	1.21	1.19
	6034Y-501	500				
	6034Y-102	1,000				
	6034Y-202	2,000				
	6034Y-502	5,000				
	6034Y-103	10,000				
	6034Y-203	20,000				
	6034Y-503	50,000				
	6034Y-104	100,000				
	6034Y-504	500,000				
	6034Y-105	1,000,000				

Pots and Dials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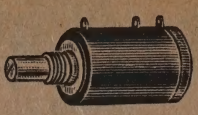
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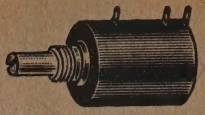
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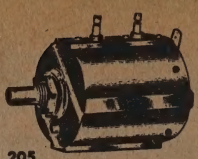
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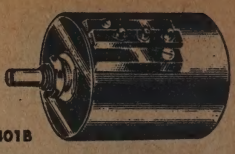

4401B

SERIES 4201B 10-TURN POT

Pwr. rating 2W @ 70°C derated to 0W @ 125°C. Low cost ⅞" dia. ¼" short potentiometer. Independent Linearity is ±0.25% Std. ±0.075% best. Electrical and mechanical rotation; 3600° +10°-0°. Temp. range, −55 to +125°C. Temp. coeff. ±20 ppm/°C max. Life: 1,000,000 revolutions. Noise, 100 Ohms ENR max.

SERIES 2151B 10-TURN WIREWOUND

Thermosetting plastic rotor does not change size or shape. Rotational life; 2,000,000 revolutions. Meets MIL-R-12934 steady state humidity requirements. Power rating; 3 watts at 40°C. Oper. temp. −55°C to +105°C. Size; ⅞" dia. x 1.45". Wt. 1.0 oz.

SERIES 4101B 10 TURN WIREWOUND

Power rating: 2 watts @ 40°C. Rotation: electrical, 3600° +10°, −0°; mechanical, 3600° +20° −0°. Thermoplastic polycarbonate shaft, ⅜" long. Operating shaft torque 1.5 oz. inches. Weight 1 oz.

Stk. No.	Type	Ohms	Resis. Tol.	Linear Tol.	1-9	10-24	25-49	50-99
12F7025	4201B	500	—	±.25%	3.99	3.85	3.76	3.65
12F7026	4201B	1K	—	±.25%				
12F7027	4201B	2K	—	±.25%				
12F7028	4201B	5K	—	±.25%				
12F7029	4201B	10K	—	±.25%				
12F7030	4201B	20K	—	±.25%	3.99	3.85	3.76	3.65
12F7031	4201B	50K	—	±.25%	3.99	3.85	3.76	3.65
12F1800	2151B	25	± 5%	±.25%	16.00	14.70	13.20	12.30
12F1801	2151B	50	± 5%	±.25%	16.00	14.70	13.20	12.30
12F1802	2151B	100	± 3%	±.25%	16.00	14.70	13.20	12.30
12F1803	2151B	200	± 3%	±.25%	16.00	14.70	13.20	12.30
12F1804	2151B	500	± 3%	±.25%				
12F1805	2151B	1K	± 3%	±.25%				
12F1806	2151B	2K	± 3%	±.25%				
12F1807	2151B	5K	± 3%	±.25%				
12F1808	2151B	10K	± 3%	±.25%	16.00	14.70	13.20	12.30
12F1809	2151B	20K	± 3%	±.25%				
12F1810	2151B	30K	± 3%	±.25%				
12F1811	2151B	20K	± 3%	±.25%				
12F1812	2151B	100K	± 3%	±.25%				
30F1502	4101B	500	± 5%	±.25%	5.95	5.65	5.35	5.05
30F1503	4101B	1K	± 5%	±.25%				
30F1504	4101B	2K	± 5%	±.25%				
30F1505	4101B	5K	± 5%	±.25%				
30F1506	4101B	10K	± 5%	±.25%				
30F1507	4101B	20K	± 5%	±.25%	5.95	5.65	5.35	5.05
30F1508	4101B	50K	± 5%	±.25%	6.35	6.05	5.65	5.30
30F1509	4101B	100K	± 5%	±.25%	6.35	6.05	5.65	5.30
12F800*	205	1.15	±10%	±0.1%	19.42	18.42	17.48	16.48
12F801*	205	2.9	±10%	±0.1%	19.42	18.42	17.48	16.48
12F802†	205	25	±10%	±0.1%	19.42	18.42	17.48	16.48

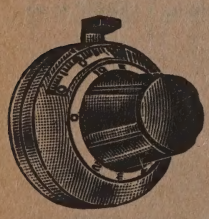
SERIES 205 10 TURN WIREWOUND

Power rating five watts @ 40°C. Electrical rotation: 3600° +14.4° −0°. Operating temperature −55°C to +105°C. Dielectric strength: 1000V rms per MIL-R-12934. No backlash—anti-backlash drive mechanism has single point of contact of wiper element. Life: 1,000,000 revolutions. Linear types: (*) Independent; (†) Zero-based. Solder lug terminal. Shafting torque: 3 oz. in. ¼" stainless steel shaft. 1¾" diameter x 2⅛". Weight 5 ounces maximum.

SERIES 2201B 10 TURN WIREWOUND

Independent linearity type. Power rated: 5 watts @ 40°C. Electrical rotation: 3600° +4° −0°. ⅜" stainless steel shaft. Turret terminals. Dielectric strength: 1000V rms at room temperature. Operating temperature −55°C to +105°C. Backlash: within resolution. Life: 2,000,000 revolutions. Resets in either direction. Starting torque 3 oz. in. Size: 1 $^{13}/_{16}$" dia. x 2⅛". Weight 4.2 oz. maximum.

Stk. No.	Type	Ohms	Resis. Tol.	Linear Tol.	1-9	10-24	25-49	50-99
12F803†	205	50	± 3%	±0.1%	19.42	18.42	17.48	16.48
12F804†	205	100	± 3%	±0.1%				
12F805†	205	200	± 3%	±0.1%				
12F806†	205	500	± 3%	±0.1%				
12F807†	205	1K	± 3%	±0.1%				
12F808†	205	2K	± 3%	±0.1%	19.42	18.42	17.48	16.48
12F809†	205	5K	± 3%	±0.1%	19.42	18.42	17.48	16.48
12F810†	205	10K	± 3%	±0.1%	19.42	18.42	17.48	16.48
12F811†	205	20K	± 3%	±0.1%	19.42	18.42	17.48	16.48
12F812†	205	30K	± 3%	±0.1%	23.50	22.40	21.00	19.75
12F813†	205	50K	± 3%	±0.1%	23.50	22.40	21.00	19.75
12F814†	205	100K	± 3%	±0.1%	23.50	22.40	21.00	19.75
12F4174†	205	200K	± 3%	±0.1%	23.50	22.40	21.00	19.75
12F4175†	205	300K	± 3%	±0.1%	23.50	22.40	21.00	19.75
12F885	2201B	25	± 5%	±0.5%	19.00	17.90	17.00	15.90
12F886	2201B	50	± 5%	±0.5%	19.00	17.90	17.00	15.90
12F887	2201B	100	± 3%	±.25%				
12F888	2201B	200	± 3%	±.25%				
12F889	2201B	500	± 3%	±.25%				
12F890	2201B	1K	± 3%	±.25%				
12F891	2201B	2K	± 3%	±.25%	19.00	17.90	17.00	15.90
12F892	2201B	5K	± 3%	±.25%				
12F893	2201B	10K	± 3%	±.25%				
12F894	2201B	20K	± 3%	±.25%				
12F895	2201B	30K	± 3%	±.25%				
12F896	2201B	50K	± 3%	±.25%	19.00	17.90	17.00	15.90
12F897	2201B	100K	± 3%	±.25%				
12F898	2201B	200K	± 5%	± .5%				
12F4176	2201B	300K	± 5%	± .5%				

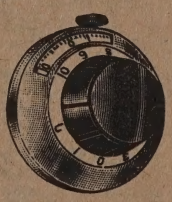


1370 COUNTING DIAL

- 1000:1 Indexing Accuracy
- Zero Backlash
- Fingertip Disk Brake

Concentric 10-turn dial, ⅞" diameter. Large outer vernier dial for maximum adjustment, readout accuracy. Dial mounts directly to shaft. Index accuracy 1000:1. Accepts ¼" diameter shaft; up to .177" panel thickness. Shaft length $^{19}/_{32}$", overall depth $^{15}/_{16}$". Numerals are die-cast, .03" high, easily readable. Anodized aluminum cover, polystyrol control knob, brushed zinc dial. Rotation: continuous CW or CCW. Factory phased, zero backlash. Fingertip brake won't disturb dial settings. Weight .53 ounces.

Stk. No.	Type	1-9	10-24	25-49	50-99
12F880	1370	12.02	10.61	9.60	9.00

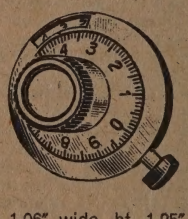


1350 COUNTING DIAL

- 6-Foot Readability of Outer Vernier Dial
- Shaft Mounted Dial Eliminates Backlash
- Finger-tip Brake Does Not Disturb Setting

Counting dial features two concentrically mounted dials: larger counts shaft reverse in 100 equal increments; inner dial, in full reverse. Indexing accuracy: 1000:1. 1 $^{13}/_{16}$" diameter. ¼" diameter shaft. Shaft length $^{11}/_{16}$". Overall depth 1". Numeral size 0.1", die-cast black. Ten turns. Direct coupling of dial to potentiometer prevents backlash in adjustments. Continuous inner dial movement. Clear anodized aluminum housing. Satin zinc dial. Furnished with anti-rotation plate, special ⅜-32 hex nut. Fits to bushing-mount type potentiometer.

Stk. No.	Type	1-9	10-24	25-49	50-99
12F878	1350	10.21	8.97	8.13	7.62



DFA SERIES CONCENTRIC

- 1 Part in 1000 Reading Accuracy
- Up to 99 Dials Per Square Foot of Panel Space
- Satin Chrome on Black Finish

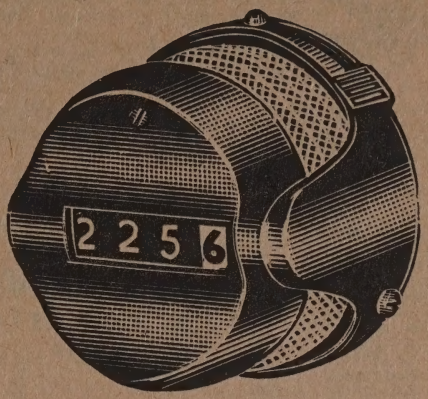
1.06" wide, ht. 1.25" (1.63" incl. lock and lever), enabling grouping of miniature 10-turn potentiometers in control banks of 99 elements max. per sq. ft. of panel space. Shaft diameter ¼", length 15-.77". Overall diameter 1 1/10", overall depth .83". Numeral size .09". Outer dial shows number of completed turns of shaft, graduated inner dial indexing accuracy: 1000:1. Use in control-console and computer applications. Dial control knob couples directly to potentiometer, eliminating backlash in control of resistance setting. DFA-N has satin chrome finish, DFA-NB has white numbers on black finish. Weight one ounce.

Stk. No.	Type	1-9	10-24	25-49	50-99
12F6045	DFA-N	4.95	4.70	4.45	4.18
12F6046	DFA-NB	4.95	4.70	4.45	4.18

Digital Readout Dials AMPHENOL® CONNECTORS FROM BUNKER RAMO

MODEL 1309 3-DIGIT READOUT

- ZERO BACKLASH
- ACCURACY 1000:1
- UP TO 6000 COUNTS PER MIN
- WIDE-ANGLE VIEWING
- READABLE TO 8 FEET
- POSITIVE-ACTION BRAKE

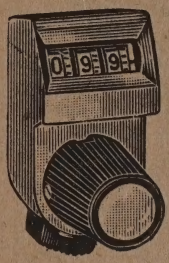


Precision design features finger-tip positive action brake and zero backlash. Large, easy-to-read, contrasting numerals, with convex window lens, provide wide-angle viewing plus readability up to eight feet. Windows reduce glare and reflection on numerals. Standard gear ratio of ten to one provides continuous ten turn readout of 000 through 999 to initial zero readings. It therefore provides 1000 counts in ten turns of the control knob. Rotation is continuous clockwise or counter-clockwise. Maximum operating speed 6000 counts per minute (60 RPM). Rubber seal protects critical assembly from dust and moisture. Control knob is mounted directly to shaft. Housing and mounting plate are die cast zinc. Black enamel housing. Dimensions: 1.816 inches diameter by 1.660 inches deep. Numeral size 3/16 inches. Weight 4.25 ounces.

Stock No.	Type	1-9	10-24	25-49	50-99
12F831	1309	16.38	15.54	14.75	13.91

DFD SERIES, DIGITAL

- 250 PPM Reading Accuracy
- High-Density Packaging—Up to 72 Per Sq. Foot

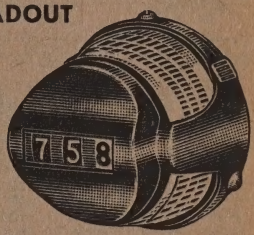


DFD is a precision mechanism that provides direct manual drive for panel-mounted, ten-turn potentiometer and an associated three-digit readout that registers drive-shaft rotation in turns, to three significant figures; vernier wheel providing four graduations intermediate between adjacent digits on least significant digit counter wheel permits interpolating to 250 parts per million, or less—fully compatible with resolution and linearity of average ten-turn precision potentiometer. Shaft diameter ¼ inches. Entire assembly 1.90 inches high, .95 inches wide, making it feasible to mount up to 72 controls per square foot of panel space. Numerals are .10 inches high, black on white. Digital display is comfortably readable at all times. Not hidden by operator's hand during adjustment and is equipped with a magnifying window that significantly enlarges numerals. Wt. 3 oz.

Stock No.	Type	1-9	10-24	25-49	50-99
12F6047	DFD	13.75	12.95	12.25	11.50

MODEL 1314 4-DIGIT READOUT

- ACCURACY 10,000:1
- 8-FOOT READABILITY
- ZERO BACK-LASH
- 6000 COUNTS PER MIN.
- FINGER-TIP BRAKE
- DUST, MOISTURE SEAL

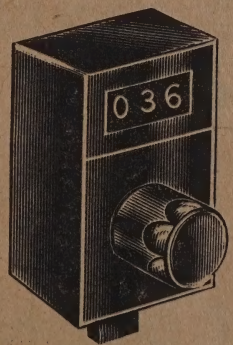


Precision counting dial specially designed for industrial use. Over-center finger-tip brake assures positive braking under the most demanding conditions. Superior accuracy permits use in critical applications. Method of count: inline digital readout (4 digital display) 0000 to 9999 in one hundred turns of control knob; one turn of control knob displays readout of 100 in increments of tenths. Rotation is continuous clockwise or counter-clockwise. Numerical size: 3/16" high. Control dial is mounted directly to shaft and permits no backlash in adjustment. Has rubber seal to protect from dust and moisture. Maximum operation speed: 6000 counts per minute (60 RPM). Operating temperature range: −54°C to +71°C. Material specifications: zinc diecast housing and mounting plate. Housing is finished in black enamel. Dimensions: 2 1/16" diameter by 1.660" deep.

Stock No.	Type	1-9	10-24	25-49	50-99
12F6038	1314	22.57	21.42	20.31	19.16

1381, 1385 COUNTING DIALS

- HIGH INDEXING ACCURACY OF 1000:1
- FINGERTIP BRAKE HOLDS CRITICAL SETTING
- ULTRA-MODERN STYLING
- ZINC DIE-CAST HOUSING



Miniature precision digital dial features special design at exceptionally low cost. Offers ultra-modern styling to compliment any panel layout. Ideal for precision potentiometers up to 10 turns. Accepts shafts ¼" in diameter. Finger-tip brake assures maintenance of critical dial setting without backlash. Model 1381 is available in black finish; Model 1385 in black-grey hammer. Size: 1 7/32"x1 13/16".

Stock No.	Type	1-9	10-24	25-49	50-99
12F6039	1381	15.73	13.86	12.60	11.81
12F6040	1385	15.73	13.86	12.60	11.81

MODEL 3141 AND 3141-2 DIALS

- FAST, DIRECT READINGS UP TO 6 FEET
- BRAKE AND CONTROL KNOB ELIMINATES BACKLASH
- 1000:1 INDEXING ACCURACY

Ultra modern design hides ⅔ of bulk behind mounting panel. Projects only 25/32" from front. Dial assembly mounts directly to standard ¼" shaft. Maximum operation speed: 6000 counts per minute (60 RPM). Operating temperature: −54°C to +71°C. Housing and back cover: die-cast zinc. Cover and control knob: anodized aluminum. Clear lens. Solder lug terminals available on type 3141-2 only. Rotation: continuous CW or CCW.

Stk. No.	Type	Illumination	1-9	10-24	25-49	50-99
12F879	3141	None	16.12	14.45	12.96	12.15
12F6036	3141-2	White light	21.19	18.96	17.07	16.00

Potentiometers

SERIES RV4—2 WATT THICK FILM CONDUCTIVE PLASTIC Meets Mil. Spec.—MIL-R-94B

For tolerance see last letter in type number (A) ±10% (B) ±20%. Linear resistance taper. 1⅛" diameter. Shpg. wt. 7 oz.

Type RV4LAYSA: ½" long locking bushing. Slotted shaft ¼" dia., ⅝" lg. FMS.

Stk. No.	Type	Ohms	1-9	10-49	50-99	100-249
9F1431	RV4LAYSA500A	50				
8F715	RV4LAYSA101A	100				
8F716	RV4LAYSA251A	250				
9F1435	RV4LAYSA351A	350				
8F717	RV4LAYSA501A	500				
9F1437	RV4LAYSA751A	750				
8F718	RV4LAYSA102A	1000				
9F1439	RV4LAYSA152A	1500				
8F719	RV4LAYSA252A	2500				
8F720	RV4LAYSA502A	5000				
8F721	RV4LAYSA103A	10K				
9F1445	RV4LAYSA153A	15K	2.25	1.90	1.58	1.33
8F722	RV4LAYSA253A	25K				
8F723	RV4LAYSA503A	50K				
8F724	RV4LAYSA104A	100K				
9F1451	RV4LAYSA154A	150K				
8F725	RV4LAYSA254A	250K				
9F1453	RV4LAYSA354A	350K				
8F726	RV4LAYSA504A	500K				
8F727	RV4LAYSA105A	1 Meg				
9F1458	RV4LAYSA205B	2 Meg				
8F728	RV4LAYSA255B	2.5 Meg				
8F729	RV4LAYSA505B	5 Meg				

Type RV4LAYSD. Carbon type "pots" with ½" locking type bushing. Shaft ¼" dia. ⅜" lg. FMS. Maximum temperature: 120°C.

8F685	RV4LAYSD101A	100 ohms				
8F686	RV4LYASD251A	250 ohms				
8F687	RV4LAYSD501A	500 ohms				
8F688	RV4LAYSD102A	1000 ohms				
8F690	RV4LAYSD502A	5000 ohms				
8F691	RV4LAYSD103A	10K				
8F692	RV4LAYSD253A	25K				
8F693	RV4LAYSD503A	50K	2.25	1.90	1.58	1.33
8F694	RV4LAYSD104A	100K				
8F695	RV4LAYSD254A	250K				
8F696	RV4LAYSD504A	500K				
8F697	RV4LAYSD105A	1 Meg				
8F698	RV4LAYSD255B	2.5 Meg				
8F699	RV4LAYSD505B	5 Meg				

Type RV4NAYSD: ⅜" long standard bushing. Slotted shaft ¼" diameter, ⅞" long FMS.

Stk. No.	Type	Ohms	1-9	10-49	50-99	100-249
9F1400	RV4NAYSD500A	50				
8F700	RV4NAYSD101A	100				
9F1402	RV4NAYSD151A	150				
8F701	RV4NAYSD251A	250				
8F702	RV4NAYSD501A	500				
9F1406	RV4NAYSD751A	750				
8F703	RV4NAYSD102A	1000				
9F1408	RV4NAYSD152A	1500				
8F704	RV4NAYSD252A	2500				
9F1410	RV4NAYSD352A	3500				
8F705	RV4NAYSD502A	5000				
9F1412	RV4NAYSD752A	7500				
8F706	RV4NAYSD103A	10K				
9F1414	RV4NAYSD153A	15K	1.95	1.60	1.50	1.25
8F707	RV4NAYSD253A	25K				
8F708	RV4NAYSD503A	50K				
9F1418	RV4NAYSD753A	75K				
8F709	RV4NAYSD104A	100K				
9F1420	RV4NAYSD154A	150K				
8F710	RV4NAYSD254A	250K				
9F1422	RV4NAYSD354A	350K				
8F711	RV4NAYSD504A	500K				
9F1424	RV4NAYSD754A	750K				
8F712	RV4NAYSD105A	1 Meg				
8F713	RV4NAYSD255B	2.5 Meg				
9F1429	RV4NAYSD355B	3.5 Meg				
8F714	RV4NAYSD505B	5 Meg				

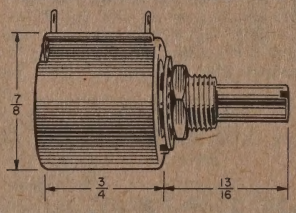
Type RV4NAYSK. Maximum operating temperature: 120°C. Maximum resistance change due to humidity test: 100 megs. Slotted operating shaft ¼" diameter, 2½" long.

9F1467	RV4NAYSK502A	5000				
9F1468	RV4NAYSK103A	10K				
9F1470	RV4NAYSK503A	50K	1.95	1.60	1.50	1.25
9F1471	RV4NAYSK104A	100K				
9F1472	RV4NAYSK254A	250K				
9F1474	RV4NAYSK105A	1 Meg				

Type RV4NAYSB. Same as above except with ¼" diameter, ½" long, slotted shaft, FMS.

9F1477	RV4NAYSB101A	100				
9F1480	RV4NAYSB102A	1000				
9F1482	RV4NAYSB502A	5000				
9F1485	RV4NAYSB503A	50K				
9F1486	RV4NAYSB104A	100K	1.95	1.60	1.50	1.25
9F1488	RV4NAYSB504A	500K				
9F1489	RV4NAYSB105A	1 Meg				
9F1490	RV4NAYSB255B	2.5 Meg				

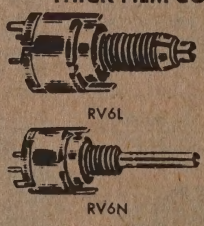
SERIES 73JA 10-TURN POT



Specs. Electrical: Resis. Range: 25 to 200K ohms. Resis. Tol.: ±5%. Power Rating @ 20°C: 2 watts. Op. temp. range: −55°C to +105°C. T. Coeff.: ±20 ppm °C max. Insulation Resis.: 1000 megohms @ 500 VDC. Dielectric Strength: 1000 volts RMS. Mechanical: Torque: 1.5 oz. in. max. Environmental: Rotational Life: 500,000. Dimensions: ⅛" dia. x ¾" L.

Stk. No.	Type	Ohms	1-9	10-24	25-49	50-99
9F1850	73JA-100	100				
9F1851	73JA-200	200				
9F1852	73JA-500	500				
9F1853	73JA-1K	1K				
9F1854	73JA-2K	2K				
9F1855	73JA-5K	5K	4.69	4.52	4.35	4.01
9F1856	73JA-10K	10K				
9F1857	73JA-20K	20K				
9F1858	73JA-25K	25K				
9F1859	73JA-50K	50K				
9F1860	73JA-100K	100K				

THICK FILM CONDUCTIVE PLASTIC POTENTIOMETERS



MIL-R-94 STYLE RV6: High-resolution, highly stable for applications requiring miniaturization and reliability. Rated 0.5 W @ 70°C, derated to zero power @ 120°. Working voltage 350 VDC across end terminals. Mechanical and electrical rotation 295° ±3°. Voltage breakdown 750 VAC between terminals and ground for 1 minute. Available with standard or locking type bushing. RV6L Locking Bushing. RV6N Standard Bushing. Diameter: ½". Shipping weight, 5 oz.

SERIES RV6L

Stk. No.	RV6L/AYSA Type	Ohms
9F2000	101A	100
9F2001	251A	250
9F2002	501A	500
9F2003	102A	1000
9F2004	252A	2500
9F2005	502A	5000
9F2006	103A	10,000
9F2007	153A	15,000
9F2008	253A	25,000
9F2009	503A	50,000
9F2010	104A	100K
9F2011	154A	150K
9F2012	254A	250K
9F2013	504A	500K
9F2014	105A	1 Meg

Price	1-9	10-49	50-99	100-249
	5.00	3.88	2.33	2.02

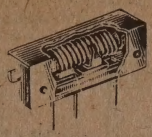
SERIES RV6N

Stk. No.	RV6N/AYSD Type	Ohms
9F2015	101A	100
9F2016	251A	250
9F2017	501A	500
9F2018	102A	1000
9F2019	252A	2500
9F2020	502A	5000
9F2021	103A	10,000
9F2023	253A	25,000
9F2024	503A	50,000
9F2025	104A	100K
9F2027	254A	250K
9F2028	504A	500K
9F2029	105A	1 Meg

Price	1-9	10-49	50-99	100-249
	5.00	3.65	2.19	1.90

POTENTIOMETERS CLAROSTAT

SERIES 76-JA-3 PC TRIMMER



Super setability. 10 times the resolution. 15 times greater winding length. Mech. travel: 14 turns, Eff. Travel: 11 turns, ±¼. Res. range: 100-20,000 Res. tol.: 5%. Power: .75W @ 85°C – derated linearly to 0 power @ 150°C.

Stock No.	Res. (Ω)	Resolution
09F1389	100	0.1
09F1390	200	0.09
09F1392	1K	0.075
09F1393	2K	0.06
09F1394	5K	0.05
09F1395	10K	0.04
09F1396	20K	0.03

Prices	1-24	25-49	50-99	100-249
	10.19	9.06	8.49	7.93

58C1 WIRE-WOUND POTENTIOMETERS

Standard bushings; wire wound. Rated 4 watts. Electrical tolerance is 5%. Shaft 2" FMS plain. Diam. 1 23/32 × 1" depth. Shpg. wt.: 4 oz.

Stk. No.	Type	Ohms	NET
08F434	58C1-10	10	
08F435	58C1-15	15	
08F439	58C1-50	50	
08F442	58C1-100	100	
08F443	58C1-200	200	
08F444	58C1-300	300	
08F445	58C1-400	400	
08F446	58C1-500	500	
08F447	58C1-750	750	
08F448	58C1-1000	1K	2.60
08F449	58C1-1500	1.5K	
08F450	58C1-2000	2K	
08F451	58C1-2500	2.5K	
08F452	58C1-3000	3K	
08F453	58C1-5000	5K	
08F455	58C1-10K	10K	
08F457	58C1-20K	20K	2.95
08F458	58C1-25K	25K	
08F461	58C1-50K	50K	3.47

10-TURN POTENTIOMETERS

Res. Tol.: 5%. Linearity: 25%. 500-100K. Power dissipation: 2W @ 25°C. Rotation 360° nom. Ins. Res: 100 megohms. Max rotation speed: 60 RPM. Dielectric strength: 1000 VAC.

Stk. No.	Res.	Stk. No.	Res.	Stk. No.	Res.
08F570	100	08F573	1K	08F577	20K
08F569	200	08F574	2K	08F578	30K
08F571	250	08F575	5K	08F579	50K
08F572	500	08F576	10K	08F580	100K

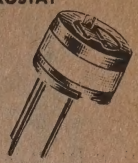
Prices	1-9	10-99	100-up
	8.25	7.15	6.60

43C 2-WATT WIRE WOUND

2 watt, wire wound control. Tolerance 5%. ⅛ lg. screwdriver slotted shaft. Dia. 15/32 × 5/8" deep. Fabricated in accordance with MIL-R-19. Style RA20L. Shpg. wt., 4 oz.

Stk. No.	Type	Ohms	NET
08F400	43C2-5	5	
08F401	43C2-10	10	
08F402	43C2-20	20	
08F403	43C2-25	25	
08F404	43C2-30	30	
08F406	43C2-50	50	
08F407	43C2-75	75	
08F408	43C2-100	100	
08F409	43C2-150	150	
08F410	43C2-200	200	
08F411	43C2-300	300	2.89
08F413	43C2-500	500	
08F414	43C2-750	750	
08F415	43C2-1000	1K	
08F416	43C2-1500	1.5K	
08F417	43C2-2000	2K	
08F418	43C2-2500	2.5K	
08F419	43C2-3000	3K	
08F420	43C2-4000	4K	
08F421	43C2-5000	5K	
08F423	43C2-10K	10K	
08F424	43C2-15K	15K	3.25
08F425	43C2-20K	20K	
08F426	43C2-25K	25K	
08F429	43C2-50K	50K	3.82

SERIES 382-5 CLAROSTAT

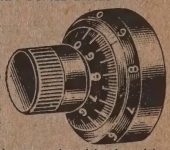


"Quiet One" Manufactured in a controlled environment. The process includes exclusive Clarostat Temp-Maturing to insure a reliable, homogeneous and stainfree resistance element with 3% dynamic noise and 5% independent linearity. Precision machine finishing or mechanical parts ensures smoother operation and outstanding mechanical life. Manufactured to MIL R-94 specifications. 0.25 watt thick film plastic printed circuit.

Stock No.	Resist.	Stock No.	Resist.
08F010	100	08F018	25K
08F011	250	08F019	50K
08F012	500	08F020	100K
08F013	1K	08F021	150K
08F014	2.5K	08F022	200K
08F015	5K	08F023	500K
08F016	10K	08F024	1 Meg.
08F017	15K	....	....

Prices	1-9	10-49	50-99	100-249
	3.93	2.85	1.73	1.47

"CLARODIAL" 10 TURN SCALE DIALS



Calibrated dials designed for multiturn potentiometers up to 10 turns. Requires 1 inch of panel space. The knob attaches directly to the shaft and the body of the dial is mounted rigidly to the panel. Ratio of 1000 to 1 for 10 turns provided with zero backlash with reading error ¼" shaft.

*With Lock

Stock No.	Type	Color	1-24	25-49	50-99	100-Up
08F585	412	Black*	8.20	7.65	7.35	6.80
08F586	411	Black	7.60	7.10	6.80	6.40
08F587	462	Clear*	8.20	7.65	7.35	6.80
08F588	461	Clear	7.60	7.10	6.80	6.40

SERIES RA20—2 WATT WIRE WOUND Meets Mil. Spec.—MIL-R-19A

Linear resistance taper. ± 10% tolerance. 1 17/64" dia. Shpg. wt. 7 oz. **RA20NASD:** Standard bushing ⅜" long. Slotted shaft ¼" diameter, ⅞" long. FMS. **RA20LASB:** Locking bushing ½" long. Slotted shaft ¼" diameter ⅝" long FMS.

Stock No.	Type	Ohms	Key
08F735	RA20NASD6R0A	6	A
08F736	RA20NASD8R0A	8	A
08F737	RA20NASD100A	10	A
08F738	RA20NASD150A	15	A
08F739	RA20NASD200A	20	A
08F740	RA20NASD250A	25	A
08F741	RA20NASD350A	35	A
08F742	RA20NASD500A	50	A
08F743	RA20NASD101A	100	A
08F744	RA20NASD151A	150	A
08F745	RA20NASD201A	200	A
08F746	RA20NASD251A	250	A
08F747	RA20NASD351A	350	A
08F749	RA20NASD751A	750	A
08F750	RA20NAAD102A	1K	A
08F751	RA20NASD152A	1.5K	A
08F752	RA20NASD202A	2K	A
08F753	RA20NASD252A	2.5K	A
08F754	RA20NASD352A	3.5K	A
08F755	RA20NASD502A	5K	A
08F756	RA20NASD103A	10K	A
08F757	RA20NASD153A	15K	A
08F758	RA20LASB3R0A	3	B
08F759	RA20LASB6R0A	6	B
08F760	RA20LASB8R0A	8	B
08F761	RA20LASB100A	10	B
08F762	RA20LASB150A	15	B
08F763	RA20LASB200A	20	B
08F764	RA20LASB250A	25	B
08F765	RA20LASB350A	35	B
08F766	RA20LASB500A	50	B
08F767	RA20LASB101A	100	B
08F769	RA20LASB201A	200	B
08F770	RA20LASB251A	250	B
08F772	RA20LASB501A	500	B
08F773	RA20LASB751A	750	B
08F774	RA20LASB102A	1K	B
08F777	RA20LASB252A	2.5K	B
08F778	RA20LASB352A	3.5K	B
08F779	RA20LASB502A	5K	B
08F780	RA20LASB103A	10K	B
08F781	RA20LASB153A	15K	B

Code	1-9	10-49	50-99	100-249
A	3.15	2.11	1.48	1.22
B	3.15	2.19	1.56	1.30

SERIES RA30 — 4 WATT WIRE WOUND

Meets Mil. Spec.—MIL-R-19A

Linear resistance taper. 10% tolerance. 1 17/32" dia. Shpg. wt. 7 oz. **TYPE RA30NASD:** ⅜" long standard bushing. Slotted shaft ¼" diameter, ⅞" long FMS.

Stk. No.	Type	Ohms	Stk. No.	Type	Ohms
08F788	RA30NASD100A	10	08F796	RA30NASD151A	150
08F789	RA30NASD150A	15	08F797	RA30NASD251A	250
08F791	RA30NASD250A	25	08F798	RA30NASD351A	350
08F793	RA30NASD500A	50	08F799	RA30NASD501A	500
08F794	RA30NASD750A	75	08F800	RA30NASD102A	2K
8F795	RA30NASD101A	100	08F802	RA30NASD202A	1K

Prices	1-9	10-49	50-99	100-249
	3.15	2.30	1.67	1.41

Stk. No.	Type	Ohms	Stk. No.	Type	Ohms
08F803	RA30NASD252A	2.5K	08F807	RA30NASD103A	10K
08F804	RA30NASD352A	3.5K	08F808	RA30NASD203A	20K
08F805	RA30NASD502A	5.0K	08F809	RA30NASD253A	25K
08F806	RA30NASD752A	7.5K	....	.....	...

Prices	1-9	10-49	50-99	100-249
	3.15	2.30	1.67	1.41

Type RA30LASB: ½" locking bushing. Slotted shaft ¼" dia., ⅝" L FMS.

09F1493	RA30LASB3R0A	3	08F819	RA30LASB102A	1K
08F812	RA30LASB150A	15	08F821	RA30LASB202A	2K
08F814	RA30LASB350A	35	08F823	RA30LASB502A	5K
08F816	RA30LASB101A	100	08F824	RA30LASB103A	10K
08F817	RA30LASB151A	150	....	.....	...

Prices	1-9	10-49	50-99	100-249
	3.15	2.38	1.75	1.49

OHMITE Wire Wound Power Rheostats

ALL RHEOSTATS SUPPLIED LESS KNOBS – SEE NEXT PAGE FOR KNOB LISTING

MODEL C—7½ WATT MINIATURE RHEOSTATS

Compact power rheostats for limited space applications. For high temperature applications; operates at maximum hot spot temperature of 340°C. Rugged ceramic and metal construction. Only .515 diameter ⅞" behind panel. Mounts with ¼-32 bushing, ⅛" dia. shaft, ⅝" long. Less knob. Wt .27 oz. Solder terminals also fit EIA Type TS-E3R100 transistor socket.

Stock No.	Type	Ohms +10%	1-4	5-9	10-Up
11F201	4908	10	18.55	15.77	12.43
11F202	4909	15			
11F203	4910	25			
11F204	4912	50			
11F206	4914	100			
11F207	4916	200			
11F208	4918	350			
11F234	4919	500			

MODEL E—12½ WATT MINIATURE RHEOSTATS

12½-Watt miniature Rheostat. Rugged all-ceramic and metal construction. Use where 12½ watts dissipation is needed but space is limited. Operation at a maximum hot spot temperature rise of 300°C at an ambient of 40°C, but also useful for operating at high military ambients, derated linearly to zero at 340°C. Specifications: Overall diam: ⅞". Shaft diam: ⅛". Resistance range: Up to 5000 ohms with vitreous enamel; higher values available with Ohmicone silicone-ceramic coating. Resistance tol: ±10%. Standard Mounting: for panels up to ⅛", ¼-32 threaded bushing. With non-turn lug. Rotation: 300° ±5%. Shpg. Wt., 0.6 oz. (†) Silicone-ceramic coating.

Stock No.	Type	Ohms	Max. Amps.	1-4	5-9	10-24	25-49
9F965	0101	1	3.53	6.94	5.91	4.66	3.82
9F966	0102	2	2.50				
9F967	0103	3	2.04				
9F968	0104	6	1.44				
9F969	0105	8	1.25				
9F970	0106	10	1.12				
9F971	0107	15	.91	6.74	5.74	4.52	3.71
9F972	0108	25	.71				
9F973	0109	35	.60				
9F974	0110	50	.50				
9F975	0111	75	.41				
9F976	0112	100	.35				
9F977	0113	125	.32				

Stock No.	Type	Ohms	Max. Amps.	1-4	5-9	10-24	25-49
9F978	0114	175	.27	6.74	5.74	4.52	3.71
9F979	0115	250	.22				
9F980	0116	350	.19				
9F981	0117	500	.16				
9F982	0118	750	.13				
9F983	0119	1,000	.11	6.94	5.91	4.66	3.82
9F984	0120	1,500	.091				
9F985	0121	2,500	.071				
9F986	0122†	3,500	.061	8.37	7.12	5.61	4.60
9F987	0123†	5,000	.050	8.37	7.12	5.61	4.60
9F988	4190†	7,500	.041	8.95	7.61	6.00	4.93
9F989	4191†	10,000	.035	8.95	7.61	6.00	4.93
9F991	4193†	15,000	.029	9.74	8.28	6.53	5.36

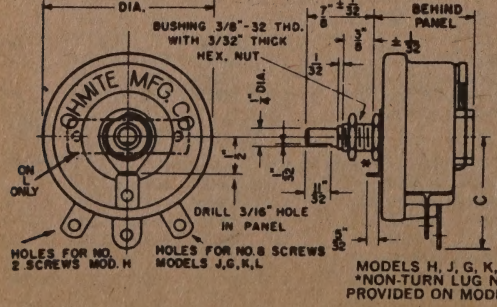
MODEL H—25 WATT UL LISTED

All ceramic vitreous enameled construction. Wire wound over ceramic core. Shunt pigtail carries current to slip-ring. High strength ceramic hub insulates the shaft and bushing. Tempered steel contact arm. Models H, J, K, L, N, when made without additional features are listed by UL and are marked series A except (†) Silicone Ceramic Coating are not UL listed. Aver. shpg. Wt.: 0.19 lbs.Mounts on panels up to ¼" by ⅜"—32 Bushing with No. 5050 Non-turn washer. Shaft Dia. ¼". 300° rotation. Dia. 1⁹⁄₁₆".

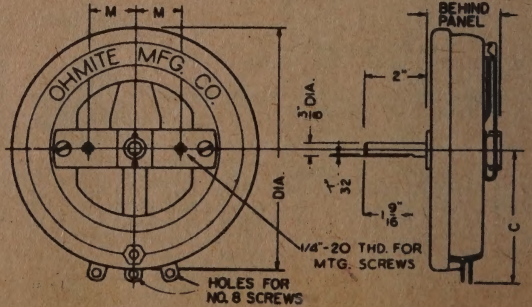
Stock No.	Type	Ohms	1-4	5-9	10-24	25-49
11F000	0140	1	7.29	6.21	4.89	4.01
11F001	0141	2				
11F002	0142	3				
11F003	0143	6				
11F004	0144	8				
11F005	0145	10				

Stk. No.	Type	Ohms	1-4	5-9	10-24	25-49
11F006	0146	15	7.08	6.03	4.75	3.90
11F007	0147	25				
11F008	0148	35				
11F009	0149	50				
11F010	0150	75				
11F011	0151	100				
11F012	0152	125				
11F013	0153	175				
11F014	0154	250				
11F015	0155	350				
11F016	0156	500				
11F017	0157	750				
11F018	0158	1,000	7.29	6.21	4.89	4.01
11F019	0159	1,500				
11F020	0160	2,500				
11F021	0161	3,500	8.22	6.98	5.50	5.20
11F022	0162	5,000	8.22	6.98	5.50	5.20
11F027	4201†	10,000	8.80	7.49	5.90	4.84
11F029	4203†	20,000	10.00	8.49	6.70	5.49
11F030	4204†	25,000	10.94	9.30	7.33	6.03

dimensions: MODELS H, J, K, L*


DIA.
BUSHING 3/8"-32 THD. WITH 3/32" THICK HEX. NUT
BEHIND PANEL
OHMITE MFG. CO.
ON ONLY
DRILL 3/16" HOLE IN PANEL
HOLES FOR NO. 2 SCREWS MOD. H
HOLES FOR NO.8 SCREWS MODELS J,G,K,L
MODELS H, J, G, K, L*
*NON-TURN LUG NOT PROVIDED ON MODEL L.

MODELS N, R



Wire Wound Power Rheostats

OHMITE

Model J—50 WATT—UL LISTED

Mounts on panels up to ¼" by ⅜" -32 bushing with No. 5050 Non-turn washer. Shaft dia. ¼" 300° rotation. Dia. 2⁵⁄₁₆

Stk. No.	Type	Ohms	1-4	5-9	10-24	25-49
11F040	0308	0.5				
11F041	0309	1.0				
11F042	0310	2.0	8.57	7.28	5.74	4.70
11F043	0311	4.0				
11F044	0312	6.0				
11F045	0313	8.0				
11F046	0314	12.0				
11F047	0315	16.0				
11F048	0316	22.0				
11F049	0317	35.0				
11F050	0318	50.0	7.63	6.49	5.11	4.20
11F051	0319	80.0				
11F052	0320	125.0				
11F053	0321	150.0				
11F054	0322	225.0				
11F055	0323	300				
11F056	0324	500				
11F057	0325	800				
11F058	0326	1000	8.10	6.89	5.43	4.45
11F059	0327	1600				
11F060	0328	2500				
11F061	0329	3500				
11F062	0330	5000	8.57	7.28	5.74	4.70
11F064	0332	10000				
11F071	4215	50000	17.49	14.87	11.73	9.63

All ceramic vitreous enamel construction. High strength ceramic hub insulates the shaft and bushings. Mounts on panels up to ¼" by ⅜"—32 bushing with non-turn washer. Shaft Dia. ¼". 300° rotation. Dia. 1-⁹⁄₁₆". Avg. shpg. wt. Models H, J, K: 8 oz. Models L, N: 3 lbs—Model R: 4 lbs.

MODEL L—150 WATT—UL LISTED

Mounts on panels up to ¼", by two 10-32 screws. Shaft dia. ¼". 300° Rotation. Dia. 6".

Stk. No.	Type	Ohms	1-4	5-9	10-24	25-Up
11F100	0524	0.5	17.85	15.17	11.96	9.82
11F101	0525	1				
11F102	0528	5	15.61	13.28	10.46	8.60
11F103	0530	10				
11F104	0532	25				
11F105	0534	50				
11F106	0536	100				
11F107	0537	150	14.49	12.33	9.70	7.98
11F108	0538	200				
11F109	0539	250				
11F110	0541	500				
11F111	0543	1,250	16.74	13.28	10.46	8.60
11F112	0545	2,250	17.98	14.24	11.21	9.21
11F113	0547	4,500	19.94	15.28	12.04	9.89
11F114	0549	10,000	24.43	20.77	16.37	13.44

MODEL K—100 WATT—UL LISTED

Mounts on panels up to ¼" by ⅜"-32 Bushing with No. 5050 Non-turn washer. Shaft Diameter ¼". 300° rotation. Rheostat diameter 3⅛"

Stk. No.	Type	Ohms	1-4	5-9	10-24	25-Up
11F076	0440	0.5	16.10	13.68	10.78	8.85
11F077	0441	1				
11F078	0442	2				
11F079	0443	3	14.99	12.75	10.05	8.24
11F080	0444	5				
11F081	0445	7.5				
11F082	0446	10				
11F083	0447	16				
11F084	0448	25				
11F085	0449	50				
11F086	0450	75	12.57	10.68	8.42	6.91
11F087	0451	100				
11F088	0452	200				
11F089	0453	300				
11F090	0454	400				
11F091	0455	500				
11F093	0457	1,000	14.99	12.75	10.05	8.24

MODEL N—300 WATT—UL LISTED

Mounts on panels up to 1", by two ¼"—20 by 1½" flat head screws supplied. Shaft dia. ⅜". 320° Rotation. Dia. 6".

Stk. No.	Type	Ohms	1-2	3-Up
11F130	0650	1		
11F136	0656	10		
11F137	0657	15		
11F138	0658	25		
11F139	0659	50		
11F140	0660	75		
11F141	0661	100	27.56	23.43
11F145	0665	400		
11F146	0666	700		
11F147	0667	900		
11F148	0668	1,200		
11F149	0669	1,500		
11F151	0671	2,500		

MODEL R—500 WATT

Mounts on panels up to 1", by two ¼"—20 screws. Shaft diameter ⅜". 325° Rotation. Dia. 8"

Stk. No.	Type	Ohms	1-2	3-Up
11F176	0855	5		
11F177	0856	8		
11F178	0857	12.5	32.75	27.84
11F179	0858	16		
11F180	0859	25		
11F181	0860	40		
11F182	0872	50		
11F183	0861	80		

Stk. No.	Type	Ohms	1-2	3-Up
11F184	0862	125		
11F185	0863	175		
11F186	0864	250		
11F187	0865	325		
11F188	0866	500	32.75	27.84
11F189	0867	750		
11F190	0868	1,000		
11F191	0869	1,500		
11F193	0871	2,500		

KNOBS FOR OHMITE RHEOSTATS

5105 5104 5150 5151

5105—Handwheel without pointer. For models N & R. **5104**. Same but with pointer. **5150** for models H, J, K, L "AB" pots, except CLU. Model **5151** for Model E.

Stock No.	Type	1-9	10-49	50-Up
11F020	5105	3.77	3.20	2.45
11F200	5104	4.08	3.47	2.65
11F024	5150	.69	.59	.45
11F025	5151	.77	.65	.50

TANDEM COUPLING KITS

Type **6532** for models H and J; couple models K, H, J, or L in rear position. Type **6533** for models K and L; couple models H, J, K, or L in rear position. Type **6591** for model E rheostats. Shpg. wt., 5 oz.

Stock No.	Type	1-4	5-9	10-24	25-Up
11F196	6532	6.32	5.37	4.23	3.48
11F197	6533	8.09	6.88	5.42	4.45
11F195	6591	4.26	3.62	2.85	2.34

DIAL PLATES

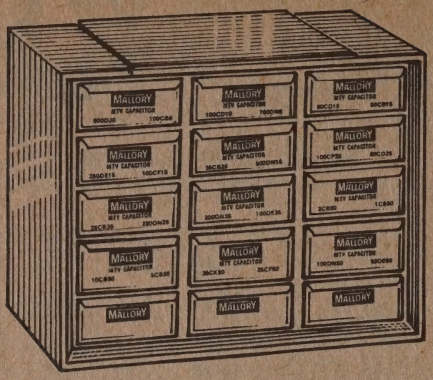
5000 5001

Finished dials for rheostats and other apparatus. Bright figures and lines on etched black backgrounds. Divisions O-100 indicate percentage of resistance in circuits. **5007** for use with C, E, 1¼" dial dia. **5000** for use with H, J, G, K, L (2¼" dial dia. **5001** for use with P, R, N, T, U. Dial dia. 5½".

Stock No.	Type	1-9	10-49	50-Up
11F199	5000	.38	.32	.25
11F198	5001	1.31	1.11	.85
11F194	5007	.38	.32	.25

Mallory Controls

LAB SAMPLE KIT



MTC 15-1 Mallobin. Contains assortment of subminiature carbon trimmer controls designed for printed circuitry. MTC-1 for vertical mounting and MTC-4 for horizontal mounting. All are packed in compact, easy to stack case. "Mallobin" contains one each of the following values:

MTC-1—Vertical Mount				MTC-4—PC Horizontal Mount			
22L1	12L1	153L1	14L1	22L4	12L4	153L4	14L4
152L1	13L1	184L1	124L1	152L4	13L4	184L4	124L4
682L1	63L1	26L1	16L1	682L4	63L4	26L4	16L4
15L1	54L1	751L1	52L1	15L4	54L4	751L4	52L4
55L1	454L1	53L1	33L1	55L4	454L4	53L4	33L4
32L1	251L1	253L1	24L1	32L4	251L4	253L4	254L4
252L1	23L1	3253L1	254L1	252L4	23L4	3253L4	355L4

60 F 2293. Type MTC 15-1. NET.....28.05

SUBMINIATURE TRIMMERS

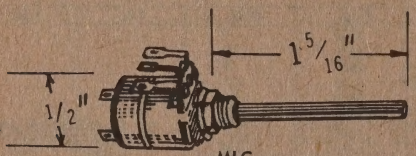
MTC-1

All items contained in MTC-15-1 Mallobin may be purchased separately. Refer to table below for stock numbers and type numbers.

Resis. Ohms	Vertical Mount		PC Horizontal Mount	
	Stock No.	Type	Stock No.	Type
100	60F2187	MTC-12L1	60F2229	MTC-4-12L4
200	60F2188	MTC-22L1	60F2230	MTC-4-22L4
250	60F2189	MTC-251L1	60F2231	MTC-4-251L4
300	60F2190	MTC-32L1	60F2232	MTC-4-32L4
500	60F2191	MTC-52L1	60F2233	MTC-4-52L4
1K	60F2193	MTC-13L1	60F2234	MTC-4-751L4
2K	60F2195	MTC-23L1	60F2235	MTC-4-13L4
3K	60F2196	MTC-33L1	60F2236	MTC-4-152L4
5K	60F2197	MTC-53L1	60F2237	MTC-4-23L4
6K	60F2198	MTC-63L1	60F2238	MTC-4-33L4
6.8K	60F2199	MTC-682L1	60F2239	MTC-4-53L4
10K	60F2200	MTC-14L1	60F2242	MTC-4-14L4
15K	60F2201	MTC-153L1	60F2215	MTC-4-153L4
20K	60F2202	MTC-24L1	60F2216	MTC-4-24L4
25K	60F2203	MTC-253L1	60F2217	MTC-4-253L4
50K	60F2204	MTC-54L1	60F2218	MTC-4-54L4
100K	60F2205	MTC-15L1	60F2219	MTC-4-15L4
180K	60F2207	MTC-184L1	60F2221	MTC-4-184L4
250K	60F2208	MTC-254L1	60F2222	MTC-4-254L4
325K	60F2209	MTC-3253L1	60F2223	MTC-4-3253L4
500K	60F2211	MTC-55L1	60F2225	MTC-4-55L4
1M	60F2212	MTC-16L1	60F2226	MTC-4-16L4
2M	60F2213	MTC-26L1	60F2227	MTC-4-26L4
3.5M	60F2214	MTC-355L1		

Type	1-24	25-49	50-99	100-249
MTC	.46	.41	.39	.34

SUBMINIATURE MINITROLS



MLC

Only ¼" diameter. Rated ¼ watt linear, watt audio. ⅛" 32x¼" bushing with nut. Shaft: ⅛" diameter x 1 7/16" FMS, MLC (steel); MLCN (nylon). (*) Indicates an SPST switch rated 2 amperes at 125VAC, UL approved. Tolerance ±20%.

Taper No. 1: Logarithmic used in audio circuits where percent of change is small at start of rotation.

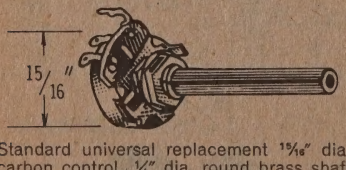
Taper No. 2: Reverse logarithmic used where percent of change must be large at start of rotation.

Taper No. 4: Linear taper where percentage of resistance change is directly proportional to rotational change on a straight line.

BUSHING MOUNT

Stk. No.	Type MLC	Resis. Ohms	Taper	1-24	25-49	50-99	100-249
60F2164	13L	1K	4	1.43	1.29	1.19	1.07
60F2165	222LS*	2.2K	4	2.33	2.07	1.95	1.76
60F2166	252A	2.5K	1	1.43	1.29	1.19	1.07
60F2167	252AS*	2.5K	1	2.33	2.07	1.95	1.76
60F2168	53A	5K	1	1.43	1.29	1.19	1.07
60F2169	53AS*	5K	1	2.33	2.07	1.95	1.76
60F2170	53L	5K	4	1.43	1.29	1.19	1.07
60F2171	53LS*	5K	4	2.37	2.07	1.95	1.76
60F2172	14AS*	10K	1	2.33	2.07	1.95	1.76
60F2173	14L	10K	4	1.43	1.29	1.19	1.07
60F2174	54L	50K	4	1.43	1.29	1.19	1.07
60F2175	15A	100K	1	1.43	1.29	1.19	1.07
60F2176	15L	100K	4	1.43	1.29	1.19	1.07
60F2177	25L	200K	4	1.43	1.29	1.19	1.07
60F2178	254L	250K	4	1.43	1.29	1.19	1.07
60F2180	55AS*	500K	1	2.33	2.07	1.95	1.76
60F2181	55LS*	500K	4	2.33	2.07	1.95	1.76
60F2182	N55L	500K	4	1.43	1.29	1.19	1.07
60F2183	16AS*	1M	1	2.33	2.07	1.95	1.76
60F2184	16LS*	1M	4	2.33	2.07	1.95	1.76
60F2185	N16A	1M	1	1.43	1.29	1.19	1.07
60F2186	N16L	1M	4	1.43	1.29	1.19	1.07

TYPE U METAL SHAFT MIDGETROLS



Standard universal replacement 15/16" dia. carbon control. ¼" dia. round brass shaft w/adapters for knurled, slotted or flatted knobs. Hex nut incl. ⅜" 32x⅜" bushing. 1 watt linear taper, ½ watt Audio taper.

Stk. No.	Type No.	Resist. Ohms	Taper	1-24	25-49	50-99	100-249
09F073	U1	100	4				
09F074	U2	500	4				
09F077	U3	1K	2	1.28	1.16	1.06	.97
09F078	U4	1K	4				
09F079	U5	1.5K	2				

Stk. No.	Type No.	Resist. Ohms	Taper
09F223	U41	100K	4
09F224	U415	125K	4
09F225	U42	150K	1
09F227	U44	250K	1
09F229	U46	250K	4
09F230	U48	500K	1
09F231	U50	500K	4
09F233	U52	1M	2
09F234	U53	1M	1
09F235	U54	1M	4
09F237	U55	1.5M	4
09F238	U56	2M	4
09F241	U59	3M	4
09F243	U65	5M	4
09F245	U82	10M	4

Stk. No.	Type No.	Resist. Ohms	Taper
09F081	U6	2K	4
09F083	U8	3K	4
09F085	U12	5K	1
09F086	U14	5K	4
09F087	U18	10K	1
09F089	U20	10K	4
09F092	U24	20K	1
09F094	U28	25K	2
09F095	U28A	25K	1
09F096	U29	25K	4
09F219	U35	50K	4
09F098	U33	50K	1
09F099	U34	50K	2
09F221	U39	100K	1
09F222	U40	100K	2

PRICE CODE

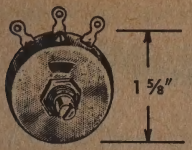
Type	1-24	25-49	50-99	100-249
U	1.28	1.16	1.06	.97

SWITCHES FOR TYPE U CONTROLS

Can be added to Type U and other controls to make them more flexible and versatile. Fits on back of Type U, UT, UDT & TA Midgetrols. Uses common shaft.

Stk. No.	Type	Description	1-24	25-49	50-99	100-249
9F246	US26	SPST 6 amp @ 125V	.57	.52	.47	.43
9F248	US27	DPST 6 amp @ 125V	.81	.74	.67	.61
9F249	US28	SPDT 3 amp @ 125V	.81	.74	.67	.61

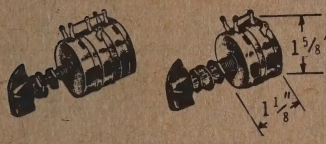
M AND MT WIRE WOUND POTENTIOMETERS



Used on bias control and voltage dividers; also for replacement of positioning, hold focus & other controls of TV sets. *MT are center tapped. Compact high wattage controls rated 4 watts. Arm insulated from shaft. 275° rotation. 1⅝" dia. x 9/16"W. ¼" shaft, slotted 3/64x1/16" deep, extended ⅜" from bushing. Mounts in ⅜" hole. Wt. 4 oz.

Stk. No.	Type	Ohms	1-9	10-49	50-99	100-249
9F300	M1PK	1				
9F337	M3PK	3				
9F303	M10PK	10				
9F304	M15PK	15				
9F329	MT20PK*	20				
9F306	M25PK	25				
9F309	M50PK	50				
9F312	M100PK	100				
9F313	M200PK	200				
9F331	M300PK	300	1.69	1.52	1.42	1.28
9F314	M400PK	400				
9F315	M500PK	500				
9F317	M1MPK	1K				
9F332	M1.5MPK	1.5K				
9F318	M2MPK	2K				
9F333	M2.5MPK	2.5K				
9F319	M3MPK	3K				
9F321	M5MPK	5K				
9F322	M10MPK	10K				
9F323	M15MPK	15K				
9F324	M20MPK	20K	1.86	1.66	1.55	1.40
9F325	M25MPK	25K				
9F326	M50MPK	50K	2.19	1.96	1.83	1.64
9F327	M70MPK	70K	2.19	1.96	1.83	1.64
9F335	M100MPK	100K	3.09	2.67	2.57	2.32

T AND L LOW IN IMPEDANCE LEVEL CONTROLS



Control level of low impedance audio circuits DC rating, 4 W; 15 watts audio. With bar knob, dial-plate, washer and nuts. "L" pad 1⅝" dia. x 1⅛" deep. "T" pad. 1 1/16" deep. 7 oz.

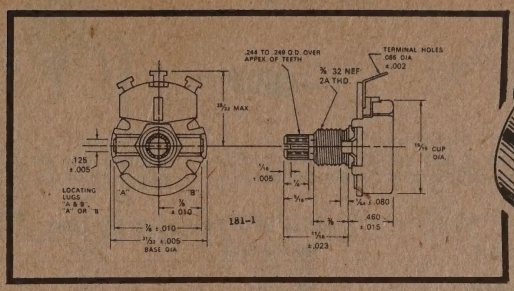
"T" PADS

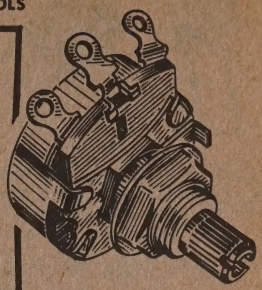
Stk. No.	Type	Ohms	1-9	10-24	25-49	50-99
9F251	T4	4				
9F253	T8	8				
9F254	T15	15				
9F255	T-50	50				
9F258	T250	250	5.05	4.77	4.50	4.24
9F259	T500	500				
9F260	T600	600				
9F261	T1000	1K				
9F262	T2000	2K				
9F263	T3000	3K				

"L" PADS

Stk. No.	Type	Ohms	1-9	10-24	25-49	50-99
9F281	L4	4				
9F282	L6	6				
9F283	L8	8				
9F284	L15	15				
9F285	L50	50				
9F287	L200	200	3.11	2.96	2.81	2.60
9F288	L250	250				
9F289	L500	500				
9F290	L600	600				
9F291	L1000	1K				
9F293	L3000	3K				

LW WIRE WOUND CONTROLS



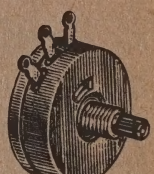


Type "LW". Fully enclosed. Highest quality wire is wound on filled Teflon strips. End terminals are steel w/tin coating. Center terminal is copper alloy w/silver plating. Provides 5 watt capabilities 25°C and derated to 4 watt at 55°C in a case of 1 1/16" dia. Supplied standard with a ⅜-32" x ⅜" bushing and a ¼" x 1 1/16" FMS, hollow, knurled, screwdriver slotted shaft. Use DS36 shaft extension. Controls with SPST push-pull switch are available on special order. Shafts are ¼" dia. flatted, slotted, or knurled. Specify shaft type & length. Linear taper. Res. Range; 1-25 K ohm. Tol. ±10% standard, ±5% on special order. Life: 10,000 cycles. Torque; .5-6" ounce, 2" ounce nominal.

Stk. No.	Type	Ohms	1-9	10-49	50-99	100-249
27F1100	LW1	1				
27F1106	LW3	3				
27F1121	LW5	5				
27F1103	LW8	8				
27F1119	LW10	10				
27F1123	LW15	15	1.21	1.08	1.01	.91
27F1108	LW20	20				
27F1122	LW25	25				
27F1111	LW50	50				
27F1114	LW75	75				
27F1117	LW100	100				
27F1101	LW250	250				

Stk. No.	Type	Ohms	1-9	10-49	50-99	100-249
27F1110	LW300	300	1.24	1.12	1.04	.93
27F1116	LW500	500	1.24	1.12	1.04	.93
27F1118	LW750	750	1.24	1.12	1.04	.93
27F1113	LW1K	1K	1.24	1.12	1.04	.93
27F1120	LW1P5K	1.5K	1.30	1.17	1.09	.98
27F1104	LW2P5K	2.5K	1.30	1.17	1.09	.98
27F1109	LW5K	5K	1.43	1.29	1.18	1.08
27F1107	LW7P5K	7.5K	1.43	1.29	1.18	1.08
27F1115	LW10K	10K	1.43	1.29	1.18	1.08
27F1112	LW15K	15K	1.49	1.34	1.24	1.12
27F1105	LW20K	20K	1.52	1.37	1.27	1.15
27F1102	LW25K	25K	1.62	1.46	1.35	1.22

WIREWOUND MG CONTROLS 12 ½ WATT



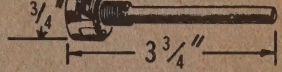
Have continuous DC rating at 12.5 watts at 35°C (ambient). Volume is 1.1 cubic inches and outside control diameter is only slightly larger than the standard knob rotation arc at 1⅝". Mechanical rotation: 294°; electrical rotation: 275°; peak audio rating at 50 watts. Voltage breakdown at 900V RMS. Contact arm insulated.

Stk. No.	Ohms	1-9	10-49	50-99	100-249
9F1700	1				
9F1701	3				
9F1703	10				
9F1704	15	2.73	2.45	2.27	2.05
9F1706	25				
9F1708	50				
9F1709	100				
9F1710	200				

Stk. No.	Ohms	1-9	10-49	50-99	100-249
9F1712	400	2.73	2.45	2.27	2.05
9F1713	500	2.73	2.45	2.27	2.05
9F1720	4K	2.78	2.51	2.32	2.09
9F1721	5K				
9F1723	15K	2.90	2.62	2.42	2.19
9F1724	20K				
9F1725	25K				
9F1727	100K	3.41	3.09	2.85	2.55

TYPE VW WIREWOUND CONTROLS 5 WATT

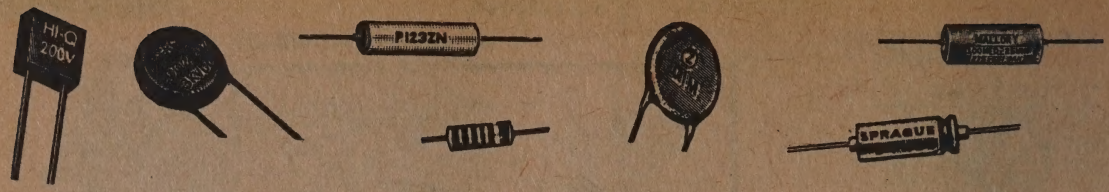
Subminiature industrial 5 watt potentiometer. Ideal for limited space applications. Case size only ¾" diameter by 15/32" deep. Bushing ⅜" x ⅜" in diameter and length. Has ¼" plain round shaft 2½" from mounting surface.



Stk. No.	Type	Ohms	1-9	10-49	50-99	100-249
9F033	VW-1	1				
9F034	VW-2	2				
9F035	VW-3	3				
9F036	VW-5	5				
9F039	VW-10	10				
9F040	VW-15	15	1.82	1.62	1.52	1.38
9F041	VW-20	20				
9F042	VW-25	25				
9F043	VW-30	30				
9F044	VW-40	40				
9F045	VW-50	50				
9F048	VW-100	100				

Stk. No.	Type	Ohms	1-9	10-49	50-99	100-249
9F049	VW-200	200				
9F055	VW-250	250				
9F056	VW-300	300	1.82	1.62	1.52	1.38
9F058	VW-500	500				
9F059	VW-600	600				
9F061	VW-1K	1K				
9F063	VW-2K	2K				
9F064	VW2P5K	2.5K	1.94	1.73	1.62	1.46
9F067	VW-5K	5K				
9F069	VW-10K	10K				
9F071	VW-20K	20K	1.98	1.76	1.65	1.49
9F072	VW-25K	25K	2.07	1.85	1.73	1.57

HANDY INDEX TO CAPACITORS



Newark carries a complete line of top quality capacitors. Our expert merchandising staff has carefully selected these capacitors to fill your electronic needs.

Contact Newark for all your capacitor needs, whether or not they are listed in this catalog.

MIL SPEC NUMBER AND TYPE NUMBER CONVERSIONS

FROM MILITARY SPEC NUMBER

Specification	Type
MIL-C-5	CD
MIL-C-5C	CM
MIL-C-20D	CC
MIL-C-11015	CK
MIL-C-23183	CG
MIL-C-26655	CS
MIL-C-29003	CSR

FROM TYPE NUMBER

Type	Specification
CC	MIL-C-20D
CD	MIL-C-5
CG	MIL-C-23183
CK	MIL-C-11015C
CM	MIL-C-5C
CS	MIL-C-26655
CSR	MIL-C-39003

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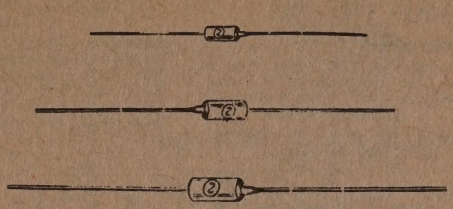
Type 150D and CS13 Solid Tantalums

SPRAGUE
THE MARK OF RELIABILITY

STANDARD SERIES 150D & MILITARY TYPE CS13

PRICE & SIZE LOCATOR -10%

Key	Sizes	1-24	25-49	50-99	100-499
B	.135"x.286"	.81	.57	.41	.33
C	.135"x.286"	.94	.66	.47	.38
D	.185"x.474"	.96	.68	.49	.39
E	.185"x.474"	1.11	.78	.56	.45
F	.289"x.686"	2.92	2.05	1.47	1.18
G	.289"x.686"	3.32	2.33	1.67	1.34
H	.289"x.686"	3.32	2.33	1.67	1.34
J	.351"x.786"	5.38	3.78	2.71	2.17
K	.351"x.786"	6.13	4.30	3.08	2.47



• Solid-Electrolyte Tantalex Capacitors •Have plastic insulating sleeve •Hermetically sealed

• High frequency performance •Life test 2000 hours

Type CS13. These are Solid-Electrolyte Fixed Tantalex Capacitors. These capacitors have plastic insulating sleeve. These sub-miniature axial-lead hermetically-sealed metal-encased tubular capacitors are furnished to meet all the requirements of Military Specification MIL-C-26655 Revision 2D. These capacitors have low leakage current and stability with both temperature and time. Life test 2000 hours. The operating temperature at full rated working voltage is -55° C to+85° C and with voltage derating, from -55°C to +125°C. They have high frequency performance; impedance remains low above 1 MHz. 2000 cycle vibration test and 50g shock test without any adverse effects. The capacitance tolerance is ±10%. These capacitors are not intended to be mounted by their leads.

6 WVDC ± 10% TOLERANCE

Stk. No.	150D	CS13	Mfd	Price & Size Key
18F2258	565X9006A2	BB565K	5.6	B
18F2259	685X9006A2	BB685K	6.8	B
18F2261	476X9006B2	BB476K	47	D
18F2263	566X9006B2	BB566K	56	D
18F2264	157X9006R2	BB157K	150	F
18F2266	187X9006R2	BB187K	180	F
18F2267	277X9006S2	BB277K	270	J
18F2268	337X9006S2	BB337K	330	J

10 WVDC ± 10% TOLERANCE

Stk. No.	150D	CS13	Mfd	Price & Size Key
18F2270	395X9010A2	BC395K	3.9	B
18F2271	475X9010A2	BC475K	4.7	B
18F2273	276X9010B2	BC276K	27	D
18F2274	336X9010B2	BC336K	33	D
18F2276	396X9010B2	BC396K	39	D
18F2277	826X9010R2	BC826K	82	F
18F2278	107X9010R2	BC107K	100	F
18F2280	127X9010R2	BC127K	120	F
18F2281	187X9010S2	BC187K	180	J
18F2282	227X9010S2	BC227K	220	J

15 WVDC ± 10% TOLERANCE

Stk. No.	150D	CS13	Mfd	Price & Size Key
18F2284	275X9015A2	BD275K	2.7	B
18F2285	335X9015A2	BD335K	3.3	B
18F2287	186X9015B2	BD186K	18	D
18F2288	226X9015B2	BD226K	22	D
18F2290	566X9015R2	BD566K	56	F
18F2291	686X9015R2	BD686K	68	F
18F2292	127X9015S2	BD127K	120	J
18F2293	157X9015S2	BD157K	150	J

20 WVDC± 10% TOLERANCE

Stk. No.	150D	CS13	Mfd	Price & Size Key
18F2296	125X9020A2	BE125K	1.2	B
18F2297	155X9020A2	BE155K	1.5	B
18F2299	185X9020A2	BE185K	1.8	B
18F2300	225X9020A2	BE225K	2.2	B
18F2302	825X9020B2	BE825K	8.2	D
18F2303	106X9020B2	BE106K	10	D
18F2305	126X9020B2	BE126K	12	D
18F2306	156X9020B2	BE156K	15	D
18F2308	276X9020R2	BE276K	27	F
18F2309	336X9020R2	BE336K	33	F
18F2311	396X9020R2	BE396K	39	F

20WVDC ± 10% TOLERANCE (Cont'd)

Stk. No.	150D	CS13	Mfd	Price & Size Key
18F2312	476X9020R2	BE476K	47	F
18F2314	566X9020S2	BE566K	56	J
18F2315	686X9020S2	BE686K	68	J
18F2317	826X9020S2	BE826K	82	J
18F2318	107X9020S2	BE107K	100	J

35WVDC ± 10% TOLERANCE

Stk. No.	150D	CS13	Mfd	Price & Size Key
18F1840	472X9035A2	.....	.0047	B
18F1841	562X9035A2	.....	.0056	B
18F1374	822X9035A2	.....	.0082	B
18F1375	103X9035A2	.....	.01	B
18F1376	123X9035A2	.....	.012	B
18F1377	153X9035A2	.....	.015	B
18F1378	183X9035A2	.....	.018	B
18F1379	223X9035A2	.....	.022	B
18F1380	273X9035A2	.....	.027	B
18F1381	333X9035A2	.....	.033	B
18F1382	393X9035A2	.....	.039	B
18F1383	473X9035A2	.....	.047	B
18F1384	563X9035A2	.....	.056	B
18F1385	683X9035A2	.....	.068	B
18F1386	823X9035A2	.....	.082	B
18F1387	104X9035A2	.....	.10	B
18F1388	124X9035A2	.....	.12	B
18F1389	154X9035A2	.....	.15	B
18F1390	184X9035A2	.....	.18	B
18F1391	224X9035A2	.....	.22	B
18F1392	274X9035A2	.....	.27	B
18F2320	334X9035A2	BF334K	.33	B
18F2322	394X9035A2	BF394K	.39	B
18F2323	474X9035A2	BF474K	.47	B
18F2325	564X9035A2	BF564K	.56	B
18F2326	684X9035A2	BF684K	.68	B
18F2328	824X9035A2	BF824K	.82	B
18F2329	105X9035A2	BF105K	1.0	B
18F2331	125X9035B2	BF125K	1.2	D
18F2332	155X9035B2	BF155K	1.5	D
18F2334	185X9035B2	BF185K	1.8	D
18F2335	225X9035B2	BF225K	2.2	D
18F2337	275X9035B2	BF275K	2.7	D
18F2338	335X9035B2	BF335K	3.3	D
18F2340	395X9035B2	BF395K	3.9	D
18F2341	475X9035B2	BF475K	4.7	D
18F2343	565X9035B2	BF565K	5.6	D
18F2344	685X9035B2	BF685K	6.8	D
18F2346	825X9035R2	BF825K	8.2	F
18F2347	106X9035R2	BF106K	10	F
18F2349	126X9035R2	BF126k	12	F
18F2350	156X9035R2	BF156K	15	F
18F2352	186X9035R2	BF186K	18	F

35 WVDC ± 10% TOLERANCE (Cont.)

Stk. No.	150 D	CS13	Mfd	Price & Size Key
18F2353	226X9035R2	BF226K	22	F
18F2355	276X9035S2	BF276K	27	J
18F2356	336X9035S2	BF336K	33	J
18F2358	396X9035S2	BF396K	39	J
18F2359	476X9035S2	BF476K	47	J

50 WVDC ± 10% TOLERANCE

Stk. No.	150D	CS13	Mfd	Price & Size Key
47F198	472X9050A2	.....	.0047	C
47F199	562X9050A2	.....	.0056	C
47F200	682X9050A2	.....	.0068	C
47F201	822X9050A2	.....	.0082	C
47F202	103X9050A2	.....	.01	C
18F1854	123X9050A2	.....	.012	C
47F203	153X9050A2	.....	.015	C
18F1855	183X9050A2	.....	.018	C
47F204	223X9050A2	.....	.022	C
18F1856	273X9050A2	.....	.027	C
47F205	333X9050A2	.....	.033	C
18F1857	393X9050A2	.....	.039	C
47F206	473X9050A2	.....	.047	C
18F1858	563X9050A2	.....	.056	C
47F207	683X9050A2	.....	.068	C
18F1859	823X9050A2	.....	.082	C
47F208	184X9050A2	.....	.1	C
18F1860	124X9050A2	.....	.12	C
47F209	154X9050A2	.....	.15	C
18F1861	184X9050A2	.....	.18	C
47F210	224X9050A2	.....	.22	C
18F1862	274X9050A2	.....	.27	C
47F211	334X9050A2	.....	.33	C
47F212	474X9050A2	.....	.47	C
18F1864	564X9050A2	.....	.56	C
47F213	684X9050A2	.....	.68	C
18F1865	824X9050A2	.....	.82	C
18F2957	105X9050A2	BG105K	1.0	C
18F2363	125X9050B2	BG125K	1.2	E
18F2958	155X9050B2	BG155K	1.5	E
18F2366	185X9050B2	BG185K	1.8	E
18F2959	225X9050B2	BG225K	2.2	E
18F2369	275X9050B2	BG275K	2.7	E
18F2960	335X9050B2	BG335K	3.3	E
18F2370	395X9050B2	BG395K	3.9	E
18F2961	475X9050B2	BG475K	4.7	E
18F2375	565X9050R2	BG565K	5.6	G
18F2962	685X9050R2	BG685K	6.8	G
18F2378	825X9050R2	BG825K	8.2	G
18F2963	106X9050R2	BG106K	10	G
18F2381	126X9050R2	BG126K	12	G
18F2964	156X9050R2	BG156K	15	G
18F2384	186X9050R2	BG186K	18	G
18F2965	226X9050S2	BG226K	22	K

SPRAGUE — THE MARK OF RELIABILITY

150D, CS13 and CSR-13 Solid Tantalums

COMMERCIAL SERIES 150D AND MILITARY TYPE CS13

Same characteristics as 10% model listed on previous page. True miniaturization with characteristics previously unobtainable in electrolytic capacitors.

150D Price and Size

Key	Sizes	1-24	25-49	50-99	100-499
A	.135x.286	.80	.56	.40	.32
B	.185x.474	.95	.67	.48	.38
C	.289x.686	2.90	2.03	1.45	1.16
D	.351x.786	5.35	3.75	2.68	2.14
E	.135x.286	.80	.56	.40	.32
F	.135x.286	.88	.61	.44	.35
G	.185x.474	1.05	.74	.53	.42
K	.289x.686	3.30	2.31	1.65	1.32
M	.351x.786	6.10	4.27	3.05	2.44

6 WVDC ±20% TOLERANCE

Stk. No.	150D	CS13	MFD	Price Size Key
18F2260	685X0006A2	BB685M	6.8	A
18F2262	476X0006B2	BB476M	47	B
18F2265	157X0006R2	BB157M	150	C
18F2269	337X0006S2	BB337M	330	D

10 WVDC ±20% TOLERANCE

18F2272	475X0010A2	BC475M	4.7	A
18F2275	336X0010B2	BC336M	33	B
18F2279	107x0010R2	BC107M	100	C
18F2283	227X0010S2	BC227M	220	D

15 WVDC ±20% TOLERANCE

18F2286	335X0015A2	BD335M	3.3	A
18F2289	226X0015B2	BD226M	22	B
18F2295	686X0015R2	BD686M	68	C
18F2294	157X0015S2	BD157M	150	D

35 WVDC ±20% TOLERANCE

18F787	472X0035A2	. . . . .	.0047	E
18F788	682X0035A2	. . . . .	.0068	E
18F789	103X0035A2	. . . . .	.01	E
18F790	153X0035A2	. . . . .	.015	E
18F791	223X0035A2	. . . . .	.022	E
18F792	333X0035A2	. . . . .	.033	A
18F793	473X0035A2	. . . . .	.047	A
18F794	683X0035A2	. . . . .	.068	A
18F795	104X0035A2	. . . . .	.10	A
18F12222	154X0035A2	. . . . .	.15	A
18F1223	224X0035A2	. . . . .	.22	A
18F2321	334X0035A2	BF334M	.33	A
18F2324	474X0035A2	BF374M	.47	A
18F2327	684X0035A2	BF684M	.68	A
18F2330	105X0035A2	BF105M	1.0	A
18F2333	155X0035B2	BF155M	1.5	B
18F2336	225X0035B2	BF225M	2.2	B
18F2339	335X0035B2	BF335M	3.3	B
18F2342	475X0035B2	BF475M	4.7	B
18F2345	685X0035B2	BF685M	6.8	B
18F2348	106X0035R2	BF106M	10	C
18F2351	156X0035R2	BF156M	15	C
18F2354	226X0035R2	BF226M	22	C
18F2357	336x0035S2	BF336M	33	D
18F2360	476X0035S2	BF476M	47	D

50 WVDC ±20% TOLERANCE

18F1800	103X0050A2	. . . . .	.01	F
18F1801	153X0050A2	. . . . .	.015	F
18F1802	223X0050A2	. . . . .	.022	F
18F1803	333X0050A2	. . . . .	.033	F
18F1804	473X0050A2	. . . . .	.047	F
18F1805	683X0050A2	. . . . .	.068	F
18F1806	104X0050A2	. . . . .	.1	F
18F1807	154X0050A2	. . . . .	.15	F
18F1809	224X0050A2	. . . . .	.22	F
18F1808	334X0050A2	. . . . .	.33	F
18F1810	474X0050A2	. . . . .	.47	F
18F1811	684X0050A2	. . . . .	.68	F
18F2362	105X0050A2	BG105M	1.0	F
18F2365	155X0050B2	BG155M	1.5	G
18F2368	225X0050B2	BG225M	2.2	G
18F2371	335X0050B2	BG335M	3.3	G
18F2374	475X0050B2	BG475M	4.7	G
18F2377	685X0050R2	BG685M	6.8	K
18F2380	106X0050R2	BG106M	10	K
18F2383	156X0050R2	BG156M	15	K
18F2386	226X0050S2	BG226M	22	M

TYPE CSR-13 2% "L" FAILURE RATE

Subminiature Hermetically sealed. Meet MIL-C 39003/1A. Low impendance above 1 MHz. 2000 cycle vibration test. 50g shock test. Temp. range -55°C to 125°C. Leads type M1 of MIL-STD-1276, tin coated .50 to 1.50 mil. Life test 10,000 hours. Plastic insulating sleeve. Weight 2 oz.

6 WVDC

Stk. No.	MIL Type CSR-	M39003/ 01-	Mfd.	Price Size Code
47F406	13B565KL	2001	5.6	A
47F407	13B685KL	2002	6.8	A
47F409	13B476KL	2004	47	B
47F411	13B566KL	2006	56	B
47F412	13B157KL	2007	150	C
47F414	13B187KL	2009	180	C
47F415	13B277KL	2010	270	D
47F416	13B337KL	2011	330	D

10 WVDC

47F418	13C395KL	2013	3.9	A
47F419	13C475KL	2014	4.7	A
47F421	13C276KL	2016	27	B
47F422	13C336KL	2017	33	B
47F424	13C396KL	2019	39	B
47F425	13C826KL	2020	82	C
47F426	13C107KL	2021	100	C
47F428	13C127KL	2023	120	C
47F429	13C187KL	2024	180	D
47F430	13C227KL	2025	220	D

15 WVDC

47F432	13D275KL	2027	2.7	A
47F433	13D335KL	2028	3.3	A
47F435	13D186KL	2030	18	B
47F436	13D226KL	2031	22	B
47F438	13D566KL	2033	56	C
47F439	13D686KL	2034	68	C
47F441	13D127KL	2036	120	D
47F442	13D157KL	2037	150	D

20 WVDC

47F444	13E125KL	2039	1.2	A
47F445	13E155KL	2040	1.5	A
47F447	13E185KL	2042	1.8	A
47F448	13E225KL	2043	2.2	A
47F450	13E825KL	2045	8.2	B
47F451	13E106KL	2046	10	B
47F453	13E126KL	2048	12	B
47F454	13E156KL	2049	15	B
47F456	13E276KL	2051	27	C
47F457	13E336KL	2052	33	C
47F459	13E396KL	2054	39	C
47F460	13E476KL	2055	47	C
47F462	13E566KL	2057	56	D
47F463	13E686KL	2058	68	D
47K465	13E826KL	2060	82	D
47F466	13E107KL	2061	100	D

35 WVDC

Stk. No.	MIL Type CSR-	M39003/ 01-	Mfd.	Size Code
47F468	13F565KL	2063	5.6	B
47F469	13F685KL	2064	6.8	B
47F471	13F226KL	2066	22	C
47F473	13F276KL	2068	27	D
47F474	13F336KL	2069	33	D
47F476	13F396KL	2071	39	D
47F477	13F476KL	2072	47	D

CSR-13 SIZE & PRICE CHART

Key	Size	1-24	25-49	50-99	100-499
A	.135x.286	.81	.57	.41	.33
B	.185x.474	.96	.68	.49	.39
C	.289x.686	2.92	2.05	1.47	1.18
D	.351x.786	5.38	3.78	2.71	2.17
H	.135x.286	.94	.66	.47	.38
J	.185x.474	1.11	.78	.56	.45
L	.289x.686	3.32	2.33	1.67	1.34
M	.351x.786	6.13	4.30	3.08	2.47
N	.135x.286	.94	.66	.47	.38
P	.135x.286	1.11	.78	.56	.45
R	.289x.686	3.32	2.33	1.67	1.34

50 WVDC

Stk. No.	MIL Type CSR-	M39003/ 01-	Mfd.	Size Code
47F479	13G472KL	2074	.0047	N
47F481	13G562KL	2076	.0056	N
47F482	13G682KL	2077	.0068	N
47F484	13G822KL	2079	.0082	N
47F485	13G103KL	2080	.01	N
47F487	13G123KL	2082	.012	N
47F488	13G153KL	2083	.015	N
47F490	13G183KL	2085	.018	N
47F491	13G233KL	2086	.022	N
47F493	13G273KL	2088	.027	N
47F494	13G333KL	2089	.033	H
47F496	13G393KL	2091	.039	H
47F497	13G473KL	2092	.047	H
47F499	13G563KL	2094	.056	H
47F500	13G683KL	2095	.068	H
47F502	13G823KL	2097	.082	H
47F503	13G104KL	2098	.1	H
47F505	13G124KL	2100	.12	H
47F506	13G154KL	2101	.15	H
47F508	13G184KL	2103	.18	H
47F509	13G224KL	2104	.22	H
47F511	13G274KL	2106	.27	H
47F512	13G334KL	2107	.33	H
47F514	13G394KL	2109	.39	H
47F515	13G474KL	2110	.47	H
47F517	13G564KL	2112	.56	H
47F518	13G684KL	2113	.68	H
47F520	13G824KL	2115	.82	H
47F521	13G105KL	2116	1	H
47F523	13G125KL	2118	1.2	P
47F524	13G155KL	2119	1.5	J
47F526	13G185KL	2121	1.8	J
47F527	13G225KL	2122	2.2	J
47F529	13G275KL	2124	2.7	J
47F530	13G335KL	2125	3.3	J
47F532	13G395KL	2127	3.9	J
47F533	13G475KL	2128	4.7	J
47F535	13G565KL	2130	5.6	R
47F536	13G685KL	2131	6.8	R
47F538	13G825KL	2133	8.2	R
47F539	13G106KL	2134	10	R
47F541	13G126KL	2136	12	L
47F542	13G156KL	2137	15	L
47F544	13G186KL	2139	18	L
47F545	13G226KL	2140	22	M

NEWARK carries the complete line of quality Sprague capacitors. NEWARK can supply all your capacitor needs, whether or not they are listed in this catalog. Write or phone your nearest NEWARK facility.

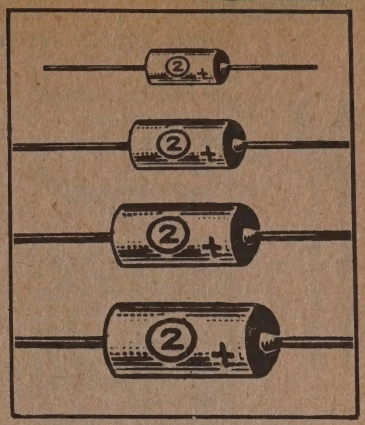
Type CSR-13 Solid Tantalum Capacitors

SPRAGUE
THE MARK OF RELIABILITY

1% FAILURE RATE MIL-39003

PRICE AND SIZE CHART

Key	Size	1-24	25-49	50-99	100-499
A	.135x.286	.84	.60	.44	.36
B	.135x.286	.83	.59	.43	.35
C	.185x.474	.99	.71	.52	.42
D	.185x.474	.98	.70	.51	.41
E	.289x.686	2.95	2.08	1.50	1.21
F	.289x.686	2.93	2.06	1.48	1.19
G	.351x.786	5.41	3.81	2.74	2.20
H	.351x.786	5.38	3.78	2.71	2.17
J	.135x.286	.97	.69	.50	.41
K	.135x.286	.96	.68	.49	.40
L	.135x.286	.97	.69	.50	.41
M	.135x.286	.96	.68	.49	.40
N	.185x.474	1.14	.81	.59	.48
P	.185x.474	1.13	.80	.58	.47
R	.289x.686	3.35	2.36	1.70	1.37
S	.289x.686	3.33	2.34	1.68	1.35
T	.289x.686	3.35	2.36	1.70	1.37
U	.289x.686	3.33	2.34	1.68	1.35
V	.351x.786	6.16	4.33	3.11	2.50
W	.351x.786	6.13	4.30	3.08	2.47



- Solid Electrolyte Tantalex
- 'M' Failure Rate
- 50g Shock Test

6WVDC

Stk. No.	MIL Type CSR-	M39003/ 01-	Mfd.	Price & Size Code
47F547	13B565KM	2241	5.6	A
47F548	13B685KM	2242	6.8	A
47F549	13B685MM	2243	6.8	B
47F550	13B476KM	2244	47	C
47F551	13B476MM	2245	47	D
47F552	13B566KM	2246	56	C
47F553	13B157KM	2247	150	E
47F554	13B157MM	2248	150	F
47F555	13B187KM	2249	180	E
47F556	13B277KM	2250	270	G
47F557	13B337KM	2251	330	G
47F558	13B337MM	2252	330	H

10WVDC

Stk. No.	MIL Type CSR-	M39003/ 01-	Mfd.	Price & Size Code
47F559	13C395KM	2253	3.9	A
47F560	13C475KM	2254	4.7	A
47F561	13C475MM	2255	4.7	B
47F562	13C276KM	2256	27	C
47F563	13C336KM	2257	33	C
47F564	13C336MM	2258	33	D
47F565	13C396KM	2259	39	C
47F566	13C826KM	2260	82	E
47F567	13C107KM	2261	100	E
47F568	13C107MM	2262	100	F
47F569	13C127KM	2263	120	E
47F570	13C187KM	2264	180	G
47F571	13C227KM	2265	220	G
47F572	13C227MM	2266	220	H

15 WVDC

Stk. No.	MIL Type CSR-	M39003/ 01-	Mfd.	Price & Size Code
47F573	13D275KM	2267	2.7	A
47F574	13D335KM	2268	3.3	A
47F575	13D335MM	2269	3.3	B
47F576	13D186KM	2270	18	C
47F577	13D226KM	2271	22	C
47F578	13D226MM	2272	22	D
47F579	13D566KM	2273	56	E
47F580	13D686KM	2274	68	E
47F581	13D686MM	2275	68	F
47F582	13D127KM	2276	120	G
47F583	13D157KM	2277	150	G
47F584	13D157MM	2278	150	H

NEWARK Can Supply

All Your Electronic Needs

20 WVDC

Stk. No.	MIL Type CSR-	M39003/ 01-	Mfd.	Price & Size Code
47F585	13E125KM	2279	1.2	A
47F586	13E155KM	2280	1.5	A
47F587	13E155MM	2281	1.5	B
47F588	13E185KM	2282	1.8	A
47F589	13E225KM	2283	2.2	A
47F590	13E225MM	2284	2.2	B
47F591	13E825KM	2285	8.2	C
47F592	13E106KM	2286	10	C
47F593	13E106MM	2287	10	D
47F594	13E126KM	2288	12	C
47F595	13E156KM	2289	15	C
47F596	13E156MM	2290	15	D
47F597	13E276KM	2291	27	E
47F598	13E336KM	2292	33	E
47F599	13E336MM	2293	33	F
47F600	13E396KM	2294	39	E
47F601	13E476KM	2295	47	E
47F602	13E476MM	2296	47	F
47F603	13E566KM	2297	56	G
47F604	13E686KM	2298	68	G
47F605	13E686MM	2299	68	H
47F606	13E826KM	2300	82	G
47F607	13E107KM	2301	100	G
47F608	13E107MM	2302	100	H

35WVDC

Stk. No.	MIL Type CSR-	M39003/ 01-	Mfd.	Price & Size code
47F609	13F565KM	2303	5.6	C
47F610	13F685KM	2304	6.8	C
47F611	13F685MM	2305	6.8	D
47F612	13F226KM	2306	22	E
47F613	13F226MM	2307	22	F
47F614	13F276KM	2308	27	G
47F615	13F336KM	2309	33	G
47F617	13F336MM	2310	33	H
47F618	13F396KM	2311	39	G
47F619	13F476KM	2312	47	G
47F620	13F476MM	2313	47	H

50WVDC

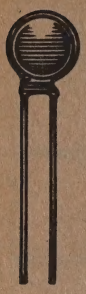
Stk. No.	MIL Type CSR-	M39003/ 01-	Mfd.	Price & Size Code
47F621	13G472KM	2314	.0047	J
47F622	13G472MM	2315	.0047	K
47F623	13G562KM	2316	.0056	J
47F624	13G682KM	2317	.0068	J
47F625	13G682MM	2318	.0068	K
47F626	13G822KM	2319	.0082	J
47F090	13G103KM	2320	.01	J
47F627	13G103MM	2321	.01	K
47F628	13G123KM	2322	.012	J
47F629	13G153KM	2323	.015	J
47F630	13G153MM	2324	.015	K
47F631	13G183KM	2325	.018	J

Hermetically sealed. Meets MIL-C-39003/1A specifications. Temp. range; -55°C to +125°C. Low imped. above 1 MHz 2000 cycle vibration test. Leads type M1 of MIL-STD-1276. Tin coated 0.50 to 1.50 mil. Wt. 2 oz. Second From last letter in type No. indicates Tolerance K: ±10%; M: ±20%

Stk. No.	MIL Type CSR	M39003 01-	Mfg.	Price & Size Code
47F632	13G223KM	2326	.022	J
47F633	13G223MM	2327	.022	K
47F634	13G273KM	2328	.027	J
47F635	13G333KM	2329	.033	L
47F636	13G333MM	2330	.033	M
47F637	13G393KM	2331	.039	L
47F638	13G473KM	2332	.047	L
47F639	13G473MM	2333	.047	M
47F640	13G563KM	2334	.056	L
47F641	13G683KM	2335	.068	L
47F642	13G683MM	2336	.068	M
47F643	13G823KM	2337	.082	L
47F644	13G104KM	2338	.1	L
47F645	13G104MM	2339	.1	M
47F646	13G124KM	2340	.12	L
47F647	13G154KM	2341	.15	L
47F648	13G154MM	2342	.15	M
47F649	13G184KM	2343	.18	L
47F650	13G224KM	2344	.22	L
47F651	13G224MM	2345	.22	M
47F652	13G274KM	2346	.27	L
47F653	13G334KM	2347	.33	L
47F654	13G334MM	2348	.33	M
47F655	13G394KM	2349	.39	L
47F656	13G474KM	2350	.47	L
47F657	13G474MM	2351	.47	M
47F658	13G564KM	2352	.56	L
47F659	13G684KM	2353	.68	L
47F660	13G684MM	2354	.68	M
47F661	13G824KM	2355	.82	L
47F662	13G105KM	2356	1	L
47F663	13G105MM	2357	1	M
47F664	13G125KM	2358	1.2	N
47F665	13G155KM	2359	1.5	N
47F666	13G155MM	2360	1.5	P
47F667	13G185KM	2361	1.8	N
47F668	13G225KM	2362	2.2	N
47F669	13G225MM	2363	2.2	P
47F670	13G275KM	2364	2.7	N
47F671	13G335KM	2365	3.3	N
47F672	13G335MM	2366	3.3	P
47F673	13G395KM	2367	3.9	N
47F674	13G475KM	2368	4.7	N
47F675	13G475MM	2369	4.7	P
47F676	13G565KM	2370	5.6	R
47F677	13G685KM	2371	6.8	R
47F678	13G685MM	2372	6.8	S
47F679	13G825KM	2373	8.2	R
47F680	13G106KM	2374	10	R
47F681	13G106MM	2375	10	S
47F682	13G126KM	2376	12	T
47F683	13G156KM	2377	15	T
47F684	13G156MM	2378	15	U
47F685	13G186KM	2379	18	T
47F686	13G226KM	2380	22	V
47F687	13G226MM	2381	22	W

196D Solid-Tantalum Capacitors

196D EPOXY DIPPED SOLID ELECTROLYTE TANTALEX CAPACITORS



- Low Capacitance Change
- Long Radial Leads
- Epoxy Dipped Coating
- High Stability
- Low Dissipation

Furnished in sizes which permit coverage of a broad range of capacitance ratings, from 0.1 through 330μf. Standard capacitance tolerance of these capacitors is ±10%. Operating temperature range −55° to +85°C low leakage current. The maximum dissipation factor is 10%. Leads at .125" spacing are ¾" long and straight, .250" spacing are 1" long and "hockeystick" style. Leads are electro-tinned nickel for ease in soldering. Solid-electrolyte tantalum pellet construction allow plug-in mtng. on printed wiring boards.

PRICE AND SIZE CHART

Price Code	Diameter	Height	Lead Spacing	1-49	50-99	100-499	500-999
A	.225	.450	.125	.86	.44	.35	.27
B	.175	.375	.125	.66	.34	.27	.21
C	.225	.425	.125	.76	.39	.31	.24
D	.350	.650	.250	2.12	1.07	.86	.67
E	.400	.750	.250	3.87	1.95	1.56	1.21
F	.175	.375	.125	.76	.39	.31	.24
G	.225	.425	.125	.86	.44	.35	.27
H	.225	.425	.125	.96	.49	.39	.30
K	.350	.650	.250	2.37	1.20	.96	.75
L	.400	.750	.250	4.52	2.27	1.82	1.42

4 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F347	196D106X9004HA1	10	B
47F349	196D107X9004KA1	100	A
47F350	196D227X9004PE4	220	D

6 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F351	196D685X9006HA1	6.8	B
47F352	196D336X9006JA1	33	C
47F354	196D686X9006KA1	68	A
17F1971	196D127X9006PE4	120	D
47F355	196D157X9006PE4	150	D
17F1972	196D277X9006TE4	270	E
47F356	196D337X9006TE4	330	E

10 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F357	196D475X9010HA1	4.7	B
47F358	196D226X9010JA1	22	C
47F359	196D336X9010KA1	33	A
17F1973	196D826X9010PE4	82	D
47F360	196D107X9010PE4	100	D
17F1974	196D187X9010TE4	180	E
47F361	196D227X9010TE4	220	E

15 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F362	196D335X9015HA1	3.3	B
47F363	196D156X9015JA1	15	C
47F364	196D226X9015KA1	22	A
47F365	196D686X9015PE4	68	D
17F1975	196D127X9015TE4	120	E
47F366	196D157X9015TE4	150	E

20 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F386	196D106X9020JA1	10	C
47F387	196D156X9020KA1	15	A
47F388	196D476X9020PE4	47	D
17F1976	196D826X9020TE4	82	E
47F389	196D107X9020TE4	100	E

25 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F390	196D155X9025HA1	1.5	B
47F391	196D225X9025HA1	2.2	B
47F392	196D685X9025JA1	6.8	C
47F393	196D106X9025KA1	10	A
47F395	196D336X9025PE4	33	D
17F1977	196D566X9025TE4	56	E
47F397	196D686X9025TE4	68	E

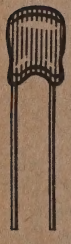
35 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F398	196D104X9035HA1	0.10	B
47F399	196D154X9035HA1	0.15	B
47F400	196D224X9035HA1	0.22	B
47F401	196D334X9035HA1	0.33	B
47F402	196D474X9035HA1	0.47	B
47F403	196D684X9035HA1	0.68	B
17F1978	196D824X9035HA1	.82	B
47F404	196D105X9035HA1	1.0	B
47F405	196D155X9035JA1	1.5	C
47F367	196D225X9035JA1	2.2	C
17F1979	196D275X9035JA1	2.7	C
47F368	196D335X9035JA1	3.3	C
47F369	196D475X9035JA1	4.7	C
47F370	196D685X9035KA1	6.8	A
47F371	196D106X9035PE4	10	D
47F372	196D156X9035PE4	15	D
47F373	196D226X9035PE4	22	D
47F374	196D336X9035TE4	33	E
17F1980	196D396X9035TE4	39	E

50 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F375	196D104X9050HA1	.10	F
47F376	196D154X9050HA1	0.15	F
47F377	196D224X9050HA1	0.22	F
47F378	196D334X9050HA1	0.33	F
47F379	196D474X9050HA1	0.47	F
47F380	196D684X9050HA1	0.68	F
47F381	196D105X9050HA1	1.0	F
47F382	196D155X9050JA1	1.5	G
47F383	196D225X9050JA1	2.2	G
47F384	196D335X9050JA1	3.3	G
47F385	196D475X9050KA1	4.7	H
17F1981	196D565X9050PE4	5.6	K
17F1982	196D126X9050PE4	12	K
17F1983	196D186X9050TE4	18	L

196D LOW-PROFILE DIPPED SOLID-TANTALUM CAPACITORS



- High stability
- Low dissipation
- Long straight leads

These capacitors are the same as those above, but with a rectangular anode design and changed dimensions. The leads are straight, ¾" long. Tolerance ±10%.

PRICE AND SIZE CHART

Price Code	Height	Width	Length	Lead Spacing	1-49	50-99	100-499	500-999
M	.275	.275	.180	.125	.81	.41	.33	.26
N	.335	.325	.210	.188	.91	.46	.37	.29
P	.375	.400	.220	.250	1.21	.61	.49	.38
R	.400	.400	.250	.250	2.23	1.13	.91	.71
S	.460	.485	.325	.250	3.19	1.62	1.30	1.01

6 WVDC, 8V SURGE

Stock No.	Type	Mfd.	Price & Size Code
17F1984	196D156X9006VA1	15	M
17F1985	196D336X9006WA2	33	N
17F1986	196D476X9006XA3	47	P
15F2761	196D686X9006XA3	68	P
17F1987	196D107X9006YA3	100	R
17F1988	196D227X9006ZA3	220	S

10 WVDC, 13V SURGE

Stock No.	Type	Mfd.	Price & Size Code
17F1989	196D106X9010VA1	10	M
17F1990	196D226X9010WA2	22	N
17F1991	196D336X9010XA3	33	P
17F1992	196D566X9010YA3	56	R
17F1993	196D127X9010ZA3	120	S

15 WVDC, 20V SURGE

Stock No.	Type	Mfd.	Price & Size Code
17F1994	196D685X9015VA1	6.8	M
15F2762	196D156X9015WA2	15	N
15F2763	196D226X9015XA3	22	P
17F1995	196D476X9015YA3	47	R
15F2764	196D107X9015ZA3	100	S

20 WVDC, 26V SURGE

Stock No.	Type	Mfd.	Price & Size Code
15F2765	196D475X9020VA1	4.7	M
15F2766	196D106X9020WA2	10	N
15F2767	196D156X9020XA3	15	P
17F1996	196D276X9020YA3	27	R
15F2768	196D476X9020ZA3	47	S
17F1997	196D566X9020ZA3	56	S
17F1998	196D686X9020ZA3	68	S

25 WVDC, 32V SURGE

Stock No.	Type	Mfd.	Price & Size Code
17F1999	196D565X9025WA2	5.6	N
15F2769	196D106X9025XA3	10	P
17F2000	196D156X9025YA3	15	R
17F2001	196D336X9025ZA3	33	S

35 WVDC, 46V SURGE

Stock No.	Type	Mfd.	Price & Size Code
15F2770	196D104X9035VA1	.1	M
15F2771	196D224X9035VA1	.22	M
17F2002	196D334X9035VA1	.33	M
15F2772	196D474X9035VA1	.47	M
15F2773	196D105X9035VA1	1.0	M
15F2774	196D225X9035VA1	2.2	M
15F2775	196D475X9035XA3	4.7	P
15F2776	196D685X9035XA3	6.8	P
17F2003	196D106X9035YA3	10	R
17F2004	196D156X9035ZA3	15	S
17F2005	196D226X9035ZA3	22	S

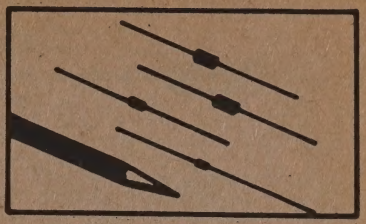
Miniature Tantalex Capacitors

SPRAGUE
THE MARK OF RELIABILITY

TYPE 162D RED TOP SOLID ELECTROLYTE TANTALEX CAPACITORS

162D—PRICE AND SIZE CHART					
Code	Dia. x Lgth.	1-24	25-49	50-99	100-499
A	.095 x .260	.62	.47	.39	.24
B	.110 x .290	.66	.50	.42	.26
C	.095 x .260	.70	.53	.44	.27
D	.180 x .345	.82	.62	.52	.32
E	.110 x .290	.74	.56	.47	.29
F	.180 x .420	.86	.65	.54	.33
G	.180 x .345	.90	.68	.57	.35
H	.180 x .420	.94	.71	.59	.36

Miniature commercial/industrial tantalum capacitors for use in applications where space is at a premium. Metal case is insulated with a heat shrunk polyester film. Leads are solder coated nickel 1.5" long x .02" dia. Tolerance: ±10%. Designed to operate over a temperature range of −55c to +85c with no voltage derating. Maximum operating voltage is for continuous duty at rated temperature.



2 WVDC

Stk. No.	Type	Mfd.	Price & Size Code
47F1400	162D106X9002BC2	10	A
47F1401	162D336X9002CD2	33	B
47F1402	162D686X9002DD2	68	D

4 WVDC

Stk. No.	Type	Mfd.	Price & Size Code
47F1403	162D685X9004BC2	6.8	A
47F1404	162D476X9004DD2	47	D
47F1405	162D686X9004EE2	68	F

6 WVDC

Stk. No.	Type	Mfd.	Price & Size Code
47F1406	162D475X9006BC2	4.7	A
47F1407	162D156X9006CD2	15	B
47F1408	162D336X9006DD2	33	D
47F1409	162D476X9006EE2	47	F

10 WVDC

Stk. No.	Type	Mfd.	Price & Size Code
47F1410	162D335X9010BC2	3.3	A
47F1411	162D106X9010CD2	10	B
47F1412	162D226X9010DD2	22	D
47F1413	162D336X9010EE2	33	F

15 WVDC

Stk. No.	Type	Mfd.	Price & Size Code
47F1414	162D225X9015BC2	2.2	A
47F1415	162D685X9015CD2	6.8	B
47F1416	162D156X9015DD2	15	D
47F1417	162D226X9015EE2	22	F

20 WVDC

Stk. No.	Type	Mfd.	Price & Size Code
47F1418	162D155X9020BC2	1.5	A
47F1419	162D475X9020CD2	4.7	B
47F1420	162D156X9020EE2	15	F

25 WVDC

Stk. No.	Type	Mfd.	Price & Size Code
47F1421	162D684X9025BC2	.68	A
47F1422	162D105X9025BC2	1	A
47F1423	162D225X9025CD2	2.2	B
47F1424	162D335X9025CD2	3.3	B
47F1425	162D685X9025DD2	6.8	D
47F1426	162D106X9025DD2	10	D

35 WVDC

Stk. No.	Type	Mfd.	Price & Size Code
47F1427	162D472X9035BC2	.0047	A
47F1428	162D682X9035BC2	.0068	A
47F1429	162D103X9035BC2	.01	A
47F1430	162D153X9035BC2	.015	A
47F1431	162D223X9035BC2	.022	A
47F1432	162D333X9035BC2	.033	A
47F1433	162D473X9035BC2	.047	A
47F1434	162D683X9035BC2	.068	A
47F1435	162D104X9035BC2	.1	A
47F1436	162D154X9035BC2	.15	A
47F1437	162D224X9035BC2	.22	A
47F1438	162D334X9035BC2	.33	A
47F1439	162D474X9035BC2	.47	A
47F1440	162D684X9035CD2	.68	B

35 WVDC (Con't.)

Stk. No.	Type	Mfd.	Price & Size Code
47F1441	162D105X9035CD2	1	B
47F1442	162D155X9035CD2	1.5	B
47F1443	162D225X9035DD2	2.2	D
47F1444	162D335X9035DD2	3.3	D
47F1445	162D475X9035DD2	4.7	D
47F1446	162D685X9035EE2	6.8	F

50 WVDC

Stk. No.	Type	Mfd.	Price & Size Code
47F1447	162D472X9050BC2	.0047	C
47F1448	162D682X9050BC2	.0068	C
47F1449	162D103X9050BC2	.01	C
47F1450	162D153X9050BC2	.015	C
47F1451	162D223X9050BC2	.022	C
47F1452	162D333X9050BC2	.033	C
47F1453	162D473X9050BC2	.047	C
47F1454	162D683X9050BC2	.068	C
47F1455	162D104X9050BC2	.1	C
47F1456	162D154X9050BC2	.15	C
47F1457	162D224X9050BC2	.22	C
47F1458	162D334X9050CD2	.33	E
47F1459	162D474X9050CD2	.47	E
47F1460	162D684X9050CD2	.68	E
47F1461	162D105X9050CD2	1	E
47F1462	162D155X9050DD2	1.5	G
47F1463	162D225X9050DD2	2.2	G
47F1464	162D335X9050EE2	3.3	H
47F1465	162D475X9050EE2	4.7	H

ULTRA-MINIATURE SOLID-ELECTROLYTE TANTALEX CAPACITORS

Type 182D—cylindrical. Type 183D—rectangular. Housed in polyester-film sleeving with epoxy resin end seals. Higher volumetric efficiency than metal encased or molded tantalum designs. XO in type number indicates ±20% tol. D4 indicates +40%, −20% tol.

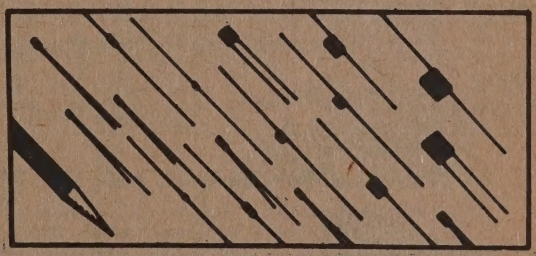
TYPE 183D—SIZE AND PRICE CHART							
Price & Size Code	Ht.	Lgth.	Thickness	1-24	25-49	50-99	100-499
B	.165	.120	.070	1.30	.91	.65	.52
C	.225	.185	.075	1.60	1.12	.80	.64
D	.290	.220	.110	1.70	1.19	.85	.68
E	.310	.230	.130	1.70	1.19	.85	.68

AXIAL LEAD

Stk. No.	Type	MFD	WV DC	Price & Size Code
47F1368	183DA106X0006C	10	6	C
47F1369	183DA476X0006E	47	6	E
47F1370	183DA225X0010B	2.2	10	B
47F1371	183DA226X0015E	22	15	E
47F1372	183DA105X0020B	1	20	B
47F1373	183DA475X0020C	4.7	20	C
47F1374	183DA106X0020D	10	20	D
47F1375	183DA156X0020E	15	20	E
47F1376	183DA685X0025D	6.8	25	D
47F1377	183DA474X0035B	.47	35	B
47F1378	183DA684X0035C	.68	35	C
47F1379	183DA105X0035C	1.0	35	C

RADIAL LEAD

Stk. No.	Type	MFD	WV DC	Price & Size Code
47F1380	183DR106X0006C	10	6	C
47F1381	183DR476X0006E	47	6	E
47F1382	183DR225X0010B	2.2	10	B
47F1383	183DR226X0015E	22	15	E
47F1384	183DR105X0020B	1.0	20	B
47F1385	183DR475X0020C	4.7	20	C
47F1386	183DR106X0020D	10	20	D
47F1387	183DR156X0020E	15	20	E
47F1388	183DR685X0025D	6.8	25	D
47F1389	183DR474X0035B	.47	35	B
47F1390	183DR684X0035C	.68	35	C
47F1391	183DR105X0035C	1.0	35	C



TYPE 182D—SIZE AND PRICE CHART						
Price & Size Code	Ht.	Diameter	1-24	25-49	50-99	100-499
G	.125	.070	1.30	.91	.65	.52
H	.160	.070	1.30	.91	.65	.52
K	.225	.100	1.35	.95	.68	.54
L	.250	.150	1.65	1.16	.83	.66

AXIAL LEAD

Stk. No.	Type	MFD	WV DC	Price & Size Code
47F1350	182DA155D4006H	1.5	6	H
47F1351	182DA156X0010L	15	10	L
47F1352	182DA106X0015L	10	15	L
47F1353	182DA103D4020G	.01	20	G
47F1354	182DA475X0020L	4.7	20	L
47F1355	182DA104D4035H	.10	35	H
47F1356	182DA684X0035K	.68	35	K
47F1357	182DA105X0035K	1.0	35	K
47F1358	182DA155X0035L	1.5	35	L

RADIAL LEAD

Stk. No.	Type	MFD	WV DC	Price & Size Code
47F1359	182DR155D4006H	1.5	6	H
47F1360	182DR156X0010L	15	10	L
47F1361	182DR106X0015L	10	15	L
47F1362	182DR103D4020G	.01	20	G
47F1363	182DR475X0020L	4.7	20	L
47F1364	182DR104D4035H	.10	35	H
47F1365	182DR684X0035K	.68	35	K
47F1366	182DR105X0035K	1.0	35	K
47F1367	182DR155X0035L	1.5	35	L

SPRAGUE
THE MARK OF RELIABILITY

Tantalum Capacitors

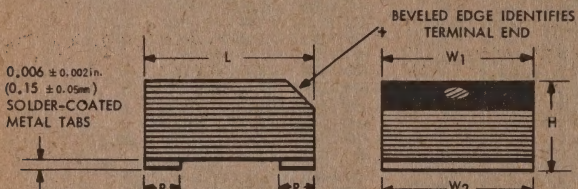
TYPE 146D SINTERED-ANODE TANTALEX® CAPACITORS

Miniature tantalum capacitors with reliable elastomer seals in metal cases with an outer plastic-film insulation. Special construction offers resistance to temperature cycling and trouble-free flow-soldering applications. For use where space is at a premium on printed wiring boards. Continuous operation from −55°C to 85°C. Tolerance: ±10%. Case sizes, diameter by length, type numbers ending with: G2: .110 x .400; H2; .140 x .600; J2: .220 x .775.

Stock No.	Type	µF	WVDC	1-24	25-49	50-99	100-499
17F2134	146D476X9006G2	47	6	2.21	1.80	1.44	1.07
17F2135	146D157X9006H2	150	6	2.64	2.15	1.72	1.28
17F2136	146D477X9006J2	470	6	3.75	3.06	2.44	1.81
17F2137	146D336X9010G2	33	10	2.21	1.80	1.44	1.07
17F2138	146D107X9010H2	100	10	2.64	2.15	1.72	1.28
17F2139	146D127X9010H2	120	10	2.64	2.15	1.72	1.28
17F2140	146D337X9010J2	330	10	3.75	3.06	2.44	1.81
17F2141	146D226X9015G2	22	15	2.21	1.80	1.44	1.07
17F2142	146D826X9015H2	82	15	2.64	2.15	1.72	1.28
17F2143	146D227X9015J2	220	15	3.75	3.06	2.44	1.81
17F2144	146D156X9020G2	15	20	2.21	1.80	1.44	1.07
17F2145	146D566X9020H2	56	20	2.64	2.15	1.72	1.28
17F2146	146D187X9020J2	180	20	3.75	3.06	2.44	1.81
17F2147	146D106X9030G2	10	30	2.21	1.80	1.44	1.07
17F2148	146D476X9030H2	47	30	2.64	2.15	1.72	1.28
17F2149	146D107X9030J2	100	30	3.75	3.06	2.44	1.81

Stock No.	Type	µF	WVDC	1-24	25-49	50-99	100-499
17F2150	146D127X9030J2	120	30	3.75	3.06	2.44	1.81
17F2151	146D685X9050G2	6.8	50	2.21	1.80	1.44	1.07
17F2152	146D276X9050H2	27	50	2.64	2.15	1.72	1.28
17F2153	146D826X9050J2	82	50	3.75	3.06	2.44	1.81
17F2154	146D105X9060G2	1.0	60	2.21	1.80	1.44	1.07
17F2155	146D125X9060G2	1.2	60				
17F2156	146D155X9060G2	1.5	60				
17F2157	146D185X9060G2	1.8	60				
17F2158	146D225X9060G2	2.2	60				
17F2159	146D275X9060G2	2.7	60	2.21	1.80	1.44	1.07
17F2160	146D335X9060G2	3.3	60				
17F2161	146D395X9060G2	3.9	60				
17F2162	146D475X9060G2	4.7	60				
17F2163	146D565X9060G2	5.6	60				
17F2164	146D226X9060H2	22	60	2.64	2.15	1.72	1.28
17F2165	146D566X9060J2	56	60	3.75	3.06	2.44	1.81

TYPE 193D DOMINO® SOLID-TANTALUM CAPACITORS



Designed for hybrid circuit and low-profile printed wiring board. Terminal surfaces on bottom of capacitor can be attached to substrates or circuit surfaces by soldering, welding, or other conventional methods. Tolerance ±10%. Operating range: −55°C to 85°C, 125°C at ⅔ WV.

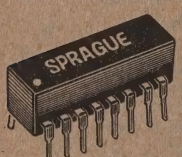
SIZE CHART/INCHES

Type Number Ending	L	W	H
Code	±.005	±.01	±.005
A2	.180	.100	.070
B2	.180	.100	.100
C2	.320	.180	.070
D2	.320	.180	.100
E2	.320	.180	.195

Stock No.	Type	µF	WVDC	1-24	25-49	50-99	100-499
15F2722	193D107X9003E2	100	3	1.90	1.42	.95	.72
15F2723	193D335X9006B2	3.3	6	1.24	.93	.62	.47
15F2724	193D336X9006D2	33	6	1.46	1.09	.73	.55
15F2725	193D686X9006E2	68	6	1.90	1.42	.95	.72
15F2726	193D105X9010A2	1.0	10	1.19	.90	.60	.46
15F2727	193D225X9010B2	2.2	10	1.24	.93	.62	.47
15F2728	193D685X9010C2	6.8	10	1.28	.96	.64	.49
15F2729	193D476X9010E2	47	10	1.90	1.42	.95	.72
15F2730	193D475X9015C2	4.7	15	1.28	.96	.64	.49
15F2731	193D106X9015D2	10	15	1.46	1.09	.73	.55

Stock No.	Type	µF	WVDC	1-24	25-49	50-99	100-499
15F2732	193D474X9020A2	.47	20	1.19	.90	.60	.46
15F2733	193D105X9020B2	1.0	20	1.24	.93	.62	.47
15F2734	193D335X9020C2	3.3	20	1.28	.96	.64	.49
15F2735	193D685X9020D2	6.8	20	1.46	1.09	.73	.55
15F2736	193D226X9020E2	22	20	1.90	1.42	.95	.72
15F2737	193D104X9035A2	.1	35	1.19	.90	.60	.46
15F2738	193D224X9035A2	.22	35	1.19	.90	.60	.46
15F2739	193D155X9035C2	1.5	35	1.28	.96	.64	.49
15F2740	193D395X9035D2	3.9	35	1.46	1.09	.73	.55
15F2741	193D106X9035E2	10	35	1.90	1.42	.95	.72

DIP TANTALUM/CERAMIC AND DIP TANTALEX® SOLID TANTALUM CAPACITORS



SOLID-TANTALUM capacitors in molded DIP packages for high frequency signal or data processing applications. Parallel capacitor sections have two pins for each terminal. Guaranteed 1 ohm maximum impedance ranges from 10 kHz to 50 MHz. Operating range from −55°C to +85°C. Tolerance ±20%.

TANTALUM/CERAMIC capacitor sections alternated in a molded DIP package. Impedance typically less than 1 ohm thru 60 MHz, ceramic sections low at higher frequencies than tantalum sections. Ceramic capacitors rated at 100 WVDC. All capacitors at ±20% tolerance. From −55°C to 70°C. Ceramic section starts pin 1

TANTALUM/CERAMIC CAPACITORS

Stock No.	Type	Tan µF	WV DC	Cer µF	No. Sec	1-49	50-99	100-249	250-499
17F2166	939Z685X0035DA	6.8	35	.01	4	5.92	4.44	3.70	2.96
17F2167	939Z685X0035DE	6.8	35	.047	4	6.12	4.59	3.83	3.06
17F2168	939Z685X0035DG	6.8	35	.1	4	6.36	4.77	3.98	3.18
17F2169	939Z156X0020DA	15	20	.01	4	5.92	4.44	3.70	2.96
17F2170	939Z156X0020DE	15	20	.047	4	6.12	4.59	3.83	3.06
17F2171	939Z156X0020DG	15	20	.1	4	6.36	4.77	3.98	3.18
17F2172	939Z226X0015DA	22	15	.01	4	5.92	4.44	3.70	2.96
17F2173	939Z226X0015DE	22	15	.047	4	6.12	4.59	3.83	3.06
17F2174	939Z226X0015DG	22	15	.01	4	6.36	4.77	3.98	3.18
17F2175	939Z336X0010DA	33	10	.01	4	5.92	4.44	3.70	2.96
17F2176	939Z336X0010DE	33	10	.047	4	6.12	4.59	3.83	3.06
17F2177	939Z336X0010DG	33	10	.1	4	6.36	4.77	3.98	3.18

Stock No.	Type	Tan µF	WV DC	Cer µF	No. Sec	1-49	50-99	100-249	250-499
17F2178	936Z685X0035DA	6.8	35	.01	8	12.60	9.45	7.88	6.30
17F2179	936Z685X0035DE	6.8	35	.047	8	13.00	9.75	8.13	6.50
17F2180	936Z685X0035DG	6.8	35	.1	8	13.52	10.14	8.45	6.76
17F2181	936Z156X0020DA	15	20	.01	8	12.60	9.45	7.88	6.30
17F2182	936Z156X0020DE	15	20	.047	8	13.00	9.75	8.13	6.50
17F2183	936Z156X0020DG	15	20	.1	8	13.52	10.14	8.45	6.76
17F2184	936Z226X0015DA	22	15	.01	8	12.60	9.45	7.88	6.30
17F2185	936Z226X0015DE	22	15	.047	8	13.00	9.75	8.13	6.50
17F2186	936Z226X0015DG	22	15	.1	8	13.52	10.14	8.45	6.76
17F2187	935Z336X0010DA	33	10	.01	8	12.60	9.45	7.88	6.30
17F2188	936Z336X0010DE	33	10	.047	8	13.00	9.75	8.13	6.50
17F2189	936Z336X0010DG	33	10	.1	8	13.52	10.14	8.45	6.76

SOLID-TANTALUM CAPACITORS

17F2190	935D685X0035SQ	6.8	35	—	1	2.40	1.80	1.35	1.20
17F2191	935D156X0020SQ	15	20	—	1	2.40	1.80	1.35	1.20
17F2192	935D226X0015SQ	22	15	—	1	2.40	1.80	1.35	1.20
17F2193	935D336X0010SQ	33	10	—	1	2.40	1.80	1.35	1.20
17F2194	939D685X0035SQ	6.8	35	—	2	4.36	3.27	2.45	2.18
17F2195	939D156X0020SQ	15	20	—	2	4.36	3.27	2.45	2.18

17F2196	939D226X0015SQ	22	15	—	2	4.36	3.27	2.45	2.18
17F2197	939D336X0010SQ	33	10	—	2	4.36	3.27	2.45	2.18
17F2198	936D685X0035SQ	6.8	35	—	4	9.24	6.93	5.20	4.62
17F2199	936D156X0020SQ	15	20	—	4	9.24	6.93	5.20	4.62
17F2200	936D226X0015SQ	22	15	—	4	9.24	6.93	5.20	4.62
17F2201	936D336X0010SQ	33	10	—	4	9.24	6.93	5.20	4.62

Capacitors Type 199D and 32DR

SPRAGUE
THE MARK OF RELIABILITY

TYPE 199D SOLID-ELECTROLYTE TANTALEX CAPACITORS

PRICE CHART

Code	1-49	50-99	100-499	500-999
A	.48	.24	.19	.15
B	.49	.25	.20	.16
C	.50	.25	.20	.16
D	.51	.26	.20	.16
E	.52	.26	.21	.16
F	.55	.28	.22	.18
G	.58	.29	.23	.18
H	.60	.30	.24	.19
K	.63	.31	.25	.20
L	.65	.33	.26	.20
M	.75	.38	.30	.23
N	.83	.41	.33	.26
P	1.00	.50	.40	.31
R	1.50	.75	.60	.47
S	1.75	.88	.70	.54
T	1.79	.92	.74	.58
V	2.00	1.00	.80	.62
W	2.50	1.25	1.00	.78
X	2.75	1.38	1.10	.85
Y	3.25	1.63	1.30	1.01
Z	3.50	1.75	1.40	1.09

3 WVDC, 3.6V SURGE

Stk. No.	Type	µF	Case	Price
17F2006	199D106X0003BA1	10	BB	D
17F2007	199D226X0003BA1	22	BB	E
17F2008	199D107X0003DA1	100	DD	N
17F2009	199D157X0003DA1	150	DD	R
17F2010	199D227X0003EA2	220	EE	V
17F2011	199D337X0003EA2	330	EE	W
17F2012	199D477X0003FA2	470	FF	Y
17F2013	199D687X0003FA2	680	FF	Z

6.3 WVDC, 8V SURGE

17F2014	199D106X06R3BA1	10	BB	E
17F2015	199D156X06R3BA1	15	BB	E
17F2016	199D226X06R3CA1	22	CC	F
17F2017	199D476X06R3DA1	47	DD	L
17F2018	199D107X06R3DA1	100	DD	R
17F2019	199D157X06R3EA2	150	EE	V
17F2020	199D227X06R3EA2	220	EE	W
17F2021	199D337X06R3FA2	330	FF	Y

10 WVDC, 12V SURGE

Stk. No.	Type	µF	Case	Price
17F2022	199D475X0010BA1	4.7	BB	D
17F2023	199D106X0010BA1	10	BB	E
17F2024	199D156X0010CA1	15	CC	F
17F2025	199D226X0010CA1	22	CC	H
17F2026	199D336X0010DA1	33	DD	L
17F2027	199D476X0010DA1	47	DD	P
17F2028	199D686X0010DA1	68	DD	R
17F2029	199D107X0010EA2	100	EE	V
17F2030	199D157X0010EA2	150	EE	X
17F2031	199D227X0010FA2	220	FF	Y

16 WVDC, 19V SURGE

17F2032	199D106X0016CA1	10	CC	F
17F2033	199D156X0016CA1	15	CC	H
17F2034	199D226X0016DA1	22	DD	L
17F2035	199D336X0016DA1	33	DD	P
17F2036	199D476X0016EA2	47	EE	S
17F2037	199D686X0016EA2	68	EE	V
17F2038	199D107X0016FA2	100	FF	X
17F2039	199D157X0016FA2	150	FF	Y

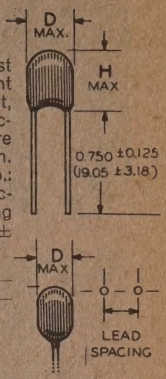
25 WVDC, 30V SURGE

17F2040	199D105X0025AA1	1.0	AA	C
17F2041	199D225X0025BA1	2.2	BB	C
17F2042	199D106X0025CA1	10	CC	L
17F2043	199D156X0025DA1	15	DD	P
17F2044	199D226X0025DA1	22	DD	R
17F2045	199D336X0025EA2	33	EE	S
17F2046	199D476X0025EA2	47	EE	W
17F2047	199D686X0025FA2	68	FF	Y

35 WVDC, 42 V SURGE

17F2048	199D224X0035AA1	.22	AA	A
17F2049	199D474X0035AA1	.47	AA	B
17F2050	199D684X0035AA1	.68	AA	B
17F2051	199D105X0035BA1	1.0	BB	C
17F2052	199D225X0035CA1	2.2	CC	F
17F2053	199D335X0035CA1	3.3	CC	F
17F2054	199D475X0035DA1	4.7	DD	H
17F2055	199D685X0035DA1	6.8	DD	L

- Low Cost
- High Volume Usage
- Resin-coated Protection



Designed for minimum cost applications in entertainment and commercial equipment, intended for volume production. Resin-coated for moisture and mechanical protection. Tolerance ±20%. Oper. Temp.: −55°C to 85°C. For lead spacing, type numbers ending with: A1: .100± .030, A2: .200± .030 in.

SIZE CHART

Case	Diameter	Height
AA	0.18	0.28
BB	0.20	0.30
CC	0.26	0.36
DD	0.34	0.40
EE	0.40	0.56
FF	0.44	0.68

35 WVDC Cont.

Stk. No.	Type	µF	Case	Price
17F2056	199D106X0035DA1	10	DD	M
17F2057	199D156X0035EA2	15	EE	R
17F2058	199D226X0035EA2	22	EE	V
17F2059	199D336X0035FA2	33	FF	W
17F2060	199D476X0035FA2	47	FF	Y

50 WVDC, 60V SURGE

17F2061	199D104X0050AA1	.10	AA	F
17F2062	199D154X0050AA1	.15	AA	F
17F2063	199D224X0050AA1	.22	AA	F
17F2064	199D334X0050AA1	.33	AA	F
17F2065	199D474X0050BA1	.47	BB	G
17F2066	199D684X0050BA1	.68	BB	G
17F2067	199D105X0050CA1	1.0	CC	G
17F2068	199D155X0050CA1	1.5	CC	H
17F2069	199D225X0050DA1	2.2	DD	K
17F2070	199D335X0050DA1	3.3	DD	L
17F2071	199D475X0050DA1	4.7	DD	M
17F2072	199D685X0050FA2	6.8	FF	R
17F2073	199D106X0050FA2	10	FF	V

TYPE 32DR COMPULYTIC® ALUMINUM ELECTROLYTICS

TYPE 32DR PRICE AND SIZE CHART

Code	Diameter	Length	1-24	25-49	50-99	100-249
A	1.453	2.250	3.95	3.16	2.77	2.13
B	1.453	3.250	4.83	3.86	3.38	2.61
C	1.453	4.250	5.80	4.64	4.06	3.13
D	1.453	5.750	7.45	5.96	5.22	4.02
E	2.078	3.250	7.38	5.90	5.16	3.98
F	2.078	4.250	8.78	7.02	6.14	4.74
G	2.078	5.750	11.10	8.88	7.77	5.99
H	2.078	5.750	12.88	10.30	9.01	6.95
K	2.578	4.250	13.38	10.70	9.36	7.22
L	2.578	5.750	17.58	14.06	12.30	9.49
M	2.578	5.750	20.88	16.70	14.61	11.27
N	3.078	4.250	19.85	15.88	13.90	10.72
P	3.078	5.750	27.30	21.84	19.11	14.74
R	3.078	8.750	44.65	35.72	31.26	24.11

- High Ripple Current Capacity
- Minimum ESR Design

These will safely handle 24 amps of ripple current at 85°C and 120 Hz. As low as ⅓ the ESR of standard capacitors of this type, low impedance. Tolerance thru 50V, +75 −10%; thru 100V, +50 −10%. From −40°C to 85°C. Pressure-type safety vent.

7.5 WVDC, 10V SURGE

Stk. No.	Type	µF	Price
17F2074	32DR862G7R5AA2A	8600	A
17F2075	32DR163G7R5AB2A	16000	B
17F2076	32DR223G7R5AC2A	22000	C
17F2077	32DR333G7R5AF2A	33000	D
17F2078	32DR373G7R5BB2A	37000	E
17F2079	32DR533G7R5BC2A	53000	F
17F2080	32DR783G7R5BF2A	78000	G
17F2081	32DR923G7R5CC2A	92000	K
17F2082	32DR134G7R5CF2A	130000	L
17F2083	32DR144G7R5DC2A	140000	N
17F2084	32DR204G7R5DF2A	200000	P
17F2085	32DR314G7R5DJ2A	310000	R

10 WVDC, 15V SURGE

17F2086	32DR114G010CF2A	110000	L
17F2087	32DR114G010DC2A	110000	N
17F2088	32DR164G010DF2A	160000	P
17F2089	32DR254G010DJ2A	250000	R

15 WVDC, 20V SURGE

17F2090	32DR503G015BF2A	50000	G
17F2091	32DR593G015CC2A	59000	K
17F2092	32DR863G015CF2A	86000	L
17F2093	32DR873G015DC2A	87000	N
17F2094	32DR134G015DF2A	130000	P
17F2095	32DR204G015DJ2A	200000	R

20 WVDC, 30V SURGE

Stk. No.	Type	µF	Price
17F2096	32DR392G020AA2A	3900	A
17F2097	32DR702G020AB2A	7000	B
17F2098	32DR103G020AC2A	10000	C
17F2099	32DR153G020AF2A	15000	D
17F2100	32DR173G020BB2A	17000	E
17F2101	32DR243G020BC2A	24000	F
17F2102	32DR353G020BF2A	35000	G
17F2103	32DR413G020CC2A	41000	K
17F2104	32DR603G020CF2A	60000	L
17F2105	32DR613G020DC2A	61000	N
17F2106	32DR903G020DF2A	90000	P
17F2107	32DR144G020DJ2A	140000	R

25 WVDC, 40V SURGE

17F2108	32DR523G025CF2A	52000	L
17F2109	32DR533G025DC2A	53000	N
17F2110	32DR773G025DF2A	77000	P
17F2111	32DR124G025DJ2A	120000	R

30 WVDC, 45V SURGE

17F2112	32DR282G030AA2A	2800	A
17F2113	32DR512G030AB2A	5100	B
17F2114	32DR742G030AC2A	7400	C
17F2115	32DR113G030AF2A	11000	D
17F2116	32DR123G030BB2A	12000	E
17F2117	32DR183G030BC2A	18000	F

30 WVDC Cont.

Stk. No.	Type	µF	Price
17F2118	32DR263G030BF2A	26000	G
17F2119	32DR303G030CC2A	30000	K
17F2120	32DR443G030CF2A	44000	L
17F2121	32DR453G030DC2A	45000	N
17F2122	32DR663G030DF2A	66000	P
17F2123	32DR104G030DJ2A	100000	R

40 WVDC, 55V SURGE

17F2124	32DR253G040CC2A	25000	K
17F2125	32DR363G040CF2A	36000	L
17F2126	32DR373G040DC2A	37000	N
17F2127	32DR543G040DF2A	54000	P
17F2128	32DR853G040DJ2A	85000	R

50 WVDC, 75V SURGE

17F2129	32DR163G050CC2A	16000	K
17F2130	32DR233G050CF2A	23000	L
17F2131	32DR233G050DC2A	23000	N

60 WVDC, 85V SURGE

17F2132	32DR113F060BF2A	11000	H
17F2133	32DR193F060CF2A	19000	M

SPRAGUE
THE MARK OF RELIABILITY

36D-36DX Powerlytic® Capacitors

TYPE 36D COMPUTER GRADE ALUMINUM ELECTROLYTICS

For applications requiring maximum capacitance in a given case size. Low ESR and leakage current; extremely long shelf life. Withstands military environmental conditions including −55°C storage tests. Tol. 3-50 WV, +75% to −10%; 75-450 WV, +50% to −10%. Av. shpg. wt. 4 oz. Pressure safety vents.

SIZES FOR 36D CAPACITORS
D. x L. Including plastic outer case

AA	1.453 x 2.25	**BC**	2.078 x 4.25	**DC**	3.078 x 4.25
AB	1.453 x 3.25	**CB**	2.578 x 3.25	**DD**	3.078 x 4.75
AC	1.453 x 4.25	**CC**	2.578 x 4.25	**DF**	3.078 x 5.75
BB	2.078 x 3.25	**CD**	2.578 x 4.75		

Stk. No.	Type 36D-	Mfd.	WVDC	Size	1-24	25-49	50-99	100-249
18F2434	124G006DC2A	120,000	6	DC	12.54	9.12	6.52	5.93
18F2435	194G006DF2A	190,000	6	DF	16.83	12.24	8.75	7.96
18F2436	602G010AA2A	6,000	10	AA	2.89	2.10	1.50	1.37
18F2437	123G010AB2A	12,000	10	AB	3.49	2.54	1.82	1.65
18F2438	183G010AC2A	18,000	10	AC	4.10	2.98	2.13	1.94
18F2439	283G010BB2A	28,000	10	BB	5.17	3.76	2.69	2.44
18F2440	423G010BC2A	42,000	10	BC	6.13	4.46	3.19	2.90
18F2441	483G010CB2A	48,000	10	CB	7.01	5.10	3.65	3.32
18F2442	104G010DC2A	100,000	10	DC	12.54	9.12	6.52	5.93
18F2443	164G010DF2A	160,000	10	DF	16.83	12.24	8.75	7.96
18F2444	462G015AA2A	4,600	15	AA	2.89	2.10	1.50	1.37
18F2445	922G015AB2A	9,200	15	AB	3.49	2.54	1.82	1.65
18F2446	133G015AC2A	13,000	15	AC	4.10	2.98	2.13	1.94
18F2447	213G015BB2A	21,000	15	BB	5.17	3.76	2.69	2.44
18F2448	313G015BC2A	31,000	15	CB	6.13	4.46	3.19	2.90
18F2449	363G015CB2A	36,000	15	CB	7.01	5.10	3.65	3.32
18F2450	543G015CC2A	54,000	15	CC	8.91	6.48	4.63	4.21
18F2451	633G015CD2A	63,000	15	CD	9.82	7.14	5.11	4.64
18F2452	803G015DC2A	80,000	15	DC	12.54	9.12	6.52	5.93
18F2453	272G025AA2A	2,700	25	AA	2.89	2.10	1.50	1.37
18F2454	552G025AB2A	5,500	25	AB	3.49	2.54	1.82	1.65
18F2455	822G025AC2A	8,200	25	AC	4.10	2.98	2.13	1.94
18F2456	183G025BC2A	18,000	25	BC	6.13	4.46	3.19	2.90
18F2457	323G025CC2A	32,000	25	CC	8.91	6.48	4.63	4.21
18F2460	713G025DF2A	71,000	25	DF	16.83	12.24	8.75	7.96
18F2461	363G030DC2A	36,000	30	DC	12.54	9.12	6.52	5.93
18F2462	423G030DD2A	42,000	30	DD	14.16	10.30	7.36	6.70
18F2463	552G040AC2A	5,500	40	AC	4.10	2.98	2.13	1.94
18F2464	842G040BB2A	8,400	40	BB	5.17	3.76	2.69	2.44
18F2465	123G040BC2A	12,000	40	BC	6.13	4.46	3.19	2.90
18F2466	213G040CC2A	21,000	40	CC	8.91	6.48	4.63	4.21
18F2467	253G040CD2A	25,000	40	CD	9.82	7.14	5.11	4.64
18F2468	132G050AA2A	1,300	50	AA	2.89	2.10	1.50	1.37
18F2469	262G050AB2A	2,600	50	AB	3.49	2.54	1.82	1.65
18F2470	392G050AC2A	3,900	50	AC	4.10	2.98	2.13	1.94
18F2471	602G050BB2A	6,000	50	BB	5.17	3.76	2.69	2.44
18F2472	902G050BC2A	9,000	50	BC	6.13	4.46	3.19	2.90
18F2473	153G050CC2A	15,000	50	CC	8.91	6.48	4.63	4.21
18F2475	252G075AC2A	2,500	75	AC	4.43	3.22	2.30	2.09
18F2476	392G075BB2A	3,900	75	BB	5.39	3.92	2.80	2.55
18F2477	592G075BC2A	5,900	75	BC	6.79	4.94	3.53	3.21
18F2478	113G075CD2A	11,000	75	CD	11.83	8.60	6.15	5.59
18F2480	223G075DF2A	22,000	75	DF	19.69	14.32	10.24	9.31
18F2481	451G100AA2A	450	100	AA	3.08	2.24	1.60	1.46
18F2482	132G100AC2A	1,300	100	AC	4.43	3.22	2.30	2.09
18F2483	302G100BC2A	3,000	100	BC	6.79	4.94	3.53	3.21
18F2484	532G100CC2A	5,300	100	CC	10.67	7.76	5.55	5.04
18F2485	782G100DC2A	7,800	100	DC	15.10	10.98	7.85	7.14
18F2486	301F150AA2A	300	150	AA	3.08	2.24	1.60	1.46
18F2487	901F150AC2A	900	150	AC	4.43	3.22	2.30	2.09
18F2488	142F150BB2A	1,400	150	BB	5.39	3.92	2.80	2.55
18F2489	212F150BC2A	2,100	150	BC	6.79	4.94	3.53	3.21
18F2490	362F150CC2A	3,600	150	CC	10.67	7.76	5.55	5.04
18F2491	532F150DC2A	5,300	150	DC	15.10	10.98	7.85	7.14
18F2492	782F150DF2A	7,800	150	DF	19.69	14.32	10.24	9.31
18F2493	251F200AA2A	250	200	AA	3.08	2.24	1.60	1.46
18F2494	431F200AB2A	430	200	AB	3.77	2.74	1.96	1.78
18F2495	641F200AC2A	640	200	AC	4.43	3.22	2.30	2.09
18F2496	142F200BC2A	1,400	200	BC	6.79	4.94	3.53	3.21
18F2497	162F200CB2A	1,600	200	CB	8.47	6.16	4.40	4.00
18F2498	372F200DC2A	3,700	200	DC	15.10	10.98	7.85	7.14
18F2499	552F200DF2A	5,500	200	DF	19.69	14.32	10.24	9.31
18F2500	531F250AC2A	530	250	AC	4.43	3.22	2.30	2.09
18F2501	122F250BC2A	1,200	250	BC	6.79	4.94	3.53	3.21
18F2502	302F250DC2A	3,000	250	DC	15.10	10.98	7.85	7.14
18F2503	452F250DF2A	4,500	250	DF	19.69	14.32	10.24	9.31
18F2504	241F300AB2A	240	300	AB	3.77	2.74	1.96	1.78
18F2506	212F300DC2A	2,100	300	DC	15.10	10.98	7.85	7.14
18F2507	950F350AA2A	95	350	AA	3.08	2.24	1.60	1.46
18F2511	112F350CC2A	1,100	350	CC	10.67	7.76	5.55	5.04
18F2512	162F350DC2A	1,600	350	DC	15.10	10.98	7.85	7.14
18F2513	252F350DF2A	2,500	350	DF	19.69	14.32	10.24	9.31
18F2514	421F400BC2A	420	400	BC	6.79	4.94	3.53	3.21
18F2515	500F450AA2A	50	450	AA	3.08	2.24	1.60	1.46
18F2516	141F450AC2A	140	450	AC	4.43	3.22	2.30	2.09
18F2517	221F450BB2A	220	450	BB	5.39	3.92	2.80	2.55
18F2518	331F4505BC2A	330	450	BC	6.79	4.94	3.53	3.21
18F2519	861F450DC2A	860	450	DC	15.10	10.98	7.85	7.14

TYPE 36DX COMPUTER GRADE ALUMINUM ELECTROLYTICS

Same spec as 36D but for uses requiring 50% more capacitance in a given case size than the above capacitors. Available in extended capacitance range designs at voltages from 10 to 450 volts. Temp. range: −40° to +86°C up to 30 amps.

SIZES FOR 36DX CAPACITORS
D. x L. including plastic outer case

AA	1.453 x 2.25	**BC**	2.078 x 4.25	**DC**	3.078 x 4.25
AB	1.453 x 3.25	**BF**	2.078 x 5.75	**DF**	3.078 x 5.55
AC	1.453 x 4.25	**CC**	2.578 x 4.25	**DJ**	3.078 x 8.75
AF	1.453 x 5.75	**CF**	2.578 x 5.75		

15 WORKING VOLTS D-C

Stk. No.	Type 36DX-	Mfd.	Size	1-24	25-49	50-99	100-249
47F1970	752G015AA2A	7500	AA	3.60	2.62	1.87	1.70
47F1971	153G015AB2A	15000	AB	4.37	3.18	2.27	2.07
47F1972	223G015AC2A	22000	AC	5.28	3.84	2.75	2.50
47F1973	343G015AF2A	34000	AF	6.77	4.92	3.52	3.20
47F1974	503G015BC2A	50000	BC	7.98	5.80	4.15	3.77
47F1975	753G015BF2A	75000	BF	10.09	7.34	5.25	4.77
47F1976	833G015CC2A	83000	CC	12.16	8.84	6.32	5.75
47F1977	124G015CF2A	120000	CF	16.14	11.74	8.39	7.63
47F1978	124G015DC2A	120000	DC	18.04	13.12	9.38	8.53
47F1979	184G015DF2A	180000	DF	24.83	18.06	12.91	11.74
47F1980	304G015DJ2A	300000	DJ	40.59	29.52	21.11	19.19

25 WORKING VOLTS D-C

Stk. No.	Type 36DX-	Mfd.	Size	1-24	25-49	50-99	100-249
47F1981	452G025AA2A	4500	AA	3.60	2.62	1.87	1.70
47F1982	902G025AB2A	9000	AB	4.37	3.18	2.27	2.07
47F1983	133G025AC2A	13000	AC	5.28	3.84	2.75	2.50
47F1984	203G025AF2A	20000	AF	6.77	4.92	3.52	3.20
47F1985	303G025BC2A	30000	BC	7.98	5.80	4.15	3.77
47F1986	453G025BF2A	45000	BF	10.09	7.34	5.25	4.77
47F1987	503G025CC2A	50000	CC	12.16	8.84	6.32	5.75
47F1988	753G025CF2A	75000	CF	16.14	11.74	8.39	7.63
47F1989	753G025DC2A	75000	DC	18.04	13.12	9.38	8.53
47F1990	114G025DF2A	110000	DF	24.83	18.06	12.91	11.74
47F1991	194G025DJ2A	190000	DJ	40.59	29.52	21.11	19.19

30 WORKING VOLTS D-C

Stk. No.	Type 36DX-	Mfd.	Size	1-24	25-49	50-99	100-249
47F2030	402G030AA2A	4000	AA	3.60	2.62	1.87	1.70
47F2031	802G030AB2A	8000	AB	4.37	3.18	2.27	2.07
47F2032	123G030AC2A	12000	AC	5.28	3.84	2.75	2.50
47F2033	183G030AF2A	18000	AF	6.77	4.92	3.52	3.20
47F2034	263G030BC2A	26000	BC	7.98	5.80	4.15	3.77
47F2035	393G030BF2A	39000	BF	10.09	7.34	5.25	4.77
47F2036	443G030CC2A	44000	CC	12.16	8.84	6.32	5.75
47F2037	663G030CF2A	66000	CF	16.14	11.74	8.39	7.63
47F2038	663G030DC2A	66000	DC	18.04	13.12	9.38	8.53
47F2039	973G030DF2A	97000	DF	24.83	18.06	12.91	11.74
47F2040	164G030DJ2A	160000	DJ	40.59	29.52	21.11	19.19

40 WORKING VOLTS D-C

Stk. No.	Type 36DX-	Mfd.	Size	1-24	25-49	50-99	100-249
47F2050	292G040AA2A	2900	AA	3.60	2.62	1.87	1.70
47F2051	582G040AB2A	5800	AB	4.37	3.18	2.27	2.07
47F2052	872G040AC2A	8700	AC	5.28	3.84	2.75	2.50
47F2053	133G040AF2A	13000	AF	6.77	4.92	3.52	3.20
47F2054	203G040BC2A	20000	BC	7.98	5.80	4.15	3.77
47F2055	303G040BF2A	30000	BF	10.09	7.34	5.25	4.77
47F2056	343G040CC2A	34000	CC	12.16	8.84	6.32	5.75
47F2057	513G040CF2A	51000	CF	16.14	11.74	8.39	7.63
47F2058	513G040DC2A	51000	DC	18.04	13.12	9.38	8.53
47F2059	763G040DF2A	76000	DF	24.83	18.06	12.91	11.74
47F2060	124G040DJ2A	120000	DJ	40.59	29.52	21.11	19.19

50 WORKING VOLTS D-C

Stk. No.	Type 36DX-	Mfd.	Size	1-24	25-49	50-99	100-249
47F2061	242G050AA2A	2400	AA	3.60	2.62	1.87	1.70
47F2062	482G050AB2A	4800	AB	4.37	3.18	2.27	2.07
47F2063	722G050AC2A	7200	AC	5.28	3.84	2.75	2.50
47F2064	113G050AF2A	11000	AF	6.77	4.92	3.52	3.20
47F2065	163G050BC2A	16000	BC	7.98	5.80	4.15	3.77
47F2066	243G050BF2A	24000	BF	10.09	7.34	5.25	4.77
47F2067	273G050CC2A	27000	CC	12.16	8.84	6.32	5.75
47F2068	403G050CF2A	40000	CF	16.14	11.74	8.39	7.63
47F2069	413G050DC2A	41000	DC	18.04	13.12	9.38	8.53
47F2070	613G050DF2A	61000	DF	24.83	18.06	12.91	11.74
47F2071	104G050DJ2A	100000	DJ	40.59	29.52	21.11	19.19

Electrolytic Capacitors

SPRAGUE

TYPE 432D COMPULYTIC® ALUMINUM ELECTROLYTICS

- **Special strip-line terminals for use on modern EDP equipment**
- **Stacked-foil construction allows values to 100,000 μF with low ESR**
- **Impedance as low as .001 ohm at 10 kHz, inductance of only 1 nH**

432D PRICE AND SIZE CHART

Price Code	Dia.	Lt.	1-24	25-49	50-99	100-249
A	1.453	2.250	**8.76**	**7.00**	**6.12**	**4.72**
B	1.453	4.250	**12.06**	**9.64**	**8.44**	**6.50**
C	3.078	4.250	**29.38**	**23.50**	**20.56**	**15.87**
D	3.078	4.250	**30.33**	**24.20**	**21.23**	**16.38**
E	3.078	5.750	**35.05**	**28.04**	**24.54**	**18.93**
F	3.078	5.750	**36.13**	**28.90**	**25.29**	**19.51**

Revolutionary electrolytic capacitors for ultra low-impedance applications. Special strip-line terminals are ideal for use with laminated-bus power systems. ESR typically less than .001 ohm with inductance of only 1 nH. Operating range from −40°C to 85°C. Typical Wts.: 1.453 x 2.25-3.8 oz.; 1.453 x 4.25-4.5 oz.; 3.078 x 4.25-21 oz.; 3.078 x 5.75-28 oz.

6 WVDC

Stock No.	Type	μF	Price & Size Code
18F201	432D392006AA2	3900	A
18F202	432D103006AC2	10000	B
18F203	432D563006DC2	56000	D
18F204	432D104006DF2	100000	F

7.5 WVDC

Stock No.	Type	μF	Price & Size Code
18F205	432D2727R5AA2	2700	A
18F206	432D6827R5AC2	6800	B
18F207	432D4737R5DC2	47000	D
18F208	432D6837R5DF2	68000	F

10 WVDC

Stock No.	Type	μF	Price & Size Code
15F2667	432D2220010AA2	2200	A
15F2668	432D562010AC2	5600	B
15F2669	432D333010DC2	33000	D
15F2670	432D563010DF2	56000	F

15 WVDC

Stock No.	Type	μF	Price & Size Code
18F209	432D182015AA2	1800	A
18F210	432D472015AC2	4700	B
18F211	432D273015DC2	27000	C
18F212	432D393015DF2	39000	E

20 WVDC

Stock No.	Type	μF	Price & Size Code
18F213	432D122020AA2	1200	A
18F214	432D332020AC2	3300	B
18F215	432D183020DC2	18000	C
18F216	432D273020DF2	27000	E

25 WVDC

Stock No.	Type	μF	Price & Size Code
18F217	432D102025AA2	1000	A
18F218	432D272025AC2	2700	B
18F219	432D153025DC2	15000	C
18F220	432D223025DF2	22000	E

30 WVDC

Stock No.	Type	μF	Price & Size Code
18F221	432D821030AA2	820	A
18F245	432D222030AC2	2200	B
18F246	432D123030DC2	12000	C
18F247	432D183030DF2	18000	E

40 WVDC

Stock No.	Type	μF	Price & Size Code
15F2671	432D561040AA2	560	A
15F2672	432D152040AC2	1500	B
15F2673	432D822040DC2	8200	C
15F2674	432D123040DF2	12000	E

50 WVDC

Stock No.	Type	μF	Price & Size Code
18F248	432D471050AA2	470	A
18F249	432D102050AC2	1000	B
18F250	432D682050DC2	6800	C
18F251	432D103050DF2	10000	E

TYPE 672D EXTRALYTIC® ALUMINUM ELECTROLYTICS

Premium-grade capacitors designed for use in high frequency applications. High capacitance combined with low inductance and low ESR make these very useful for bus bar decoupling in data processing applications. Guaranteed inductance limit of 20nH with typical values of less than 10nH. Operating range from −55°C to 105°C. Capacitance tolerance −10, +100%. Outer plastic-film insulation with polymer coated single end-seal.

672D PRICE AND SIZE CHART

Price Code	Diameter	Length	1-9	10-24	25-49	50-99
G	.336	.630	**1.63**	**1.30**	**.81**	**.65**
H	.413	.677	**1.80**	**1.44**	**.90**	**.72**
K	.413	.740	**1.85**	**1.48**	**.93**	**.74**
L	.413	.927	**1.90**	**1.52**	**.95**	**.76**
M	.500	1.165	**2.20**	**1.76**	**1.10**	**.88**
N	.500	1.462	**2.30**	**1.84**	**1.15**	**.92**
P	.500	1.790	**2.40**	**1.92**	**1.20**	**.96**

6.3 WVDC

Stock No.	Type	μF	Price & Size Code
18F252	672D686H6R3BB5C	68	G
18F253	672D127H6R3CC5C	120	H
18F254	672D187H6R3CD5C	180	K
18F255	672D227H6R3CG5C	220	L
18F256	672D687H6R3DM5C	680	M
18F257	672D827H6R3DT5C	820	N
15F2777	672D128H6R3DS5C	1200	P

12 WVDC

Stock No.	Type	μF	Price & Size Code
18F259	672D566H012BB5C	56	G
18F260	672D107H012CC5C	100	H
18F261	672D127H012CD5C	120	K
18F262	672D187H012CG5C	180	L
18F263	672D477H012DM5C	470	M
18F264	672D687H012DT5C	860	N
15F2778	672D108H012DS5C	1000	P

15 WVDC

Stock No.	Type	μF	Price & Size Code
18F265	672D476H015BB5C	47	G
18F266	672D826H015CC5C	82	H
15F2779	672D107H015CD5C	100	K
18F267	672D157H015CG5C	150	L
18F268	672D397H015DM5C	390	M
18F269	672D567H015DT5C	560	N
15F2780	672D827H015DS5C	820	P

20 WVDC

Stock No.	Type	μF	Price & Size Code
18F270	672D336H020BB5C	33	G
18F271	672D566H020CC5C	56	H
18F272	672D826H020CD5C	82	K
18F273	672D107H020CG5C	100	L
15F2781	672D337H020DM5C	330	M
18F274	672D397H020DT5C	390	N
15F2782	672D567H020DS5C	560	P

25 WVDC

Stock No.	Type	μF	Price & Size Code
15F2783	672D276H025BB5C	27	G
18F275	672D476H025CC5C	47	H
18F276	672D686H025CD5C	68	K
18F277	672D826H025CG5C	82	L
15F2784	672D277H025DM5C	270	M
18F278	672D337H025DT5C	330	N
15F2785	672D477H025DS5C	470	P

40 WVDC

Stock No.	Type	μF	Price & Size Code
18F279	672D186H040BB5C	18	G
18F280	672D396H040CC5C	39	H
18F281	672D476H040CD5C	47	K
18F282	672D566H040CG5C	56	L
18F283	672D187H040DM5C	180	M
18F285	672D277H040DT5C	270	N
15F2786	672D397H040DS5C	390	P

50 WVDC

Stock No.	Type	μF	Price & Size Code
18F286	672D126H050BB5C	12	G
18F287	672D186H050CC5C	18	H
18F288	672D226H050CD5C	22	K
18F289	672D276H050CG5C	27	L
18F290	672D826H050DM5C	82	M
18F291	672D127H050DT5C	120	N
15F2787	672D187H050DS5C	180	P

60 WVDC

Stock No.	Type	μF	Price & Size Code
18F292	672D126H060CC5C	12	H
18F293	672D186H060CD5C	18	K
18F294	672D226H060CG5C	22	L
18F295	672D686H060DM5C	68	M
18F296	672D826H060DT5C	82	N
15F2788	672D127H060DS5C	120	P

100 WVDC

Stock No.	Type	μF	Price & Size Code
18F298	672D475H100CC5C	4.7	H
18F299	672D685H100CD5C	6.8	K
18F300	672D825H100CG5C	8.2	L
18F305	672D276H100DM5C	27	M
18F318	672D396H100DT5C	39	N
15F2789	672D476H100DS5C	47	P

For prices on larger quantities contact your nearest NEWARK branch.

SPRAGUE
THE MARK OF RELIABILITY

Electrolytic Capacitors

39D COMPUTER GRADE ALUMINUM ELECTROLYTICS

Welds at all critical anode and cathode terminals. End-seals are improved molded phenolic for unusually long life. Insulated case of flexible plastic. Low effective series resistance and leakage current. Oper. temp: −20°C to 85°C. Tol. −10+75% through 75WVDC and −10+50% for higher.

SIZE CHART FOR TYPE 39D

EE	.562x1.25	GE	.812x1.25	HS	.937x3.25
EJ	.562x1.75	GJ	.812x1.75	JE	1.062x1.25
EL	.562x2.25	GL	.812x2.25	JL	1.062x2.25
FJ	.687x1.75	GP	.812x2.75	JP	1.062x2.75
FL	.687x2.25	HE	.937x1.25	JS	1.062x3.25
FP	.687x2.75	HL	.937x2.25	JT	1.062x3.75
		HP	.937x2.75		

Stk. No.	Type	Mfd.	Size	1-24	25-49	50-99	100-499
3 WVDC							
18F2613	39D138G003EL4	1,300	EL	1.94	.97	.85	.63
18F2614	39D218G003HE4	2,100	HE	2.14	1.07	.94	.70
18F2615	39D308G003JE4	3,000	JE	2.30	1.15	1.01	.75
18F2616	39D578G003GP4	5,700	GP	2.46	1.23	1.08	.80
18F2617	39D109G003HS4	10,000	HS	3.00	1.50	1.32	.98
18F2618	39D189G003JT4	18,000	JT	3.70	1.85	1.62	1.21
6 WVDC							
18F2619	39D607G006EJ4	600	EJ	1.88	.94	.83	.62
18F2620	39D108G006GE4	1,000	GE	2.00	1.00	.88	.65
18F2621	39D208G006GJ4	2,000	GJ	2.16	1.08	.95	.71
18F2622	39D408G006GP4	4,000	GP	2.46	1.23	1.08	.80
18F2623	39D608G006HP4	6,000	HP	2.78	1.39	1.22	.91
18F2624	39D109G006JS4	10,000	JS	3.40	1.70	1.49	1.11
10 WVDC							
18F2625	39D507G010EJ4	500	EJ	1.88	.94	.83	.62
18F2626	39D108G010FJ4	1,000	FJ	2.00	1.00	.88	.65
18F2627	39D168G010FL4	1,600	FL	2.12	1.06	.93	.69
18F2628	39D258G010GL4	2,500	GL	2.30	1.15	1.01	.75
18F2629	39D508G010HP4	5,000	HP	2.78	1.39	1.22	.91
18F2630	39D109G010JT4	10,000	JT	3.70	1.85	1.62	1.21
15 WVDC							
18F2631	39D607G015EL4	600	EL	1.94	.97	.85	.63
18F2632	39D128G015FL4	1,200	FL	2.12	1.06	.93	.69
18F2633	39D258G015GP4	2,500	GP	2.46	1.23	1.08	.80
18F2634	39D408G015JL4	4,000	JL	2.86	1.43	1.26	.93
18F2635	39D808G015JT4	8,000	JT	3.70	1.85	1.62	1.21
25 WVDC							
18F2636	39D207G025EJ4	200	EJ	1.88	.94	.83	.62
18F2637	39D507G025HE4	500	HE	2.14	1.07	.94	.70
18F2638	39D108G025GL4	1,000	GL	2.30	1.15	1.01	.75
18F2639	39D228G025HP4	2,200	HP	2.78	1.39	1.22	.91
18F2640	39D408G025JS4	4,000	JS	3.40	1.70	1.49	1.11
30 WVDC							
18F2641	39D756G030EE4	75	EE	1.80	.90	.79	.59
18F2642	39D157G030EJ4	150	EJ	1.88	.94	.83	.62
30 WVDC (con't)							
18F2643	39D257G030EL4	250	EL	1.94	.97	.85	.63
18F2644	39D507G030FL4	500	FL	2.12	1.06	.93	.69
18F2645	39D118G030GP4	1,100	GP	2.46	1.23	1.08	.80
18F2646	39D218G030HS4	2,100	HS	3.00	1.50	1.32	.98
18F031	39D308G030JS4	3,100	JS	3.40	1.70	1.49	1.11
50 WVDC							
18F2647	39D506G050EE4	50	EE	1.80	.90	.79	.59
18F2648	39D107G050EJ4	100	EJ	1.88	.94	.83	.62
18F2649	39D157G050EL4	150	EL	1.94	.97	.85	.63
18F2650	39D257G050HE4	250	HE	2.14	1.07	.94	.70
18F2651	39D507G050GL4	050	GL	2.30	1.15	1.01	.75
18F2652	39D118G050HP4	1,100	HP	2.78	1.39	1.22	.91
18F2653	39D238G050JT4	2,300	JT	3.70	1.85	1.62	1.21
150 WVDC							
18F2654	39D256F150EJ4	25	EJ	1.88	.94	.83	.62
18F2655	39D506F150FJ4	50	FJ	2.00	1.00	.88	.65
18F2656	39D107F150FP4	100	FP	2.22	1.11	.98	.73
18F2657	39D257F150HP4	250	HP	2.78	1.39	1.22	.91
18F2658	39D537F150JT4	530	JT	3.70	1.85	1.62	1.21
250 WVDC							
18F2659	39D206F250EL4	20	EL	1.94	.97	.85	.63
18F2660	39D506F250JE4	50	JE	2.30	1.15	1.01	.75
18F2661	39D107F250HL4	100	HL	2.56	1.28	1.12	.84
18F2662	39D207F250JP4	200	JP	3.10	1.55	1.36	1.01
18F2663	39D307F250JT4	300	JT	3.70	1.85	1.62	1.21
350 WVDC							
18F2664	39D206F350FL4	20	FL	2.12	1.06	.93	.69
18F2665	39D306F350FP4	30	FP	2.22	1.11	.98	.73
18F2666	39D406F350GL4	40	GL	2.30	1.15	1.01	.75
18F2667	39D506F350GP4	50	GP	2.46	1.23	1.08	.80
18F2668	39D107F350HS4	100	HS	3.00	1.50	1.32	.98
18F2669	39D167F350JT4	160	JT	3.70	1.85	1.62	1.21
450 WVDC							
18F2670	39D505F450EL4	5	EL	1.94	.97	.85	.63
18F2671	39D106F450FL4	10	FL	2.12	1.06	.93	.69
18F2672	39D206F450GL4	20	GL	2.30	1.15	1.01	.75
18F2673	39D506F450JP4	50	JP	3.10	1.55	1.36	1.01
18F2674	39D756F450JT4	75	JT	3.70	1.85	1.62	1.21

HIGH GRADE ALUMINUM ELECTROLYTICS-125°C OPERATING-TEMP

Type 600D—Closely approximate requirements of MIL-C3965 aluminum foil capacitors. Tolerance is −10+75% up to 75 WVDC; −10+50% for 100 WVDC Up. Insulated case of flexible plastic. Average shipping wt. 3 oz.

600D PRICE AND SIZE LOCATOR CHART

Key	Dia. x Lt. Inches	1-24	25-49	50-99	100-499
A	.296 x 1.0	2.64	1.32	1.16	.86
A-1	.296 x 1.0	3.40	1.70	1.49	1.11
B	.39 x 1.0	2.64	1.32	1.16	.86
C	.39 x 1.187	3.00	1.50	1.32	.98
C-1	.39 x 1.187	3.88	1.94	1.70	1.27
D	.39 x 1.437	3.48	1.74	1.53	1.14
D-1	.39 x 1.437	4.52	3.26	1.98	1.47
E	.39 x 1.687	4.00	2.00	1.76	1.30
E-1	.39 x 1.687	5.16	2.58	2.26	1.68
F	.39 x 2.249	5.08	2.54	2.23	1.66
F-1	.39 x 2.249	6.60	3.30	2.89	2.15
G	.39 x 2.749	6.08	3.04	2.67	1.98
G1	.39 x 2.749	7.88	3.94	3.45	2.57

Stock No.	Mfr's Type 600D-	µF	WVDC@ 85° C	WVDC@ 125° C	Key
18F2834	127G007KD4	120	7	5	A
18F2835	227G007DD4	220	7	5	B
18F2836	277G007DE4	270	7	5	C
18F2837	397G007DG4	390	7	5	D
18F2769	567G007DJ4	560	7	5	E
18F2838	827G007DL4	820	7	5	F
18F2839	108G007DX4	1000	7	5	G
18F2840	107G010KD4	100	10	7	A
18F2841	187G010DD4	180	10	7	B
18F2842	227G010DE4	220	10	7	C
18F2843	337G010DG4	330	10	7	D
18F2844	477G010DJ4	470	10	7	E
18F2845	687G010DL4	680	10	7	F
18F2846	827G010DX4	820	10	7	G
18F2847	686G015KD4	68	15	10	A
18F2848	826G015KD4	82	15	10	A
18F2849	157G015DD4	150	15	10	B
18F2850	187G015DE4	180	15	10	C
18F2851	277G015DG4	270	15	10	D
18F2775	397G015DJ4	390	15	10	E
18F2852	567G015DL4	560	15	10	F
18F2853	687G015DX4	680	15	10	G
18F2854	686G020KD4	68	20	15	A
18F2778	107G020DD4	100	20	15	B
18F2779	147G020DE4	140	20	15	C
18F2780	227G020DG4	220	20	15	D
18F2781	297G020DJ4	290	20	15	E
18F2782	447G020DL4	440	20	15	F
18F2855	607G020DX4	600	20	15	G
18F2856	336G030KD4	33	30	20	A
18F2857	476G030KD4	47	30	20	A
18F2858	826G030DD4	82	30	20	B
18F2859	107G030DE4	100	30	20	C
18F2860	127G030DG4	120	30	20	D
18F2861	157G030DG4	150	30	20	D
18F2862	227G030DJ4	220	30	20	E
18F2863	337G030DL4	330	30	20	F
18F2864	397G030DX4	390	30	20	G
18F2865	306G040KD4	30	40	30	A
18F2790	506G040DD4	50	40	30	B
18F2791	706G040DE4	70	40	30	C
18F2792	107G040DG4	100	40	30	D
18F2793	147G040DJ4	140	40	30	E
18F2794	217G040DL4	210	40	30	F
18F2866	287G040DX4	280	40	30	G
18F2867	226G050KD4	22	50	40	A
18F2868	336G050DD4	33	50	40	B
18F2869	476G050DE4	47	50	40	C
18F2870	566G050DG4	56	50	40	D
18F2871	686G050DG4	68	50	40	D
18F2799	107G050DJ4	100	50	40	E
18F2800	157G050DL4	150	50	40	F
18F2872	187G050DX4	180	50	40	G
18F2873	176G060KD4	17	60	50	A
18F2802	256G060DD4	25	60	50	B
18F2803	406G060DE4	40	60	50	C
18F2804	606G060EG4	60	60	50	D
18F2805	806G060DJ4	80	60	50	E
18F2806	127G060DL4	120	60	50	F
18F2874	167G060DX4	160	60	50	G
18F2875	126F075KD4	12	75	60	A
18F2876	226F075DD4	22	75	60	B
18F2877	336F075DE4	33	75	60	C
18F2878	476F075DG4	47	75	60	D
18F2879	686F075DJ4	68	75	60	E
18F2880	107F075DL4	100	75	60	F
18F2881	127F075DX4	120	75	60	G
18F2882	825F100KD4	8.2	100	75	A
18F2883	126F100DD4	12	100	75	B
18F2884	156F100DE4	15	100	75	C
18F2885	226F100DG4	22	100	75	D
18F2886	336F100DJ4	33	100	75	E
18F2887	476F100DL4	47	100	75	F
18F2888	686F100DX4	68	100	75	G
18F2889	475F150KD4	4.7	150	100	A
18F2890	565F150KD4	5.6	150	100	A
18F2891	825F150DD4	8.2	150	100	B
18F2821	126F150DE4	12	150	100	C
18F2822	186F150DG4	18	150	100	D
18F2892	226F150DJ4	22	150	100	E
18F2893	336F150DL4	33	150	100	F
18F2894	566F150DX4	56	150	100	G
18F2895	405F200KD4	4	200	150	A
18F2826	605F200DD4	6	200	150	B
18F2827	805F200DE4	8	200	150	C
18F2828	136F200DG4	13	200	150	D
18F2829	176F200DJ4	17	200	150	E
18F2830	266F200DL4	26	200	150	F
18F2896	396F200DX4	39	200	150	G
18F2897	335F250KD4	3.3	250	200	A-1
18F2898	565F250DD4	5.6	250	200	A-1
18F2899	685F250DE4	6.8	250	200	C-1
18F2900	106F250DG4	10	250	200	D-1
18F2901	126F250DJ4	12	250	200	E-1
18F2902	226F250DL4	22	250	200	F-1
18F2903	276F250DX4	27	250	200	G-1

Electrolytic Capacitors

SPRAGUE
THE MARK OF RELIABILITY

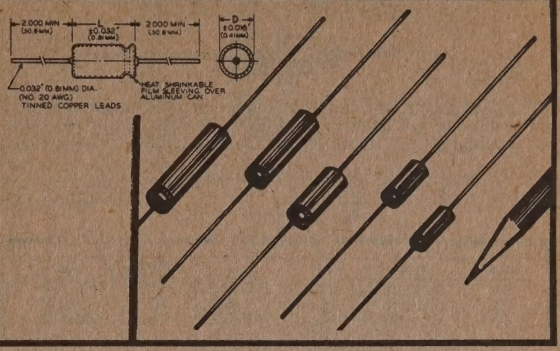
WH11D—ECONOMY MINIATURE METAL ENCASED ALUMINUM ELECTROLYTIC CAPACITORS

- **All Welded Construction**
- **Temp. Range: −20 to +85°C**
- **Low Leakage Current**
- **High Capacitance Voltage**
- **Miniature Tubular Metal Case**
- **Excellent Circuit Performance**

Low cost. All welded construction eliminates possibility of open or intermittent contacts occasionally encountered in pressure joints of conventional capacitors. Oper. temp: −20 to +85°C. Low leakage current means minimum drain and longer battery life when used in bypass applications and excellent circuit performance when used as coupling capacitors. Tolerance: up to 99 WVDC −10 +75%, 100 to 150 WVDC −10 +50%.

SIZE TABLE

Size Code	Size D. x L.
A	.260 x .723
C	.385 x .723
E	.385 x .973
F	.385 x 1.286
G	.385 x 1.536
K	.465 x 1.286
M	.465 x 1.536
P	.510 x 1.286
R	.510 x 1.536
S	.510 x 1.786
X	.322 x .723
Y	.260 x .536


2.000 MIN (50.8 MM)
(0.032" (0.81 MM))
2.000 MIN (50.8 MM)
D ±0.016 (0.406 MM)
0.032" (0.81MM) DIA. (NO. 20 AWG) TINNED COPPER LEADS
HEAT SHRINKABLE FILM SLEEVING OVER ALUMINUM CAN

3 WVDC

Stk. No.	Type	Mfd.	Size	1-49	50-99	100-199	200-499
47F1722	WH11D258G003S	2500	S	1.05	.74	.57	.48

6 WVDC

47F1723	WH11D206G006Y	20	Y	.36	.24	.19	.16
47F1724	WH11D506G006A	50	A	.36	.25	.19	.16
47F1725	WH11D756G006X	75	X	.39	.28	.22	.18
47F1727	WH11D257G006E	250	E	.45	.31	.24	.20
47F1728	WH11D307G006E	300	E	.45	.31	.24	.20
47F1731	WH11D507G006G	500	G	.57	.40	.31	.26
47F1714	WH11D208G006S	2000	S	1.05	.74	.57	.48

12 WVDC

47F1715	WH11D156G012Y	15	Y	.36	.24	.19	.16
47F1718	WH11D107G012C	100	C	.45	.31	.24	.20
47F1719	WH11D207G012E	200	E	.45	.31	.24	.20
47F1698	WH11D507G012K	500	K	.63	.44	.34	.29
47F1702	WH11D128G012S	1200	S	1.05	.74	.57	.48

16 WVDC

47F1703	WH11D106G016Y	10	Y	.36	.24	.19	.16
47F1705	WH11D256G016A	25	A	.36	.25	.19	.16
47F1706	WH11D506G016X	50	X	.39	.28	.22	.18
47F1684	WH11D756G016C	75	C	.45	.31	.24	.20
47F1686	WH11D157G016E	150	E	.45	.31	.24	.20
47F1687	WH11D207G016F	200	F	.54	.39	.30	.25
47F1688	WH11D257G016F	250	F	.54	.39	.30	.25
47F1689	WH11D307G016G	300	G	.57	.40	.31	.26
47F1690	WH11D357G016G	350	G	.57	.40	.31	.26
47F1691	WH11D407G016K	400	K	.63	.44	.34	.29
47F1693	WH11D507G016M	500	M	.69	.48	.37	.31
47F1694	WH11D607G016M	600	M	.69	.48	.37	.31
47F1673	WH11D108G016S	1000	S	1.05	.74	.57	.48

25 WVDC

47F1674	WH11D105G025Y	1	Y				
47F1675	WH11D205G025Y	2	Y				
47F1676	WH11D305G025Y	3	Y				
47F1678	WH11D505G025Y	5	Y	.36	.24	.19	.16
47F1679	WH11D605G025Y	6	Y				
47F1680	WH11D805G025Y	8	Y				
47F1681	WH11D106G025A	10	A				
47F1682	WH11D156G025A	15	A				
47F1683	WH11D206G025X	20	X				
47F1660	WH11D256G025X	25	X	.39	.28	.22	.18
47F1661	WH11D356G025X	35	X				

25 WVDC (Con't)

Stk. No.	Type	Mfd.	Size	1-49	50-99	100-199	200-499
47F1662	WH11D506G025C	50	C	.45	.31	.24	.20
47F1664	WH11D756G025E	75	E	.45	.31	.24	.20
47F1665	WH11D107G025E	100	E	.45	.31	.24	.20
47F1667	WH11D157G025F	150	F	.54	.39	.30	.25
47F1668	WH11D207G025G	200	G	.57	.40	.31	.26
47F1669	WH11D257G025K	250	K	.63	.44	.34	.29
47F1648	WH11D407G025P	400	P	.78	.56	.43	.36
47F1650	WH11D507G025R	500	R	.87	.60	.46	.39
47F1651	WH11D607G025S	600	S	1.05	.74	.57	.48

50 WVDC

47F1652	WH11D105G050Y	1	Y				
47F1653	WH11D205G050Y	2	Y				
47F1654	WH11D305G050Y	3	Y	.36	.24	.19	.16
47F1655	WH11D405G050Y	4	Y				
47F1656	WH11D505G050A	5	A				
47F1658	WH11D805G050A	8	A	.36	.25	.19	.16
47F1659	WH11D106G050X	10	X	.39	.28	.22	.18
47F1636	WH11D156G050X	15	X	.39	.28	.22	.18
47F1638	WH11D256G050C	25	C	.45	.31	.24	.20
47F1639	WH11D356G050E	35	E	.45	.31	.24	.20
47F1640	WH11D506G050E	50	E	.45	.31	.24	.20
47F1642	WH11D756G050F	75	F	.54	.39	.30	.25
47F1643	WH11D107G050G	100	G	.57	.40	.31	.26
47F1645	WH11D157G050M	150	M	.69	.48	.37	.31
47F1646	WH11D207G050P	200	P	.78	.56	.43	.36
47F1647	WH11D257G050P	250	P	.78	.56	.43	.36

100 WVDC

47F1627	WH11D105F100Y	1	Y	.39	.27	.20	.17
47F1628	WH11D205F100A	2	A	.39	.27	.21	.18
47F1630	WH11D405F100X	4	X	.45	.31	.24	.20
47F1631	WH11D505F100C	5	C	.48	.34	.26	.22
47F1634	WH11D106F100E	10	E	.48	.34	.26	.22
47F1635	WH11D156F100E	15	E	.48	.34	.26	.22
47F1615	WH11D506F100R	50	R	.96	.66	.51	.43

150 WVDC

47F1618	WH11D105F150Y	1	Y	.39	.27	.20	.17
47F1619	WH11D205F150X	2	X	.45	.31	.24	.20
47F1620	WH11D305F150C	3	C	.48	.34	.26	.22
47F1621	WH11D405F150C	4	C	.48	.34	.26	.22
47F1622	WH11D505F150C	5	C	.48	.34	.26	.22
47F1601	WH11D106F150F	10	F	.60	.42	.32	.28
47F1602	WH11D156F150F	15	F	.60	.42	.32	.28
47F1603	WH11D206F150G	20	G	.63	.44	.34	.29
47F1604	WH11D256F150M	25	M	.75	.53	.41	.35
47F1606	WH11D506F150S	50	S	1.17	.82	.63	.53

7.5 WVDC

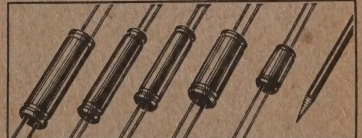
Stk. No.	Type	Mfd.	DxL	1-24	25-49	50-99	100-499
15F2742	604D202G7R5GJ6	2000	.812 x 1.843	8.88	4.44	3.89	2.89
15F2743	604D302G7R5HJ6	3000	.937 x 1.843	10.72	5.36	4.69	3.48
15F2744	604D382G7R5GP6	3800	.812 x 2.843	11.12	5.56	4.87	3.61
15F2745	604D442G7R5HL6	4400	.937 x 2.343	11.60	5.80	5.08	3.77
15F2746	604D482G7R5JJ6	4800	1.062 x 1.843	12.28	6.14	5.37	3.99
15F2747	604D502G7R5GS6	5000	.812 x 3.343	11.60	5.80	5.08	3.77
15F2748	604D582G7R5HP6	5800	.937 x 2.843	12.72	6.36	5.57	4.13
15F2749	604D622G7R5JL6	6200	1.062 x 2.343	13.64	6.82	5.97	4.43
15F2750	604D752G7R5HS6	7500	.937 x 3.343	13.60	6.80	5.95	4.42
15F2751	604D902G7R5JP6	9000	1.062 x 2.843	14.76	7.38	6.46	4.80
15F2752	604D113G7R5JS6	11000	1.062 x 3.343	16.32	8.16	7.14	5.30
15F2753	604D143G7R5JT6	14000	1.062 x 3.843	17.56	8.78	7.68	5.71

200 WVDC

15F2754	604D500F200GJ6	50	.812 x 1.843	8.88	4.44	3.89	2.89
15F2755	604D850F200HJ6	85	.937 x 1.843	10.72	5.36	4.69	3.48
15F2756	604D101F200HL6	100	.937 x 2.343	11.60	5.80	5.08	3.77
15F2757	604D151F200HP6	150	.937 x 2.843	12.72	6.36	5.57	4.13
15F2758	604D201F200JP6	200	1.062 x 2.843	14.76	7.38	6.46	4.80
15F2759	604D251F200HT6	250	.937 x 3.843	14.60	7.30	6.39	4.75
15F2760	604D321F200JT6	320	1.062 x 3.843	17.56	8.78	7.68	5.71

TYPE 604D 4-TERMINAL EXTRALYTIC ALUMINUM ELECTROLYTIC CAPACITORS

- **Designed for high frequency operation**
- **Low series resistance and inductance.**
- **Immersible in halogenated solvents.**



Four-terminal capacitors with a guaranteed inductance limit of 2 nH, with typical values of less than 1 nH. Impedance limits at 10 kHz are as low as 17 milliohms. Operating temperature range is from −55°C to +105°C. Capacitance tolerance: 5- through 50-volt units, −10 to +50%. Above 50 volts, −10 to +75%. Outer plastic film insulation with polymer coated end seals permit degreasing in halogenated solvents.

SPRAGUE
THE MARK OF RELIABILITY

TE Miniature Electrolytics

TYPE TE LITTL-LYTICS

Ultra-small electrolytic capacitors made for transistor circuitry and other sub-min. applications. Temp. Range: −20°C to +105°C. Ultra-low leakage current. Clear Plastic Sleeves. Life Test to 1000 hrs.

Tolerance: −10 +75% except (*) −10 +50%

CASE SIZES

Key	Size	Key	Size	Key	Size
BA	.260x.536	CC	.322x.848	DD	.385x.973
BB	.260x.723	DB	.358x.723	DF	.385x1.286
CB	.322x.723	DC	.385x.848	DG	.385x1.536

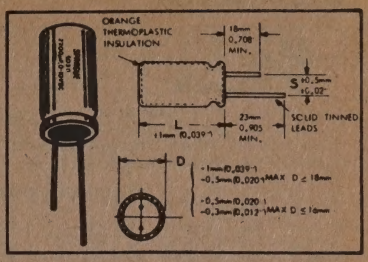
Stock No.	Type	Mfd.	WV DC	DxL	1-24	25-49	50-99	100-249
18F532	TE1050	1	3	BA				
18F533	TE1052	3	3	BA				
18F534	TE1052.1	4	3	BA				
18F535	TE1052.2	5	3	BA				
18F536	TE1052.3	6	3	BA				
18F537	TE1052.5	8	3	BA				
18F2929	TE1053	10	3	BA	.60	.42	.34	.26
18F538	TE1053.5	15	3	BA				
18F539	TE1054	20	3	BA				
18F501	TE1055	25	3	BA				
18F000	TE1055.5	30	3	BA				
18F542	TE1058	50	3	BB				
18F001	TE1058.5	65	3	BB				
18F544	TE1059.5	100	3	CB	.69	.48	.38	.29
18F2930	TE1060.1	130	3	CB	.69	.48	.38	.29
18F545	TE1061	150	3	CC	.72	.50	.40	.30
18F546	TE1065	250	3	DC	.72	.50	.40	.30
18F2928	TE1064	200	3	CC	.72	.50	.40	.30
17F1900	TE1066	300	3	DC	.72	.50	.40	.30
17F1901	TE1067	400	3	DD	.75	.51	.41	.31
18F548	TE1068	500	3	DF	.81	.56	.45	.34
18F002	TE1069.1	600	3	DF	.81	.56	.45	.34
17F1902	TE1070.1	800	3	DG	.87	.60	.48	.36
18F503	TE1080	1	6	BA	.60	.42	.34	.26
18F504	TE1081	2	6	BA	.60	.42	.34	.26
18F505	TE1082	3	6	BA				
18F506	TE1083	4	6	BA				
18F507	TE1084	5	6	BA				
18F549	TE1085	6	6	BA				
18F508	TE1086	8	6	BA	.60	.42	.34	.26
18F509	TE1087	10	6	BA				
18F510	TE1089	15	6	BA				
18F807	TE1090	20	6	BA				
18F511	TE1091	25	6	BB				
18F808	TE1093	35	6	BB				
18F004	TE1101.7	90	6	CB	.69	.48	.38	.29
18F2933	TE1102	100	6	CC	.72	.50	.40	.30
18F005	TE1102.5	140	6	CC	.72	.50	.40	.30
18F810	TE1103	150	6	DC	.72	.50	.40	.30
18F811	TE1104	200	6	DC	.72	.50	.40	.30
18F812	TE1105	250	6	DD	.75	.51	.41	.31
18F006	TE1105.5	280	6	DD	.75	.51	.41	.31
18F813	TE1106	300	6	DF	.75	.51	.41	.31
18F007	TE1107	400	6	DF	.81	.56	.45	.34
17F1904	TE1107.5	500	6	DG	.87	.60	.48	.36
17F1903	TE1108.5	600	6	DG	.87	.60	.48	.36
18F817	TE1120	1	12	BA				
18F818	TE1121	2	12	BA				
18F819	TE1122	3	12	BA				
18F820	TE1123	4	12	BA				
18F821	TE1127.1	6	12	BA				
18F822	TE1127.3	8	12	BA	.60	.42	.34	.26
18F2934	TE1128	10	12	BA				
18F823	TE1129	15	12	BA				
18F824	TE1130	20	12	BB				
18F825	TE1131	25	12	BB				
18F2935	TE1132.1	30	12	BB				
18F827	TE1133	50	12	CB	.69	.48	.38	.29
18F009	TE1133.5	60	12	CB	.69	.48	.38	.29
18F828	TE1134	75	12	CC	.72	.50	.40	.30
18F010	TE1134.5	90	12	DB	.72	.50	.40	.30
18F829	TE1135	100	12	CC	.72	.50	.40	.30
18F011	TE1135.5	140	12	DC	.72	.50	.40	.30
18F830	TE1136	150	12	DD	.75	.51	.41	.31
18F012	TE1136.5	190	12	DD	.75	.51	.41	.31
18F831	TE1137	200	12	DF	.81	.56	.45	.34
18F832	TE1138	250	12	DF	.81	.56	.45	.34
18F013	TE1139	290	12	DF	.81	.56	.45	.34
18F014	TE1140	390	12	DG	.87	.60	.48	.36
18F833	TE1148	1	16	BA	.60	.42	.34	.26
18F834	TE1149	2	16	BA	.60	.42	.34	.26
18F835	TE1150	3	16	BA	.60	.42	.34	.26
18F520	TE1151	4	16	BA	.60	.42	.34	.26
18F836	TE1152	5	16	BA	.60	.42	.34	.26
18F837	TE1153	6	16	BA	.60	.42	.34	.26
18F838	TE1154	8	16	BA	.60	.42	.34	.26
18F521	TE1155	10	16	BA	.60	.42	.34	.26
18F839	TE1156	15	16	BB	.60	.42	.34	.26
18F522	TE1157	20	16	BB	.60	.42	.34	.26
18F840	TE1157.1	25	16	BB	.60	.42	.34	.26
18F523	TE1158	30	16	CB	.69	.48	.38	.29
18F841	TE1159	35	16	CB	.69	.48	.38	.29
18F842	TE1160	50	16	CB	.69	.48	.38	.29
18F843	TE1161	75	16	CC	.72	.50	.40	.30
18F015	TE1161.5	85	16	DB	.72	.50	.40	.30
18F016	TE1161.7	90	16	CC	.72	.50	.40	.30
18F844	TE1162	100	16	DC	.72	.50	.40	.30
18F017	TE1162.5	130	16	DC	.72	.50	.40	.30
18F845	TE1163	150	16	DD	.75	.51	.41	.31
17F1905	TE1163.7	180	16	DD	.75	.51	.41	.31
18F846	TE1164	200	16	DF	.81	.56	.45	.34
17F1906	TE1164.5	250	16	DF	.81	.56	.45	.34
18F020	TE1166	350	16	DG	.87	.60	.48	.36
18F847	TE1200	1	25	BA	.60	.42	.34	.26
18F848	TE1201	2	25	BA	.60	.42	.34	.26
18F849	TE1201.1	3	25	BA	.60	.42	.34	.26
18F850	TE1201.2	4	25	BA	.60	.42	.34	.26
18F524	TE1202	5	25	BA	.60	.42	.34	.26
18F525	TE1203	6	25	BA	.60	.42	.34	.26
18F851	TE1203.5	8	25	BA	.60	.42	.34	.26
18F526	TE1204	10	25	BB	.60	.42	.34	.26
18F527	TE1205	15	25	BB	.60	.42	.34	.26
17F1907	TE1206	20	20	CB	.69	.48	.38	.29
18F852	TE1207	25	25	CB	.69	.48	.38	.29
18F021	TE1207.5	30	25	CB	.69	.48	.38	.29
18F853	TE1208	35	25	CB	.69	.48	.38	.29
18F854	TE1209	50	25	CC	.72	.50	.40	.30
18F855	TE1210	75	25	DC	.72	.50	.40	.30
18F856	TE1211	100	25	DD	.75	.51	.41	.31
18F022	TE1212	150	25	DF	.81	.56	.45	.34
18F023	TE1213	200	25	DG	.87	.60	.48	.36
18F857	TE1300	1	50	BA	.60	.42	.34	.26
18F858	TE1301	2	50	BA	.60	.42	.34	.26
18F859	TE1302	3	50	BA	.60	.42	.34	.26
18F860	TE1302.1	4	50	BA	.60	.42	.34	.26
18F529	TE1303	5	50	BB	.60	.42	.24	.26
18F861	TE1303.1	6	50	BB	.60	.42	.34	.26
18F862	TE1303.3	8	50	BB	.60	.42	.34	.26
18F530	TE1304	10	50	CB	.69	.48	.38	.29
18F863	TE1304.2	15	50	CB	.69	.48	.38	.29
18F531	TE1305	20	50	CC	.72	.50	.40	.30
18F024	TE1305.5	25	50	CC	.72	.50	.40	.30
18F864	TE1306	35	50	DC	.72	.50	.40	.30
18F865	TE1307	50	50	DD	.75	.51	.41	.31
18F025	TE1308	75	50	DF	.81	.56	.45	.34
18F026	TE1309	100	50	DG	.87	.60	.48	.36
18F866	TE1400*	1	100	BA	.66	.46	.37	.28
18F867	TE1401*	2	100	BB	.66	.46	.37	.28
18F868	TE1402*	3	100	CB	.75	.52	.42	.32
18F869	TE1403*	4	100	CB	.75	.52	.42	.32
18F870	TE1404*	5	100	CC	.78	.55	.44	.33
18F871	TE1405*	6	100	CC	.78	.55	.44	.33
18F872	TE1406*	8	100	DC	.81	.55	.44	.33
18F873	TE1407*	10	100	DC	.81	.55	.44	.33
18F874	TE1408*	15	100	DD	.81	.56	.45	.34
18F875	TE1409*	20	100	DF	.90	.62	.50	.37
18F027	TE1410*	25	100	DG	.96	.66	.53	.40
18F028	TE1411*	30	100	DG	.96	.66	.53	.40
18F876	TE1500*	1	150	BA	.66	.46	.37	.28
18F877	TE1501*	2	150	BB	.66	.46	.37	.28
18F878	TE1502*	3	150	CB	.75	.52	.42	.32
18F879	TE1503*	4	150	CC	.81	.55	.44	.33
18F880	TE1504*	5	150	CC	.81	.55	.44	.33
18F881	TE1505*	6	150	DC	.81	.55	.44	.33
18F029	TE1505.5*	7	150	DC	.81	.55	.44	.33
18F882	TE1506*	8	150	DC	.81	.55	.44	.33
18F883	TE1507*	10	150	DD	.81	.56	.45	.34
18F2936	TE1508.1*	15	150	DF	.90	.62	.50	.37
18F030	TE1509*	20	150	DG	.96	.66	.53	.40

500D-503D Electrolytic Capacitors

SPRAGUE
THE MARK OF RELIABILITY

VERTI-LYTIC MINIATURE ELECTROLYTICS

Model 503D. Single ended aluminum capacitors for vertical installation on high-density printed wiring boards. Designed for use in coupling, decoupling, bypass and filtering circuits in radio receivers, automobile receivers, portable tape recorders and similar applications. Oper. temp. range —–20°C to +85°C. Displays excellent stability of capacitance (+20%, −15% maximum change), equivalent series resistance, and low leakage current. Welds at all critical anode and cathode terminations.



Size And Price Chart

Code	Size in Inches D	L	S	1-49	50-99	100-199	200-499
HS	.197	0.433	.079	.33	.22	.17	.14
AS	.236	0.433	.098	.33	.22	.17	.14
BB	.315	0.492	.138	.39	.25	.19	.16
CB	.394	0.492	.197	.42	.27	.20	.17
CD	.394	0.630	.197	.42	.27	.21	.17
CG	.394	0.787	.197	.51	.34	.26	.21
DG	.512	0.787	.197	.69	.45	.34	.28
DK	.512	0.984	.197	.84	.56	.42	.35
EK	.630	0.984	.295	1.02	.68	.51	.43
ER	.630	1.240	.295	1.11	.74	.56	.46
EU	.630	1.437	.295	1.35	.89	.67	.56
ET	.630	1.614	.295	1.59	1.06	.80	.66

6.3 WVDC

Stk. No.	Type	µF	Code
47F1900	503D476G6R3	47	AS
47F1901	503D107G6R3	100	BB
47F1902	503D477G6R3	470	CG
47F1903	503D687G6R3	680	DG
47F1904	503D108G6R3	1000	DK

10 WVDC

Stk. No.	Type	µF	Code
47F1905	503D336G010	33	AS
47F1906	503D686G010	68	BB
47F1907	503D107G010	100	CB
47F1908	503D227G010	220	CD
47F1909	503D337G010	330	CG
47F1910	503D477G010	470	DG
47F1911	503D687G010	680	DK
47F1912	503D108G010	1000	EK

16 WVDC

Stk. No.	Type	µF	Code
47F1913	503D685G016	6.8	HS
47F1914	503D106G016	10	HS
47F1915	503D226G016	22	AS
47F1916	503D476G016	47	BB
47F1917	503D686G016	68	CB
47F1918	503D107G016	100	CD
47F1919	503D227G016	220	CG
47F1920	503D337G016	330	DG
47F1921	503D477G016	470	DK
47F1922	503D687G016	680	EK
47F1923	503D108G016	1000	ER

25 WVDC

Stk. No.	Type	µF	Code
47F1924	503D474G025	.47	HS
47F1925	503D684G025	.68	HS
47F1926	503D105G025	1.0	HS
47F1927	503D225G025	2.2	HS
47F1928	503D335G025	3.3	HS
47F1929	503D475G025	4.7	HS
47F1930	503D685G025	6.8	AS
47F1931	503D106G025	10	AS
47F1932	503D226G025	22	BB
47F1933	503D336G025	33	BB
47F1934	503D476G025	47	CB
47F1935	503D686G025	68	CD
47F1936	503D107G025	100	CG
47F1937	503D227G025	220	DG
47F1938	503D337G025	330	DK
47F1939	503D477G025	470	EK
47F1940	503D687G025	680	ER
47F1941	503D108G025	1000	EU

35 WVDC

Stk. No.	Type	µF	Code
47F1942	503D685G035	6.8	AS
47F1943	503D336G035	33	CB
47F1944	503D476G035	47	CD
47F1945	503D227G035	220	DK
47F1946	503D337G035	330	EK
47F1947	503D477G035	470	ER
47F1948	503D687G035	680	EU

50 WVDC

Stk. No.	Type	µF	Code
47F1949	503D225G050	2.2	HS
47F1950	503D475G050	4.7	AS
47F1951	503D336G050	33	CD
47F1952	503D686G050	68	CG
47F1953	503D107G050	100	DG
47F1954	503D227G050	220	EK
47F1955	503D337G050	330	ER
47F1956	503D477G050	470	ET

63 WVDC

Stk. No.	Type	µF	Code
47F1957	503D474G063	.47	HS
47F1958	503D684G063	.68	HS
47F1959	503D105G063	1.0	HS
47F1960	503D225G063	2.2	AS
47F1961	503D335G063	3.3	AS
47F1962	503D475G063	4.7	BB
47F1963	503D685G063	6.8	BB
47F1964	503D106G063	10	BB
47F1965	503D226G063	22	CB
47F1966	503D336G063	33	CG
47F1967	503D476G063	47	CG
47F1968	503D686G063	68	DG
47F1969	503D107G063	100	DK

TYPE 500D MINIATURE METAL-CASE ALUMINUM ELECTROLYTICS

PRICE CHART

Key	1-24	25-49	50-99	100-249
A	.59	.41	.33	.25
B	.81	.56	.45	.34
C	.62	.43	.34	.26
D	.70	.49	.39	.30
E	.69	.48	.38	.29
F	.64	.44	.36	.27
G	.70	.49	.39	.30
H	.74	.51	.41	.31
J	.74	.52	.41	.31
K	.84	.58	.47	.35
L	.84	.58	.47	.35
M	.68	.47	.38	.29
N	.59	.41	.33	.25
P	.65	.45	.36	.27
R	.73	.51	.41	.31
S	.73	.51	.41	.31
T	.76	.53	.42	.32

Ultra-small 500D series electrolytic capacitors. All welded construction, no pressure joints to cause open or intermittent circuits. Effective in temperatures up to 85°C (185°F) without derating. Leakage current extremely low. Capacitance tolerance is −10 +75% through 50V and −10 +50% for 100V and up. Lead length is 1.5". Case has a film insulation. Average shipping weight is 2 ounces.

SIZE CHART

Size	DxL	Size	DxL	Size	DxL
BA7	.260x.536	DC7	.385x.848	DF7	.385x1.286
CB7	.322x.723	DD7	.385x.973	BB7	.260x.723
CC7	.322x.848	DH7	.385x1.536	DB7	.385x.723

3 WVDC

Stk. No.	Type 500D	Price Key	Mfd.
47F307	106G003 BA7	A	10
47F308	256G003 BA7	C	25
47F309	506G003 BB7	C	50
47F310	756G003 CB7	F	75
47F311	107G003 CB7	M	100
47F312	157G003 CC7	D	150
47F313	207G003 CC7	M	200
47F314	507G003 DF7	J	500

6 WVDC

Stk. No.	Type 500D	Price Key	Mfd.
47F315	156G006 BA7	C	15
47F316	256G006 BB7	F	25
47F317	506G006 BB7	F	50
47F318	756G006 CB7	M	75
47F319	107G006 CC7	D	100
47F320	157G006 DC7	G	150
47F321	207G006 DC7	D	200
47F322	307G006 DD7	J	300
47F323	507G006 DH7	B	500

16 WVDC

Stk. No.	Type 500D	Price Key	Mfd.
47F324	505G016 BA7	A	5
47F325	106G016 BA7	N	10
47F326	206G016 BB7	C	20
47F287	256G016 BB7	P	25
47F288	306G016 CB7	F	30
47F289	356G016 CB7	M	35

16 WVDC (Cont.)

Stk. No.	Type 500D	Price Key	Mfd.
47F290	506G016 CB7	P	50
47F291	107G016 DC7	D	100
47F292	157G016 DD7	G	150
47F293	207G016 DF7	H	200
47F294	307G016 DH7	B	300
47F295	357G016 DH7	K	350

25 WVDC

Stk. No.	Type 500D	Price Key	Mfd.
47F296	205G025 BA7	A	2
47F297	405G025 BA7	C	4
47F298	505G025 BA7	C	5
47F299	605G025 BA7	N	6
47F300	805G025 BA7	F	8
47F301	106G025 BB7	C	10
47F302	156G025 BB7	F	15
47F303	256G025 CB7	P	25
47F304	306G025 CB7	D	30
47F305	356G025 CB7	D	35
47F306	506G025 CC7	G	50
47F327	756G025 DC7	R	75
47F328	107G025 DD7	E	100
47F329	157G025 DF7	H	150
47F330	207G025 DH7	B	200

50 WVDC

Stk. No.	Type 500D	Price Key	Mfd.
47F331	105G050 BA7	A	1
47F332	205G050 BA7	C	2
47F333	305G050 BA7	N	3

50 WVDC (Cont.)

Stk. No.	Type 500D	Price Key	Mfd.
47F334	405G050 BA7	F	4
47F335	505G050 BB7	F	5
47F336	805G050 BB7	F	8
47F337	106G050 CB7	M	10
47F338	156G050 CB7	P	15
47F339	206G050 CC7	M	20
47F340	256G050 CC7	G	25
47F341	356G050 DC7	D	35
47F342	506G050 DD7	E	50
47F343	756G050 DF7	H	75
47F344	107G050 DH7	B	100

100 WVDC

Stk. No.	Type 500D	Price Key	Mfd.
47F345	405F100 CB7	R	4
47F346	605F100 CC7	J	6
47F275	106F100 DC7	B	10
47F276	206F100 DF7	K	20
47F277	256F100 DH7	K	25

150 WVDC

Stk. No.	Type 500D	Price Key	Mfd.
47F278	105F150 BA7	P	1
47F279	205F150 BB7	M	2
47F280	305F150 CB7	D	3
47F281	405F150 CC7	S	4
47F282	505F150 CC7	R	5
47F283	805F150 DC7	J	8
47F284	106F150 DD7	T	10
47F285	156F150 DF7	B	15
47F286	206F150 DH7	L	20

SPRAGUE
THE MARK OF RELIABILITY

TVA Atom Electrolytics

- Withstand High Temperature,
- High Ripple Current and
- High Surge Voltage

The only small size electrolytic especially designed for 85°C (185°F) operation on voltages to 450 working volts D.C. Unit is engineered to withstand extra high temperature, high ripple current, plus high surge voltages. Metal case construction with outer insulating tube. Wt., 3 oz.

SINGLE UNITS 6 WVDC

Stock No.	TVA No.	Mfd.	D. x L.	1-49	50-99	100-249	250-499
18F955	1100	50	¼"x$^{23}/_{32}$"	.69	.46	.34	.29
18F957	1102	250	⅜"x$^{31}/_{32}$"	.93	.60	.45	.38
18F958	1103	500	⅜"x1$^{17}/_{32}$"	1.05	.69	.52	.43
18F959	1104	1000	½"x1$^{9}/_{32}$"	1.47	.94	.71	.59
18F960	1105	1500	½"x1$^{17}/_{32}$"	1.53	.99	.74	.62
18F151	1106	2000	½"x1$^{25}/_{32}$"	1.56	1.02	.77	.64
			12 WVDC				
18F961	1130	100	$^{5}/_{16}$"x$^{27}/_{32}$"	.81	.53	.40	.33
18F962	1131	250	⅜"x1$^{9}/_{32}$"	.99	.64	.48	.41
18F153	1132	500	$^{7}/_{16}$"x1$^{17}/_{32}$"	1.17	.76	.57	.48
18F963	1133	1000	½"x1$^{13}/_{16}$"	1.23	.79	.60	.50
			15 WVDC				
18F964	1160	100	⅜"x$^{27}/_{32}$"	.81	.53	.40	.33
18F965	1161	250	⅜"x1$^{9}/_{32}$"	.99	.64	.48	.41
18F966	1162	500	$^{7}/_{16}$"x1$^{17}/_{32}$"	1.17	.76	.57	.48
18F228	1163	1000	½"x1$^{13}/_{16}$"	1.47	.94	.71	.59
18F2132	1170	2000	$^{13}/_{16}$"x1$^{21}/_{32}$"	1.74	1.13	.85	.71
18F2904	1175	3000	⅞"x1$^{29}/_{32}$"	2.04	1.32	.99	.83
			25 WVDC				
18F967	1201	2	¼"x$^{17}/_{32}$"	.63	.40	.30	.25
18F968	1203	5	¼"x$^{17}/_{32}$"	.66	.42	.32	.27
18F154	1204	10	¼"x$^{23}/_{32}$"	.69	.44	.33	.28
18F2133	1204.5	20	$^{5}/_{16}$"x$^{23}/_{32}$"	.75	.47	.36	.30
18F155	1205	25	$^{5}/_{16}$"x$^{23}/_{32}$"	.75	.47	.36	.30
18F156	1206	50	$^{5}/_{16}$"x$^{27}/_{32}$"	.75	.49	.37	.31
18F157	1207	100	⅜"x$^{31}/_{32}$"	.93	.61	.46	.38
18F2905	1207.5	150	⅜"x1$^{9}/_{32}$"	.99	.65	.49	.41
18F969	1208	250	$^{7}/_{16}$"x1$^{9}/_{32}$"	1.32	.85	.64	.54
18F159	1209	500	½"x1$^{9}/_{16}$"	1.71	1.10	.83	.69
18F2134	1211	1000	$^{13}/_{16}$"x1$^{21}/_{32}$"	2.79	1.82	1.37	1.14
			50 WVDC				
18F970	1300	1	¼"x$^{17}/_{32}$"	.63	.40	.30	.25
18F971	1301	2	¼"x$^{17}/_{32}$"	.63	.40	.30	.25
18F972	1303	5	¼"x$^{23}/_{32}$"	.69	.44	.33	.28
18F163	1304	10	$^{5}/_{16}$"x$^{23}/_{32}$"	.69	.44	.33	.28
18F2136	1305	15	$^{5}/_{16}$"x$^{23}/_{32}$"	.69	.44	.33	.28
18F973	1305.5	20	$^{5}/_{16}$"x$^{27}/_{32}$"	.75	.47	.36	.30
18F164	1306	25	$^{5}/_{16}$"x$^{27}/_{32}$"	.75	.47	.36	.30
18F165	1308	50	⅜"x$^{31}/_{32}$"	.84	.55	.41	.35
18F166	1310	100	⅜"x1$^{17}/_{32}$"	.93	.61	.46	.38
18F974	1311	150	$^{7}/_{16}$"x1$^{17}/_{32}$"	1.05	.69	.52	.43
18F229	1312	250	½"x$^{5}/_{16}$"	1.32	.86	.65	.54
18F975	1315	500	¾"x1$^{21}/_{32}$"	1.77	1.14	.86	.72
18F2966	1316	1000	$^{15}/_{16}$"x1$^{29}/_{32}$"	2.94	1.92	1.44	1.21
18F2967	1318	1500	$^{15}/_{16}$"x2$^{5}/_{32}$"	3.63	2.36	1.77	1.48
			150 WVDC				
18F2137	1400	1	¼"x1$^{17}/_{32}$"	.75	.47	.36	.30
18F976	1402	4	$^{5}/_{16}$"x$^{27}/_{32}$"	.81	.53	.40	.33
18F977	1403	5	$^{5}/_{16}$"x$^{27}/_{32}$"	.81	.53	.40	.33
18F978	1405	8	⅜"x$^{27}/_{32}$"	.87	.57	.43	.36
18F222	1406	10	⅜"x$^{31}/_{32}$"	.93	.61	.46	.38
18F979	1407	12	⅜"x1$^{9}/_{32}$"	.96	.62	.46	.39
18F980	1409	16	⅜"x1$^{17}/_{32}$"	.96	.62	.47	.39
18F175	1410	20	⅜"x1$^{17}/_{32}$"	1.02	.66	.50	.42
18F981	1411	25	$^{7}/_{16}$"x1$^{9}/_{32}$"	1.05	.69	.52	.43
18F167	1412	30	$^{7}/_{16}$"x1$^{17}/_{32}$"	1.11	.72	.54	.45
18F176	1413	40	½"x1$^{17}/_{32}$"	1.35	.89	.67	.56
18F230	1414	50	½"x1$^{13}/_{16}$"	1.47	.94	.71	.59
18F223	1415	60	$^{13}/_{16}$"x1$^{13}/_{32}$"	1.53	1.00	.75	.63
18F168	1418	80	⅞"x1$^{13}/_{32}$"	1.62	1.06	.79	.67
18F231	1420	100	⅞"x1$^{21}/_{32}$"	1.68	1.10	.82	.69
18F224	1422	150	⅞"x2$^{5}/_{32}$"	1.77	1.15	.86	.72
18F982	1423	200	1"x2$^{5}/_{32}$"	2.22	1.45	1.09	.91
18F2138	1424	250	1⅛"x2$^{5}/_{32}$"	3.78	2.46	1.85	1.55
18F983	1425	300	1⅛"x2$^{11}/_{16}$"	2.94	1.92	1.44	1.20
			175 WVDC				
18F2906	1430	80	$^{13}/_{16}$"x1$^{29}/_{32}$"	1.68	1.10	.82	.69
			200 WVDC				
18F984	1447	150	1"x2$^{5}/_{32}$"	3.57	2.33	1.75	1.46
18F985	1480	200	1⅛"x2$^{11}/_{16}$"	4.05	2.64	1.98	1.66

250 WVDC

Stock No.	TVA No.	Mfd.	D. x L.	1-49	50-99	100-249	250-499
18F2968	1500	1	$^{5}/_{16}$"x$^{23}/_{32}$"	.78	.51	.39	.32
18F986	1501	4	⅜"x$^{31}/_{32}$"	.78	.51	.39	.32
18F987	1503	8	$^{7}/_{16}$"x1$^{17}/_{32}$"	1.17	.76	.57	.48
18F232	1504	10	$^{7}/_{16}$"x1$^{9}/_{32}$"	1.17	.77	.58	.48
18F988	1505	12	$^{7}/_{16}$"x1$^{17}/_{32}$"	1.20	.78	.58	.49
18F989	1507	16	½"x1$^{9}/_{16}$"	1.32	.85	.64	.54
18F233	1508	20	½"x1$^{13}/_{16}$"	1.47	.94	.71	.59
18F990	1510	30	$^{13}/_{16}$"x1$^{13}/_{32}$"	1.50	.98	.74	.62
18F234	1511	40	⅞"x1$^{13}/_{32}$"	1.59	1.04	.78	.65
18F991	1512	50	⅞"x1$^{21}/_{32}$"	1.65	1.08	.81	.68
18F992	1513	60	⅞"x1$^{29}/_{32}$"	1.71	1.11	.84	.70
18F2139	1522	100	1"x1$^{29}/_{32}$"	2.19	1.41	1.06	.89
18F2907	1528	200	1¼"x2$^{11}/_{16}$"	4.17	2.73	2.05	1.71
			300 WVDC				
18F2969	1575	140	1"x3$^{5}/_{32}$"	4.35	2.83	2.12	1.78
18F2908	1576	150	1¼"x2$^{11}/_{16}$"	4.71	3.07	2.30	1.93
18F2142	1578	200	1¼"x3$^{5}/_{32}$"	5.16	3.36	2.52	2.11
			350 WVDC				
18F994	1601	4	⅜"x1$^{9}/_{32}$"	1.17	.76	.57	.48
18F995	1603	8	$^{7}/_{16}$"x1$^{17}/_{32}$"	1.20	.78	.58	.49
18F996	1604	10	½"x1$^{9}/_{16}$"	1.32	.86	.64	.54
18F998	1607	16	½"x1$^{13}/_{16}$"	1.41	.92	.69	.58
18F999	1608	20	¾"x1$^{21}/_{32}$"	1.53	1.00	.75	.63
18F1529	1610	30	⅞"x1$^{21}/_{32}$"	1.65	1.08	.81	.68
18F1530	1611	40	⅞"x1$^{29}/_{32}$"	1.68	1.10	.82	.69
18F1531	1613	60	$^{15}/_{16}$"x2$^{5}/_{32}$"	2.04	1.32	.99	.83
18F2144	1620	100	1"x2$^{21}/_{32}$"	2.46	1.60	1.20	1.01
18F2909	1622	150	1¼"x2$^{11}/_{16}$"	3.03	1.98	1.49	1.24
18F2910	1624	200	1¼"x3$^{5}/_{32}$"	5.70	3.72	2.79	2.34
			400 WVDC (Nonpolarized)				
18F1532	1650	10	½"x1$^{5}/_{16}$"	1.26	.81	.61	.51
18F2143	1652	20	½"x1$^{13}/_{16}$"	1.35	.89	.67	.56
			450 WVDC				
18F1533	1700	1	⅜"x$^{27}/_{32}$"	1.23	.79	.60	.50
18F1534	1701	2	⅜"x1$^{9}/_{32}$"	1.23	.79	.60	.50
18F1535	1702	4	$^{7}/_{16}$"x1$^{17}/_{32}$"	1.26	.81	.61	.51
18F2146	1703	5	½"x1$^{5}/_{16}$"	1.26	.81	.61	.51
18F225	1704	8	½"x1$^{13}/_{16}$"	1.35	.89	.67	.56
18F169	1705	10	½"x1$^{13}/_{16}$"	1.35	.89	.67	.56
18F1536	1706	12	¾"x1$^{21}/_{32}$"	1.41	.91	.68	.57
18F187	1708	16	⅞"x1$^{21}/_{32}$"	1.56	1.02	.77	.64
18F170	1709	20	$^{13}/_{16}$"x2$^{5}/_{32}$"	1.56	1.02	.77	.64
18F171	1711	30	1"x1$^{29}/_{32}$"	2.04	1.32	.99	.83
18F172	1712	40	$^{15}/_{16}$"x2$^{13}/_{32}$"	2.19	1.41	1.06	.89
18F226	1713	50	1⅛"x2$^{5}/_{32}$"	2.34	1.53	1.15	.96
18F227	1714	60	1⅛"x2$^{5}/_{32}$"	2.40	1.56	1.18	.98
18F235	1716	80	1"x3$^{21}/_{32}$"	3.03	1.98	1.49	1.25
18F1537	1718	100	1¼"x3$^{5}/_{32}$"	3.57	2.32	1.74	1.46
18F2911	1719	150	1⅜"x3$^{11}/_{16}$"	6.45	4.21	3.16	2.65
18F2912	1720	200	1⅜"x4$^{5}/_{32}$"	5.61	3.66	2.75	2.30
			500 WVDC				
18F236	1902	8	¾"x1$^{21}/_{32}$"	1.59	1.02	.77	.64
18F238	1906	20	⅞"x2$^{5}/_{32}$"	2.46	1.60	1.20	1.01
18F2147	1908	40	1x2$^{13}/_{32}$"	3.03	1.97	1.48	1.24
			600 WVDC				
18F240	1962	8	1$^{1}/_{16}$"x2⅞"	4.29	2.80	2.10	1.76
18F241	1963	10	1$^{1}/_{16}$"x3$^{3}/_{16}$"	4.35	2.83	2.13	1.78
18F242	1965	16	1$^{1}/_{16}$"x4$^{3}/_{16}$"	4.65	3.03	2.28	1.90
18F243	1966	20	1$^{1}/_{16}$"x3⅞"	4.95	3.24	2.43	2.03
			DUAL UNITS (COMMON NEGATIVE) 150-150 WVDC				
18F173	2428	20-20	¾"x1$^{7}/_{16}$"	2.85	1.90	1.43	1.19
18F188	2434	30-30	⅞"x1$^{7}/_{16}$"	2.85	1.89	1.42	1.19
18F1546	2438	40-20	⅞"x1$^{7}/_{16}$"	2.79	1.87	1.40	1.17
18F178	2445	40-40	⅞"x1$^{15}/_{16}$"	2.85	1.89	1.42	1.19
18F185	2450	50-30	⅞"x1$^{15}/_{16}$"	2.85	1.89	1.42	1.18
18F1548	2453	50-50	⅞"x1$^{15}/_{16}$"	3.06	2.04	1.53	1.28
18F1549	2460	80-30	⅞"x2$^{3}/_{16}$"	3.24	2.16	1.62	1.35
18F1550	2461	80-40	⅞"x2$^{7}/_{16}$"	3.21	2.13	1.60	1.33
18F1551	2462	80-50	⅞"x2$^{7}/_{16}$"	3.27	2.17	1.63	1.36
18F036	2463	100-50	1"x2$^{11}/_{16}$"	3.27	2.17	1.63	1.36
			450-450 WVDC				
18F179	2720	8-8	$^{15}/_{16}$"x1$^{13}/_{16}$"	2.94	1.95	1.47	1.22
18F174	2722	10-10	⅞"x1$^{15}/_{16}$"	3.09	2.06	1.55	1.29
18F180	2730	20-20	⅞"x2$^{11}/_{16}$"	3.45	2.29	1.72	1.43
18F038	2735	30-30	1"x3$^{3}/_{16}$"	4.08	2.72	2.04	1.70
18F181	2740	40-40	1"x3$^{15}/_{16}$"	4.74	3.15	2.36	1.97
			TRIPLE UNITS 150-150-150 WVDC				
18F039	3440	20-20-20	⅞"x1$^{11}/_{16}$"	2.37	2.37	2.37	2.37
18F041	3448	40-30-20	⅞"x2$^{3}/_{16}$"	3.63	2.41	1.81	1.51
18F042	3450	40-40-20	⅞"x2$^{7}/_{16}$"	3.72	2.48	1.86	1.55
18F045	3455	80-40-20	1"x2$^{15}/_{16}$"	3.87	2.57	1.93	1.61
18F046	3456	80-40-40	1"x2$^{15}/_{16}$"	3.93	2.62	1.96	1.64
			QUAD UNITS 450-450-450-450 WVDC				
18F047	4748	40-40-20-10	1⅜"x4⅜"	4.23	4.23	4.23	4.23
18F048	4750	40-40-20-20	1½"x3⅞"	4.35	4.35	4.35	4.35

Capacitors

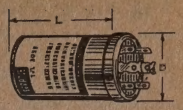
SPRAGUE
THE MARK OF RELIABILITY

CASE SIZES

A-1⅜X2"	G-1X3"	L-1X3½"
D-1⅜X2½"	H-1⅜X3"	M-1⅜X4"
E-1X2"	J-1⅜x4"	P-1X1½"
F-1X2½"	K-1⅜X3½"	R-1⅜X4½"

TVL TWIST LOK ELECTROLYTIC

Withstand extremely high temperatures, ripple current and surge voltages. Self-mounting with twist prong tabs that go through chassis or connect to washer for above-chassis mounting. For 85°C operation up to 450 Working Volts DC. Hermetically sealed in aluminum cans for long life and dependable performance in TV, radio, and HI-FI.



SINGLE UNITS

Stock No.	TVL No.	μF	WVDC	Size	1-24	25-49	50-99	100-249
18F550	1168	2000	15	A	2.94	1.96	1.52	1.03
18F1603	1220	500	25	P	1.65	1.13	.90	.68
18F552	1230	1000	25	A	2.73	1.79	1.47	.98
18F554	1330	500	50	A	2.43	1.68	1.35	1.01
18F2970	1338	1000	50	D	3.00	1.73	1.38	1.04
18F2971	1341	1500	50	D	3.69	2.80	2.24	1.48
18F557	1415	50	150	P	1.53	1.14	.92	.69
18F559	1423	100	150	P	1.71	1.29	1.04	.78
18F561	1431	200	150	A	2.19	1.51	1.21	.91
18F562	1434	300	150	A	2.55	1.93	1.55	1.16
18F668	1509	20	250	E	2.19	2.19	2.19	2.19
18F684	1519	40	250	E	1.74	1.21	.97	.73
18F1782	1535	100	250	G	1.89	1.31	1.05	.79
18F1783	1540	150	250	D	2.73	1.88	1.51	1.13
18F2973	1541	160	250	D	3.09	2.34	1.88	1.41
18F2974	1541.1	160	250	L	2.79	2.11	1.69	1.27
18F690	1547	200	250	D	3.15	1.95	1.56	1.17
18F566	1584	150	300	K	3.00	2.07	1.66	1.25
18F692	1590	250	300	J	3.63	2.51	2.01	1.51
18F669	1617	30	350	E	2.13	2.13	2.13	2.13
18F567	1621	40	350	E	1.89	1.30	1.04	.78
18F568	1638	125	350	D	2.85	1.97	1.58	1.19
18F693	1642	150	350	D	3.12	2.16	1.73	1.30
18F569	1705	10	450	P	1.68	1.16	.93	.70
18F570	1714	20	450	E	1.68	1.27	1.02	.76
18F571	1720	30	450	F	1.83	1.38	1.10	.83
18F572	1725	40	450	F	1.98	1.49	1.19	.90
18F573	1735	80	450	D	2.70	2.05	1.64	1.23
18F574	1760	125	450	J	3.63	2.51	2.01	1.51
18F578	1940	10	500	P	2.31	2.31	2.31	2.31
18F670	1947	30	500	F	2.01	1.38	1.11	.83
18F1604	1950	40	500	F	2.40	1.66	1.33	1.00
18F694	1958	80	500	D	3.39	2.36	1.89	1.42
18F687	1960	90	500	H	3.30	2.49	1.99	1.50

DUAL UNITS

Stock No.	TVL No.	μF	WVDC	Size	1-24	25-49	50-99	100-249
18F1605	2160	1000-1000	15-15	F	2.61	2.61	2.61	2.61
18F584	2432	50-30	150-150	P	1.80	1.37	1.09	.82
18F585	2435	50-50	150-150	P	2.01	1.38	1.11	.83
18F1786	2641	100-100	350-350	H	4.65	2.51	2.01	1.51
18F2975	2738.5	80-2	450-350	D	3.21	2.23	1.78	1.34
18F598	2750	10-10	450-450	E	2.07	1.57	1.26	.94
18F600	2755	20-20	450-450	F	2.16	1.63	1.31	.98
18F601	2759	30-30	450-450	A	2.70	2.05	1.64	1.23
18F602	2764	40-40	450-450	D	3.21	2.22	1.77	1.33
18F2976	2808	80-160	475-250	R	4.47	3.10	2.48	1.86

TRIPLE UNITS

18F1788	3437	40-20-20	150-150-150	P	2.70	2.70	2.70	2.70
18F631	3642	80-60-60	350-350-350	K	4.80	2.64	2.11	1.58
18F2979	3652	80-80-100	400-200-50	H	3.69	2.56	2.05	1.54
18F1790	3689.3	100-10-80	400-400-350	K	5.25	3.01	2.41	1.81
18F634	3731	10-10-20	450-450-25	E	2.01	1.52	1.22	.92
18F635	3739	20-20-20	450-450-25	G	2.40	1.67	1.34	1.00
18F642	3776	10-10-10	450-450-450	E	2.43	1.83	1.47	1.10
18F644	3780	20-20-20	450-450-450	A	3.12	2.17	1.74	1.30
18F646	3785	40-40-10	450-450-450	D	3.57	2.47	1.98	1.48
18F647	3786	40-40-20	450-450-450	D	3.72	2.57	2.06	1.55
18F648	3787	40-40-40	450-450-450	H	4.05	2.80	2.24	1.68
18F681	3793	80-40-20	450-450-450	H	4.29	2.97	2.38	1.79
18F682	3952	10-10-10	500-500-500	F	3.21	3.21	3.21	3.21

QUADRUPLE UNITS

18F2982	4714.4	30-20 160-40	450-450 250-150	M	4.68	3.25	2.60	1.95
18F664	4760	10-10-10-10	4x450	A	2.91	2.20	1.76	1.32
18F665	4763	20-20-20-20	4x450	D	4.05	2.60	2.09	1.49
18F1792	4773	40-40-20-20	4x450	D	4.71	3.02	2.34	1.67
18F699	4775	40-40-40-40	4x450	K	5.55	3.50	2.75	1.97

MINIATURIZED DISC CERAMIC

Tiny ceramic capacitors for by-pass and coupling appplication. Low self inductance and flat plate construction permits higher self-resonant frequency and high by-pass efficiency in all TV and transistorized circuitry. Designed for continuous operation at 85°C. Dia. .275 to .655. Tol. ±20%.

Stock No.	Type	Volts	μF	1-99	100-249	250-499	500-999
18F932	TG-D50	100	.005	.15	.06	.05	.04
18F933	TG-S10	100	.01	.15	.07	.06	.05
18F934	TG-S20	100	.02	.15	.10	.09	.07
18F935	TG-S25	100	.025	.15	.10	.09	.07
18F936	TG-S30	100	.03	.18	.13	.12	.09
18F937	TG-S50	100	.05	.39	.29	.26	.19
18F938	TG-P10	100	.1	.51	.38	.34	.26

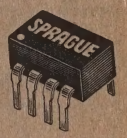
TYPE 2DF METALLIZED ORANGE DROP-CAPACITORS

Ideal for color TV replacement. Fits easily into tight spots because of their small size. Extremely high insulation resistance. Insures peak performance at temps. up to +85. Radial leads are extra long for point-to-point wiring and crimped for printed board insertion. Double dipped in orange epoxy resin, for protection against heat and humidity. Tolerance ±10%.

TYPE 2DF-200WVDC

Stock No.	μF	Size	Type	1-24	25-49	50-99	100-499
18F2914	.22	⅜x$^{7}/_{16}$x$^{13}/_{16}$	2DF-P22	.66	.50	.39	.31
18F2916	.47	$^{13}/_{16}$x$^{9}/_{16}$x$^{13}/_{16}$	2DF-P47	.81	.60	.47	.38
18F2918	1.0	$^{13}/_{16}$x$^{9}/_{16}$x1¼	2DF-M1	1.11	.82	.64	.51
18F2919	1.5	⅞x⅜x1¼	2DF-M1.5	1.38	1.04	.81	.65
18F2920	2.0	$^{15}/_{16}$x$^{11}/_{16}$x1¼	2DF-M2	1.56	1.17	.91	.73
18F2921	2.5	$^{1}/_{16}$x$^{13}/_{16}$x1¼	2DF-M2.5	1.71	1.28	1.00	.80
18F2922	3.0	$^{15}/_{16}$x$^{11}/_{16}$x1⅝	2DF-M3	1.86	1.39	1.08	.87
18F2924	4.0	1$^{1}/_{16}$x$^{13}/_{16}$x1¼	2DF-M4	2.13	1.58	1.23	.99
18F2925	4.5	1⅛x⅞x1⅝	2DF-M4.5	2.25	1.69	1.32	1.05
18F2926	5.0	1⅛x⅞x1⅝	2DF-M5	2.37	1.78	1.38	1.11
18F2927	5.5	1$^{3}/_{16}$x$^{15}/_{16}$x1⅝	2DF-M5.5	2.61	1.96	1.53	1.22

DIP MONOLYTHIC CERAMIC CAPACITORS



Separate capacitor sections are useful for by-pass and coupling applications. Standard pin spacing of .100" allows end-to-end placement in standard sockets, ideal for breadboard. Rated at 100 WVDC from -55°C to 85°C with a tolerance of ±20%. 2 pins for each section.

Stock No.	Type	μF	No. Sects.	1-49	50-99	100-249	250-499
18F191	933C102X0SR	.001	1	.92	.69	.52	.46
15F2658	933C103X0SR	.01	1	.92	.69	.52	.46
18F192	933C223X0SR	.022	1	1.00	.75	.56	.50
15F2659	933C104X0SR	.1	1	1.12	.84	.63	.56
18F193	935C102X0SR	.001	2	1.88	1.41	1.06	.94
18F194	935C103X0SR	.01	2	1.88	1.41	1.06	.94
18F195	935C104X0SR	.1	2	2.32	1.74	1.31	1.16
18F196	939C102X0SR	.001	4	3.88	2.91	2.18	1.94
15F2664	939C103X0SR	.01	4	3.88	2.91	2.18	1.94
15F2665	939C223X0SR	.022	4	4.28	3.21	2.41	2.14
15F2666	939C473X0SR	.047	4	4.28	3.21	2.41	2.14
18F197	934C102X0SR	.001	7	5.76	4.32	3.24	2.88
15F2660	934C103X0SR	.01	7	5.76	4.32	3.24	2.88
18F198	934C223X0SR	.022	7	6.32	4.74	3.56	3.16
15F2661	934C104X0SR	.1	7	7.24	5.43	4.07	3.62
18F199	936C102X0SR	.001	8	6.20	4.65	3.49	3.10
15F2662	936C103X0SR	.01	8	6.20	4.65	3.49	3.10
18F200	936C223X0SR	.022	8	7.00	5.25	3.94	3.50
15F2663	936C104X0SR	.1	8	8.00	6.00	4.50	4.00

HIGH-VOLTAGE DOORKNOB CERAMIC

Female threads for interchangeable screw-in terminals. Molded plastic, guard rings lengthen surface creepage path.

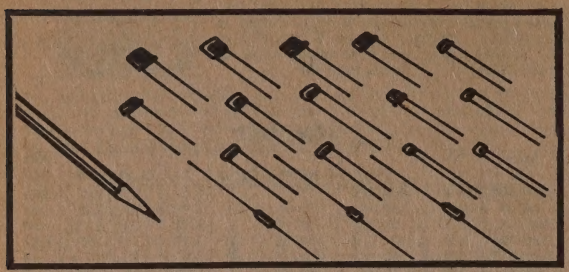
Type 20DK-T5. Complete with 7 terminals. 1" dia. x $^{31}/_{32}$".

Stk. No.	Type	Term	Size	pF	KV	NET
18F2762	20DK-T5	7	1x3$^{1}/_{32}$"	500	20	3.33
18F2763	30DK-T5	2	1$^{9}/_{16}$x1¼"	500	30	3.00

SPRAGUE
THE MARK OF RELIABILITY

Sprague Ceramic Capacitors

FORMULATION C-023
MONOLYTHIC CERAMIC CAPACITORS



For transistorized circuitry. Provide high capacitance in small physical size. Solid homogeneous blocks are protected against moisture and mechanical damage by a tough resin coating. Well suited for use in the HF, VHF and UHF ranges through 1000 MHz. Radial leads. ±20% tolerance.

SIZE CHART

A. .390" x .200"	C. .500" x .200"	E. .500" x .400"
B. .400" x .400"	D. .500" x .296"	F. .500" x .500"

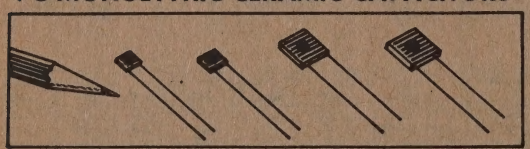
TYPE 3C 50 WVDC

Stk. No.	Type	Size Code	μF	1-24	25-49	50-99	100-499
47F2009	3CZ5U103X0050C5	A	.01	.50	.35	.25	.20
47F2010	3CZ5U223X0050C5	A	.022	.55	.39	.28	.22
47F2011	3CZ5U333X0050C5	A	.033	.55	.39	.28	.22
47F2012	3CZ5U473X0050C5	A	.047	.55	.39	.28	.22
47F2013	3CZ5U104X0050C5	A	.1	.70	.49	.35	.28
47F2014	3CZ5U154X0050C5	A	.15	1.00	.70	.50	.40
47F2015	3CZ5U224X0050C5	A	.22	1.00	.70	.50	.40
47F2016	3CZ5U334X0050C5	A	.33	1.40	.98	.70	.56
47F2017	3CZ5U474X0050C5	A	.47	1.40	.98	.70	.56
47F2018	3CZ5U684X0050C5	B	.68	1.55	1.09	.78	.62

TYPE 5C 50 WVDC

Stk. No.	Type	Size Code	μF	1-24	25-49	50-99	100-499
47F2019	5CZ5U104X0050C5	C	.1	.70	.49	.35	.28
47F2020	5CZ5U224X0050C5	C	.22	1.00	.70	.50	.40
47F2021	5CZ5U334X0050C5	C	.33	1.40	.98	.70	.56
47F2022	5CZ5U474X0050C5	C	.47	1.40	.98	.70	.56
47F2023	5CZ5U684X0050C5	C	.68	1.55	1.09	.78	.62
47F2024	5CZ5U105X0050C5	D	1.0	2.10	1.47	1.05	.84
47F2025	5CZ5U155X0050C5	E	1.5	2.75	1.93	1.38	1.10
47F2026	5CZ5U225X0050C5	F	2.2	4.50	3.15	2.25	1.80

7C MONOLYTHIC CERAMIC CAPACITORS



The radial lead style is especially designed for printed wiring board mounting and the complete unit is provided with stand off "feet" for this purpose. Units are dipped in an insulating phenolic resin which provides moisture protection. Temp. range −55C to +85°C. 50 WVDC. ±20% tolerance.

SIZE .390x.275x.160

Stock No.	Type	μF	1-24	25-49	50-99	100-499
47F120	7CZ5U103X0050D1	.01	.58	.41	.29	.23
47F2027	7CZ5U153X0050D1	.015	.58	.41	.29	.23
47F121	7CZ5U223X0050D1	.022	.63	.44	.32	.25
47F122	7CZ5U333X0050D1	.033	.63	.44	.32	.25
47F123	7CZ5U473X0050D1	.047	.63	.44	.32	.25
47F124	7CZ5U683X0050D1	.068	.68	.48	.34	.27
47F125	7CZ5U104X0050D1	0.1	.78	.55	.39	.31
47F2028	7CZ5U154X0050D1	.15	1.05	.74	.53	.42
47F126	7CZ5U224X0050D1	.22	1.05	.74	.53	.42

SIZE .535x.550x.160 except (*) .535x.550x.260

Stock No.	Type	μF	1-24	25-49	50-99	100-499
47F127	7CZ5U334X0050E1	.33	1.45	1.02	.73	.58
47F128	7CZ5U474X0050E1	.47	1.45	1.02	.73	.58
47F129	7CZ5U684X0050E2	.68	1.60	1.12	.80	.64
47F130	7CZ5U105X0050E2	1.0	2.15	1.51	1.08	.86
47F131	7CZ5U155X0050E2	1.5	2.80	1.96	1.40	1.12
47F132	7CZ5U225X0050E2	2.2*	4.55	3.19	2.28	1.82

SERIES 5GA CERAMIC CAPACITORS

Low self-inductance of silvered flat-plate design means very high by-pass efficiency in all TV circuits. Designed for 85°C (185°F) continuous operation. Moisture proof coating. Tol. ±20%. 1000 WVDC, except (*) 500 W VDC.

SERIES 5GA PRICES

Mmfd.	1-99	100-249	250-499	500-999
5 thru 820	.15	.06	.06	.04

Stk. No.	Type	pF	Stk. No.	Type	Mmfd.
18F2675	5GA-V50	5	18F2694	5GA-T12	120
18F2676	5GA-V75	7.5	18F2695	5GA-T15	150
18F2677	5GA-Q10	10	18F2696	5GA-T18	180
18F2678	5GA-Q12	12	18F2697	5GA-T20	200
18F2679	5GA-Q15	15	18F2698	5GA-T22	220
18F2680	5GA-Q20	20	18F2699	5GA-T25	250
18F2681	5GA-Q22	22	18F2700	5GA-T27	270
18F2682	5GA-Q25	25	18F2701	5GA-T30	300
18F2632	5GA-Q27	27	18F2702	5GA-T33	330
18F2684	5GA-Q30	30	18F2703	5GA-T36	360
18F2685	5GA-Q33	33	18F2704	5GA-T39	390
18F2686	5GA-Q39	39	18F2705	5GA-T47	470
18F2687	5GA-Q47	47	18F2706	5GA-T50	500
18F2688	5GA-Q50	50	18F2707	5GA-T56	560
18F2689	5GA-Q56	56	18F2708	5GA-T68	680
18F2690	5GA-Q68	68	18F2709	5GA-T75	750
17F2691	5GA-Q75	75	18F2710	5GA-T82	820
18F2692	5GA-Q82	82			
18F2693	5GA-T10	100			

SERIES 5GA PRICES

Mfd.	1-99	100-249	250-499	500-999
.001-.004	.15	.06	.06	.04
.0047	.15	.08	.07	.05
.005	.15	.08	.07	.05
.01	.21	.14	.13	.10
.015	.24	.17	.15	.11
.02	.27	.19	.17	.13
.025	.21	.15	.13	.10
.04	.27	.19	.17	.13
.05	.36	.26	.23	.18
.1	.69	.52	.47	.35

Stk. No.	Type	μF	Stk. No.	Type	Mfd.
18F2711	5GA-D10	.001	18F2723	5GA-D40	.004
18F2712	5GA-D12	.0012	18F2725	5GA-D47	.0047
18F2714	5GA-D15	.0015	18F2726	5GA-D50	.005
18F2715	5GA-D18	.0018	18F2727	5GA-S10	.01
18F2716	5GA-D20	.002	18F2728	5GA-S15	.015
18F2717	5GA-D22	.0022	18F2729	5GA-S20	.02
18F2718	5GA-D25	.0025	18F2730	5GA-S25*	.025
18F2719	5GA-D27	.0027	18F2731	5GA-S40*	.04
18F2720	5GA-D30	.003	18F2732	5GA-S50*	.05
18F2721	5GA-D33	.0033	18F2733	5GA-P10*	.1
18F2722	5GA-D39	.0039			

HYPERCON CERAMIC DISCS

Ultra-miniature. Designed for by-pass and coupling applications and low voltage use where high capacitance and low power factor are important considerations. Superior to electrolytic capacitors of similar capacitance value because of the very low power factor of Hypercon Capacitors, Capacitance Tolerance: GMV.

12 VOLTS DC

Stock No.	Type	μF	Sze Diam.	EACH 1-99	100-249	250-499	500-999
47F099	HY-340	.022	.313	.15	.10	.09	.07
47F100	HY-345	.033	.375	.15	.11	.10	.08
47F101	HY-350	.047	.438	.18	.11	.11	.09
47F102	HY-355	.068	.438	.18	.13	.11	.09
47F103	HY-360	.1	.500	.21	.14	.13	.10
47F104	HY-365	.15	.625	.30	.21	.19	.14
47F105	HY-370	.22	.688	.33	.24	.21	.16
47F106	HY-375	.33	.875	.45	.32	.29	.22
47F107	HY-380	.47	.875	.57	.43	.39	.29

16 VOLTS DC

Stock No.	Type	μF	Sze Diam.	EACH 1-99	100-249	250-499	500-999
18F032	HY-420	.01	.250	.15	.10	.09	.07
47F108	HY-425	.022	.313	.15	.09	.08	.06
47F109	HY-430	.033	.375	.15	.11	.09	.07
18F033	HY-435	.047	.438	.15	.12	.11	.08
47F110	HY-440	.068	.438	.15	.12	.11	.08
18F034	HY-450	.1	.500	.18	.14	.12	.09
47F111	HY-470	.2	.688	.30	.23	.20	.15

25 VOLTS DC

Stock No.	Type	μF	Sze Diam.	EACH 1-99	100-249	250-499	500-999
47F112	HY-510	.0047	.250	.15	.11	.10	.07
18F1987	HY-520	.01	.250	.15	.10	.09	.07
18F1988	HY-525	.022	.313	.15	.09	.08	.06
18F1989	HY-530	.033	.375	.15	.11	.09	.07
18F1990	HY-535	.047	.438	.15	.12	.11	.08
47F113	HY-540	.068	.438	.15	.12	.11	.08
18F1991	HY-550	.1	.500	.18	.14	.12	.09

Orange Drop Capacitors

SPRAGUE
THE MARK OF RELIABILITY

SIZE CHART

A	5/16x3/8x3/4	K	2 1/64x1 5/64x4 5/64	U	2 3/32x3/8x1 3/16	CC	2 1/32x2 7/64x1 3/16
B	2 1/32x7/16x3/4	L	1 1/32x1/4 x4 5/64	V	3/4 x2 7/64x1 3/16	DD	1 3/16x3 1/64x1 3/16
C	4 7/64x3 1/64x3/4	M	3/8 x3/32x4 5/64	W	2 5/32x1 5/32x1 3/16	EE	1x4 7/64x1 3/16
D	1 3/16x3 5/64x3/4	N	1 7/32x2 1/64x4 5/64	X	2 3/32x2 7/64x1 3/16	FF	6 1/64x2 1/32x1 3/16
E	5 7/64x3 1/64x1 3/16	P	3 1/64x1 5/64x1 3/16	Y	2 7/32x1/2 x1 3/16	GG	1 9/32x3 1/64x1 3/16
F	2 9/32x1 9/32x1 3/16	R	1 9/32x1/4 x1 3/16	Z	1 1/64x2 7/32x1 3/16	HH	2 7/32x1 7/32x1 3/16
H	6 3/64x4 7/64x1 3/16	S	5/8 x3/32x1 3/16	AA	1 9/32x3/32x1 3/16	KK	5 7/64x3 1/64x1 1 3/16
J	5/16x1 3/16x4 5/64	T	4 1/64x1 5/16x1 3/16	BB	2 1/32x1 1/32x1 3/16		

FIL-MITE "E" ORANGE DROP CAPACITORS

Capacitors are wound from polyester film and thin gauge foil and are coated with epoxy. Capacitance tolerance is ±10%. Temp. range −40°C to 85°C. Insulation res 25000 megohm-microfarads at 25°C. Life test 250 hrs. at 85°C.

TYPE 225P 100 VOLTS DC

Stock No.	Mfd.	Size	Type	1-24	25-49	50-99	100-249
18F2561	.001	J	225P10291WD3				
18F2562	.0012	J	225P12291WD3				
18F2563	.0015	J	225P15291WD3				
18F2564	.0018	J	225P18291WD3				
18F2565	.0022	J	225P22291WD3				
18F2566	.0027	J	225P27291WD3				
18F2567	.0033	J	225P33291WD3				
18F2568	.0039	J	225P39291WD3				
18F2569	.0047	J	225P47291WD3				
18F2570	.0056	J	225P56291WD3	.27	.17	.14	.11
18F2571	.0068	J	225P68291WD3				
18F2572	.0082	J	225P82291WD3				
18F2573	.01	J	225P10391WD3				
18F2574	.012	J	225P12391WD3				
18F2575	.015	J	225P15391WD3				
18F2576	.018	J	225P18391WD3				
18F2577	.022	J	225P22391WD3				
18F2578	.027	K	225P27391WD3				
18F2579	.033	K	225P33391WD3				
18F2580	.039	L	225P39391WD3	.33	.19	.15	.12
18F2581	.047	L	225P47391WD3				
18F2582	.056	M	225P56391WD3				
18F2583	.068	M	225P68391WD3	.33	.20	.16	.13
18F2584	.082	N	225P82391WD3				
18F2585	.1	N	225P10491WD3				
47F2000	.12	A	225P12491XD3	.45	.28	.22	.17
47F2001	.15	A	225P15491XD3	.45	.28	.22	.17
47F2002	.18	B	225P18491XD3	.51	.32	.25	.20
47F2003	.22	B	225P22491XD3	.51	.32	.25	.20
47F2004	.27	C	225P27491XD3	.63	.39	.30	.24
47F2005	.33	C	225P33491XD3	.63	.39	.30	.24
47F2006	.39	D	225P39491XD3	.99	.62	.48	.39
47F2007	.47	D	225P47491XD3	.99	.62	.48	.39
47F152	.56	E	225P56491YD3	1.14	.70	.55	.44
47F153	.68	F	225P68491YD3	1.14	.70	.55	.44
47F154	.82	FF	225P82491YD3	1.41	.87	.68	.54
47F155	1.0	H	225P10591YD3	1.41	.87	.68	.54

TYPE 225P 200 VOLTS DC

Stock No.	Mfd.	Size	Type	1-24	25-49	50-99	100-249
47F156	.001	P	225P10292XD3				
47F157	.0015	P	225P15292XD3				
47F158	.0022	P	225P22292XD3				
47F159	.0033	P	225P33292XD3	.33	.20	.16	.13
47F160	.0047	P	225P47292XD3				
47F161	.0068	R	225P68292XD3				
47F162	.01	R	225P10392XD3				
47F163	.015	R	225P15392XD3	.36	.22	.17	.14
47F164	.022	R	225P22392XD3				
47F165	.033	S	225P33392XD3				
47F166	.047	S	225P47392XD3	.42	.26	.20	.16
47F167	.068	T	225P68392XD3				
47F168	.1	U	225P10492XD3				
47F169	.15	V	225P15492XD3	.45	.28	.22	.17
47F170	.22	W	225P22492XD3	.51	.32	.25	.20
47F171	.33	X	225P33492YD3	.63	.39	.30	.24
47F133	.47	Y	225P47492YD3	.99	.62	.48	.39
47F134	.68	Z	225P68492YD3	1.41	.87	.68	.54

TYPE 225P 400 VOLTS DC

Stock No.	Mfd.	Size	Type	1-24	25-49	50-99	100-249
47F135	.001	P	225P10294XD3				
47F136	.0015	P	225P15294XD3				
47F137	.0022	P	225P22294XD3				
47F138	.0033	P	225P33294XD3	.33	.20	.16	.13
47F139	.0047	P	225P47294XD3				
47F140	.0068	R	225P68294XD3				
47F141	.01	R	225P10394XD3				
47F142	.015	R	225P15394XD3	.36	.22	.17	.14
47F143	.022	AA	225P22394XD3	.36	.22	.17	.14
47F144	.033	GG	225P33394XD3	.42	.26	.20	.16
47F145	.047	BB	225P47394XD3	.42	.26	.20	.16
47F146	.068	CC	225P68394XD3	.45	.28	.22	.17
47F147	.1	DD	225P10494XD3	.51	.32	.25	.20
47F148	.15	HH	225P15494YD3	.63	.39	.30	.24
47F149	.22	KK	225P22494YD3	.99	.62	.48	.39
47F150	.33	EE	225P33494YD3	1.41	.87	.68	.54
47F151	.47	Z	225P47494YD3	2.70	1.68	1.31	1.05

ORANGE DROP DIPPED TUBULARS

TYPE 6PS—600 VOLTS DC

Stock No.	Mfd.	Size	Type	1-24	25-49	50-99	100-249
18F1642	.001	2 1/64x1 1/16	6PS-D10				
18F1644	.0015	2 1/64x1 1/16	6PS-D15				
18F1646	.002	2 1/64x1 1/16	6PS-D20				
18F1647	.0022	2 1/64x1 1/16	6PS-D22	.30	.18	.15	.12
18F1648	.0025	2 1/64x1 1/16	6PS-D25				
18F1649	.0027	1 1/32x1 1/16	6PS-D27				
18F1651	.0033	2 3/64x1 1/16	6PS-D33				
18F1652	.0039	3/8 x1 1/16	6PS-D39				
18F1654	.0047	2 5/64x1 1/16	6PS-D47				
18F1655	.005	2 5/64x1 1/16	6PS-D50	.30	.19	.16	.12
18F1656	.0056	2 5/64x1 1/16	6PS-D56				
18F1658	.0068	1 3/32x1 1/16	6PS-D68				
18F1659	.0075	2 3/64x7/8	6PS-D75				
18F1661	.0082	3/8 x7/8	6PS-D82	.33	.22	.18	.14
18F1662	.01	2 5/64x7/8	6PS-S10				
18F1664	.015	2 7/64x7/8	6PS-S15				
18F1665	.02	3 1/64x7/8	6PS-S20	.33	.24	.19	.16
18F1666	.022	3 1/64x7/8	6PS-S22	.33	.24	.19	.16
18F1667	.025	1 7/32x7/8	6PS-S25	.36	.28	.23	.18
18F1670	.033	1 9/32x1 3/16	6PS-S33	.36	.28	.23	.18
18F1672	.039	3 1/64x1 3/16	6PS-S39	.45	.30	.25	.20
18F1674	.047	1 7/32x1 3/16	6PS-S47	.45	.30	.25	.20
18F1675	.05	1 7/32x1 3/16	6PS-S50	.51	.35	.29	.23
18F1676	.056	3 5/64x1 3/16	6PS-S56	.51	.35	.29	.23
18F1678	.068	3 7/64x1 3/16	6PS-S68	.51	.35	.29	.23
18F1679	.075	9/16x1 5/16	6PS-S75	.54	.40	.33	.25
18F1680	.082	3 7/64x1 5/16	6PS-S82	.54	.40	.33	.25
18F1681	.1	5/8 x1 5/16	6PS-P10	.54	.40	.33	.25
18F1682	.15	4 5/64x1 5/8	6PS-P15	.72	.53	.44	.35
18F1683	.2	3/4 x1 5/8	6PS-P20	1.08	.81	.66	.52
18F1684	.22	2 9/32x1 5/8	6PS-P22	1.08	.81	.66	.52
18F1685	.25	1 3/16x1 5/8	6PS-P25	1.11	.98	.80	.64

TYPE 10PS—1000 VOLTS DC

Stock No.	Mfd.	Size	Type	1-24	25-49	50-99	100-249
18F1686	.001	2 1/64x1 1/16	10PS-D10	.33	.23	.19	.14
18F1689	.0022	3/8 x1 1/16	10PS-D22	.33	.23	.19	.14
18F1692	.0047	1 1/32x7/8	10PS-D47	.36	.25	.21	.16
18F1693	.005	1 1/32x7/8	10PS-D50	.39	.27	.22	.17

Polyester film dielectric. Crimped-wire leads. Black stripe identifies outside foil. Double dipped in a bright orange epoxy resin—beats heat and humidity. Capacitance tolerance is ±10%. Temp. range −40°C to +85°C.

TYPE 2PS—200 VOLTS DC

Stock No.	Mfd.	Size	Type	1-24	25-49	50-99	100-249
18F1612	.02	3/8 x7/8	2PS-S20	.33	.22	.18	.14
18F1613	.022	2 5/64x7/8	2PS-S22	.33	.22	.18	.14
18F1614	.047	2 7/64x7/8	2PS-S47	.33	.22	.18	.14
18F1615	.05	1 9/32x7/8	2PS-S50	.33	.22	.18	.14
18F1616	.1	3 1/64x1 3/16	2PS-P10	.36	.28	.23	.18
18F1617	.15	9/16x1 3/16	2PS-P15	.51	.35	.29	.23
18F1618	.2	1 9/32x1 1 5/16	2PS-P20	.63	.44	.36	.28
18F1619	.22	3 7/64x1 5/16	2PS-P22	.63	.44	.36	.28
18F1620	.25	5/8 x1 5/16	2PS-P25	.84	.60	.50	.39
18F1621	.33	5/8 x1 5/8	2PS-P33	.84	.60	.50	.39
18F1622	.47	4 5/64x1 5/8	2PS-P47	1.08	.81	.66	.52
18F1623	.5	2 9/32x1 5/8	2PS-P50	1.08	.81	.66	.52

TYPE 4PS—400 VOLTS DC

Stock No.	Mfd.	Size	Type	1-24	25-49	50-99	100-249
18F1624	.01	1 3/32x1 1/16	4PS-S10	.30	.19	.16	.12
18F1625	.015	2 7/64x1 1/16	4PS-S15	.33	.22	.18	.14
18F1626	.02	1 3/32x7/8	4PS-S20	.33	.24	.19	.16
18F1627	.022	2 7/64x7/8	4PS-S22	.33	.24	.19	.16
18F1628	.025	7/16x7/8	4PS-S25	.36	.25	.20	.16
18F1630	.033	1 3/32x7/8	4PS-S33	.36	.25	.20	.16
18F1632	.047	2 7/64x1 3/16	4PS-S47	.36	.25	.20	.16
18F1633	.05	2 7/64x1 3/16	4PS-S50	.36	.28	.23	.18
18F1634	.056	3 1/64x1 3/16	4PS-S56	.36	.28	.23	.18
18F1635	.068	3 7/64x1 3/16	4PS-S68	.36	.28	.23	.18
18F1637	.1	3 7/64x1 3/16	4PS-P10	.51	.35	.29	.23
18F1638	.15	5 7/64x1 5/16	4PS-P15	.63	.44	.36	.28
18F1639	.2	1 9/32x1 5/8	4PS-P20	.84	.60	.50	.39
18F1640	.22	3 7/64x1 5/8	4PS-P22	.84	.60	.50	.39
18F1641	.25	4 1/64x1 5/8	4PS-P25	1.08	.81	.66	.52

Tubular Capacitors and Filters

TYPE 715P FILMITE 'L' ORANGE DROP DIPPED TUBULARS

- **Linear negative temperature coefficient**
- **High AC current flow**
- **Flame-retardant epoxy coating**

Polypropylene film capacitors are ideal where high AC current flow is needed. Negative temperature coefficient of 180 ppm/°C allows for high circuit stability compensation. Tolerance of ±5% from 25°C to 105°C. Leads are 1.250" long and crimped for constant spacing.

SIZE CHART D x L

A .400 x .750	G .550 x 1.300	P .750 x 1.700
B .450 x .750	H .600 x 1.300	Q .800 x 1.700
C .450 x .950	K .650 x 1.300	R .850 x 1.700
D .500 x .950	L .700 x 1.300	S .900 x 1.700
E .500 x 1.300	M .700 x 1.700	T .950 x 1.700
F .550 x .950	N .750 x 1.300	

400 WVDC

Stk. No.	Type	µF	Size	1-24	25-49	50-99	100-249
17F2202	715P10354JD3	.01	A	.45	.36	.21	.17
17F2203	715P15354JD3	.015	B	.48	.40	.24	.19
17F2204	715P33354KD3	.033	D	.57	.46	.27	.22
17F2205	715P15454LD3	.15	K	.84	.70	.41	.33
17F2206	715P22454MD3	.22	M	.96	.80	.47	.37
17F2207	715P33454MD3	.33	Q	1.35	1.12	.66	.53
17F2208	715P47454MD3	.47	S	1.35	1.12	.66	.53

600 WVDC

15F2700	715P10256JD3	.001	A	.39	.33	.19	.16
15F2701	715P15256JD3	.0015	A	.39	.33	.19	.16
15F2702	715P22256JD3	.0022	A	.39	.33	.19	.16
15F2703	715P33256JD3	.0033	A	.42	.34	.20	.16
15F2704	715P47256JD3	.0047	B	.42	.34	.20	.16
15F2705	715P68256JD3	.0068	B	.45	.36	.21	.17
15F2706	715P10356KD3	.01	C	.48	.40	.24	.19
15F2707	715P15356KD3	.015	D	.48	.40	.24	.19
15F2708	715P22356KD3	.022	F	.54	.44	.26	.21
15F2709	715P47356LD3	.047	H	.72	.58	.34	.27
15F2710	715P68356LD3	.068	K	.84	.70	.41	.33
15F2711	715P10456LD3	.1	N	.96	.80	.47	.37
15F2712	715P15456MD3	.15	P	1.35	1.12	.66	.53
15F2713	715P22456MD3	.22	R	1.56	1.29	.76	.61

800 WVDC

Stk. No.	Type	µF	Size	1-24	25-49	50-99	100-249
17F2209	715P15358LD3	.015	G	.72	.58	.27	.24
17F2210	715P22358LD3	.022	H	.84	.70	.41	.33
17F2211	715P33358LD3	.033	L	1.08	.90	.53	.42
17F2212	715P68358MD3	.068	Q	1.35	1.12	.66	.53
17F2213	715P10458MD3	.1	S	1.86	1.54	.90	.72

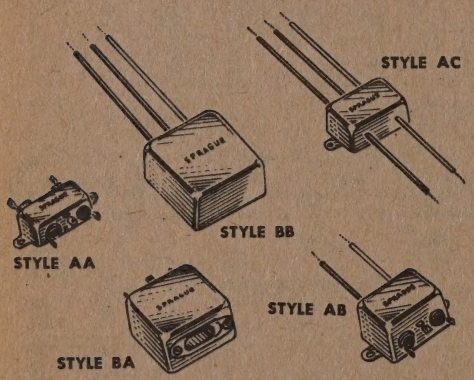
1200 WVDC

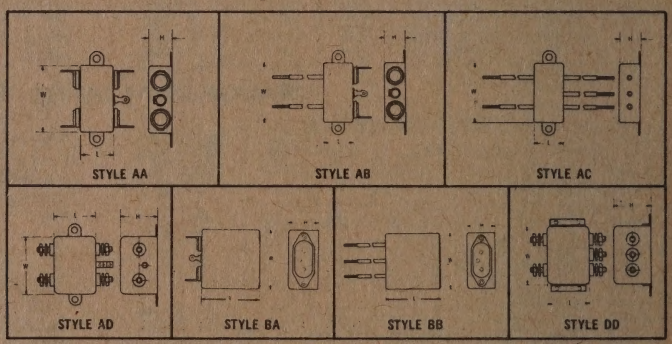
17F2214	715P153512LD3	.015	K	1.08	.90	.53	.42
17F2215	715P473512MD3	.047	R	1.56	1.29	.76	.61

1600 WVDC

15F2714	715P2225516LD3	.0022	E	.72	.58	.34	.27
15F2715	715P3325516LD3	.0033	G	.81	.66	.39	.31
15F2716	715P4725516LD3	.0047	H	.81	.66	.39	.31
15F2717	715P6825516LD3	.0068	K	.84	.70	.41	.33
15F2718	715P1035516LD3	.01	L	.96	.80	.47	.37
15F2719	715P1535516MD3	.015	P	1.08	.90	.53	.42
15F2720	715P2235516MD3	.022	R	1.29	1.06	.62	.50
15F2721	715P3335516MD3	.033	T	1.56	1.29	.76	.61

SERIES JX5100 GENERAL PURPOSE INTERFERENCE FILTERS





Useful for eliminating high-frequency interference into the VHF range and even from microwave ovens. Can be used at any frequency or voltage up to 250V and 60 Hz. Maximum leakage of .5 mA at 125V 60 Hz, 1 mA at 250V 60 Hz. Dielectric will withstand 2100 VDC. Style AA and AB have combination terminals which accept quick disconnect terminals. U.L. recognized at 125 and 250 VAC. *Maximum rated current in amperes.

SIZE LxWxH (IN.)

A .940 x 1.750 x .650	F 2.060 x 2.000 x 1.130
B 1.250 x 1.750 x 1.130	G 2.090 x 2.000 x .750
C 1.330 x 1.750 x .750	H 2.090 x 2.000 x 1.130
D 1.330 x 1.750 x 1.130	K 3.870 x 3.310 x 1.500
E 1.850 x 2.000 x .750	

Stk. No.	Type	*	Style	Size	1-24	25-49	50-99	100-499
15F2650	1JX5101A	1	AA	A	6.36	5.72	5.09	4.45
17F2216	1JX5101B	1	AB	A	6.46	5.81	5.17	4.52
17F2217	1JX5101C	1	AC	A	6.60	5.94	5.28	4.62
17F2218	1JX5101D	1	BA	E	7.30	6.57	5.84	5.11
17F2219	1JX5101E	1	BB	E	7.40	6.66	5.92	5.18
15F2651	2JX5102A	2	AA	A	5.70	5.13	4.56	3.99
17F2220	2JX5102B	2	AB	A	5.80	5.22	4.64	4.06
17F2221	2JX5102C	2	AC	A	5.90	5.31	4.72	4.13
15F2652	2JX5102D	2	BA	E	6.84	6.16	5.47	4.79
17F2222	2JX5102E	2	BB	E	7.00	6.30	5.60	4.90
17F2223	3JX5103A	3	AA	C	6.56	5.90	5.25	4.59
17F2224	3JX5103B	3	AB	C	6.70	6.03	5.36	4.69
17F2225	3JX5103C	3	AC	C	6.90	6.21	5.52	4.83
17F2226	3JX5103D	3	BA	G	7.80	7.02	6.24	5.46
17F2227	3JX5103E	3	BB	G	7.90	7.11	6.32	5.53

Stk. No.	Type	*	Style	Size	1-24	25-49	50-99	100-499
15F2653	5JX5104A	5	AA	C	5.88	5.29	4.70	4.12
17F2228	5JX5104B	5	AB	C	6.02	5.42	4.82	4.21
17F2229	5JX5104C	5	AC	C	6.20	5.58	4.96	4.34
15F2654	5JX5104D	5	BA	G	7.02	6.32	5.62	4.91
15F2655	5JX5104E	5	BB	G	7.12	6.41	5.70	4.98
15F2656	10JX5105A	10	AA	D	6.42	5.78	5.14	4.49
17F2230	10JX5105B	10	AB	D	6.60	5.94	5.28	4.62
17F2231	10JX5105C	10	AC	D	6.70	6.03	5.36	4.69
15F2657	10JX5105D	10	BA	H	7.40	6.66	5.92	5.18
17F2232	10JX5105E	10	BB	H	7.60	6.84	6.08	5.32
17F2233	10JX5105F	10	AD	B	7.90	7.08	6.28	5.50
17F2234	20JX5106A	20	AA	F	10.75	9.65	8.60	7.57
17F2235	20JX5106B	20	AD	F	12.00	10.80	9.65	8.45
17F2236	30JX5107A	30	DD	K	21.00	19.00	17.05	14.85

Capacitors

SPRAGUE
THE MARK OF RELIABILITY

192P "PACER"—MINIATURE "FILMITE E" CAPACITORS

Miniature size for commercial and industrial applications. Controlled dimensions for automatic insertion equipment installing on P.C. boards. Operating temp. range −55°C to +85°C. Tolerance ±10%. Shpg. wt. 2 oz.

80 VOLTS DC

Stock No.	Type	Mfd.	Size	1-24	25-49	50-99	100-249
18F2520	192P2229R8	.0022	3/16x5/16"				
18F2521	192P2729R8	.0027	3/16x5/16"				
18F2522	192P3329R8	.0033	3/16x5/16"				
18F2523	192P3929R8	.0039	3/16x5/16"				
18F2524	192P4729R8	.0047	3/16x5/16"	.54	.32	.25	.22
18F2525	192P5629R8	.0056	1/16x3/8"				
18F2526	192P6829R8	.0068	1/16x3/8"				
18F2527	192P8229R8	.0082	1/16x3/8"				
18F2528	192P1039R8	.01	1 1/16x3/8"	.48	.30	.24	.20
18F2529	192P1239R8	.012	1 1/16x3/8"	.54	.33	.25	.22
18F2530	192P1539R8	.015	1 1/16x3/8"	.57	.35	.27	.23
18F2531	192P1839R8	.018	1 1/16x3/8"	.57	.35	.28	.24
18F2532	192P2239R8	.022	1 1/16x3/8"	.57	.36	.28	.24
18F2533	192P2739R8	.027	7/32x7/16"	.60	.36	.28	.24
18F2534	192P3339R8	.033	7/32x7/16"	.60	.37	.29	.25
18F2535	192P3939R8	.039	7/32x7/16"	.60	.38	.30	.25
18F2536	192P4739R8	.047	7/32x7/16"	.63	.39	.30	.26
18F2537	192P5639R8	.056	1 5/64x7/16"	.63	.39	.30	.26
18F2538	192P6839R8	.068	1 5/64x7/16"	.69	.42	.33	.28
18F2539	192P8239R8	.082	1 5/64x1/2"	.72	.44	.34	.29
18F2540	192P1049R8	.1	1 1/64x1/2"	.72	.45	.35	.30
18F2541	192P1249R8	.12	1 1/64x5/8"	.84	.53	.41	.35
18F2542	192P1549R8	.15	1 1/64x5/8"	.90	.56	.44	.33
18F2543	192P1849R8	.18	2 1/64x5/8"	.99	.62	.48	.42
18F2544	192P2249R8	.22	2 1/64x5/8"	1.11	.68	.53	.46
18F2545	192P2749R8	.27	2 1/64x7/8"	1.17	.73	.57	.49
18F2546	192P3349R8	.33	2 1/64x7/8"	1.23	.77	.60	.51
18F2547	192P3949R8	.39	2 1/64x1 3/16"	1.32	.81	.63	.54
18F2548	192P4749R8	.47	2 1/64x1 3/16"	1.38	.86	.67	.57

200 VOLTS DC

Stk. No.	Type	Mfd.	D x L	1-24	25-49	50-99	100-249
18F2242	192P47192	.00047	3/16x5/16"	.45	.28	.22	.19
18F2243	192P56192	.00056	3/16x5/16"				
18F2244	192P68192	.00068	3/16x5/16"	.42	.25	.20	.17
18F2245	192P82192	.00082	3/16x5/16"				
18F2246	192P10292	.001	3/16x5/16"				
18F2247	192P12292	.0012	3/16x5/16"				
18F2248	192P15292	.0015	3/16x5/16"				
18F2249	192P18292	.0018	1 1/16x5/16"	.36	.23	.18	.15
18F2250	192P22292	.0022	1 1/64x5/16"				
18F2251	192P27292	.0027	1 1/64x5/16"				
18F2252	192P33292	.0033	1 1/64x5/16"				
18F2253	192P39292	.0039	1 1/64x5/16"				
18F2254	192P47292	.0047	1 1/64x7/16"				
18F2255	192P56292	.0056	1 1/64x7/16"	.39	.23	.18	.16
18F2256	192P68292	.0068	1 1/64x7/16"				
18F2257	192P82292	.0082	1 1/64x1/2"				
18F2226	192P10392	.01	1 1/64x1/2"	.42	.25	.20	.17
18F2227	192P12392	.012	7/32x7/16"	.42	.26	.20	.17
18F2228	192P15392	.015	7/32x7/16"	.42	.26	.20	.17
18F2229	192P18392	.018	7/32x5/16"	.42	.27	.21	.18
18F2230	192P22392	.022	7/32x5/16"	.45	.27	.21	.18
18F2231	192P27392	.027	1 5/64x5/16"	.45	.29	.22	.19
18F2232	192P33392	.033	1 5/64x5/16"	.48	.30	.23	.20
18F2233	192P39392	.039	1 5/64x1/2"	.51	.32	.25	.21
18F2234	192P47392	.047	1 5/64x1/2"	.54	.33	.26	.22
18F2235	192P56392	.056	1 5/64x5/8"	.57	.35	.27	.23
18F2236	192P68392	.068	1 5/64x5/8"	.60	.36	.28	.24
18F2237	192P82392	.082	2 1/64x5/8"	.63	.38	.30	.26
18F2238	192P10492	.1	2 1/64x5/8"	.63	.40	.31	.27
18F2239	192P12492	.12	2 1/64x7/8"	.69	.42	.33	.28
18F2240	192P15492	.15	2 1/64x7/8"	.78	.48	.37	.32
18F2241	192P22492	.22	2 1/64x1 3/16"	.90	.56	.44	.38

TYPE 431P WRAP AND FILL "FILMITE E"

Construction gives benefits over metal encased molded or wax coated Cardboard-case tubulars of comparable ratings. Axial lead polyester film capacitor section protected from moisture by wrap of polyester film tape. Tol. ±10%.

50 VOLTS DC

Stk. No.	Type 431P-	Size	Mfd	1-24	25-49	50-99	100-249
47F214	4739R5	3/32x3/16x5/8"	.047	1.92	1.45	.85	.68
47F215	6839R5	1/8x3/32x5/8"	.068	1.98	1.49	.87	.70
47F217	2249R5	5/32x5/32x3/4"	.22	2.28	1.72	1.01	.81
47F218	3349R5	3/16x3/16x3/4"	.33	2.55	1.92	1.12	.90
47F219	4749R5	3/16x3/16x1"	.47	2.82	2.11	1.23	.99
47F220	6849R5	3/16x3/8x1"	.68	3.06	2.31	1.35	1.08
47F221	1059R5	1/4x1 3/32x1"	1.0	3.06	2.31	1.35	1.08
47F222	2059R5	3/8x3/16x1"	2.0	3.87	2.92	1.71	1.37
47F223	3059R5	3/8x1 3/32x1 1/4"	3.0	4.59	3.46	2.02	1.62
47F227	1069R5	5/16x2 3/32x1 3/4"	10.0	11.22	8.43	4.92	3.94

200 VOLTS DC

47F229	22392	1/8x3/16x5/8"	.022	1.08	.82	.48	.39
47F231	47392	5/32x1/4x5/8"	.047	1.08	.82	.48	.39
47F233	10492	3/16x3/16x3/4"	.1	1.08	.82	.48	.39
47F234	22492	1/4x1 3/32x3/4"	.22	1.26	.94	.55	.44
47F236	47492	7/32x1 3/32x1 1/4"	.47	1.56	1.17	.69	.55
47F237	68492	5/16x1 3/32x1 1/4"	.68	1.86	1.41	.82	.66
47F238	10592	5/16x1 3/32x1 1/4"	1.0	1.98	1.48	.87	.69
47F239	20592	3/8x3/16x1 3/4"	2.0	2.82	2.13	1.24	1.00
47F240	30592	1 5/32x2 1/32x1 3/4"	3.0	3.30	2.49	1.45	1.16
47F241	40592	1 1/32x3/4x1 3/4"	4.0	3.78	2.85	1.66	1.33
47F243	70592	3/4x1 5/16x1 3/4"	7.0	6.33	4.76	2.78	2.22

200 VOLTS WVDC (cont.)

Stk. No.	Type 431P	Size	Mfd.	1-24	25-49	50-99	100-249
47F244	10692	2 3/32x1x2 1/4"	10.0	7.68	5.76	3.36	2.69
47F245	12692	2 3/32x1x2 1/2"	12.0	8.49	6.38	3.72	2.98

400 VOLTS DC

47F247	47294	1/8x3/16x5/8"	.0047	1.80	1.35	.79	.63
47F249	10394	3/16x1/4x5/8"	.01	1.56	1.17	.69	.55
47F251	33394	7/32x1 1/32x3/4"	.033	1.71	1.29	.76	.61
47F254	10494	5/32x7/16x1"	.1	1.86	1.41	.82	.66
47F257	47494	1 3/8x3/16x1 3/4"	.47	2.34	1.76	1.03	.82

800 VOLTS DC

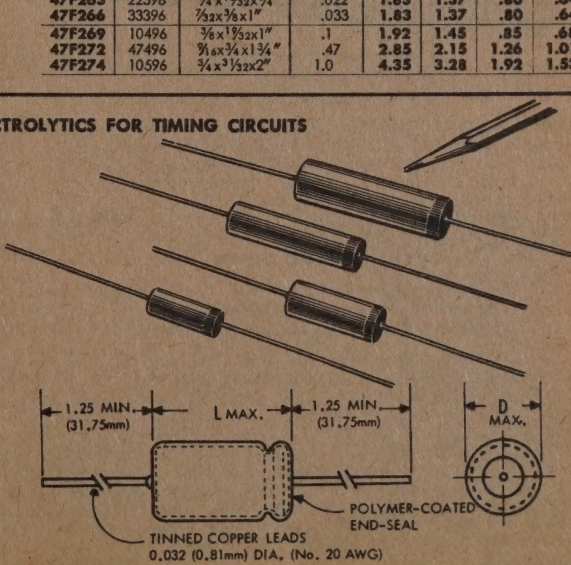
47F262	47296	1/8x1/4x3/4"	.0047	1.80	1.35	.79	.63
47F263	68296	5/32x5/32x3/4"	.0068	1.92	1.44	.84	.68
47F265	22396	1/4x1 3/32x3/4"	.022	1.83	1.37	.80	.64
47F266	33396	7/32x3/8x1"	.033	1.83	1.37	.80	.64
47F269	10496	3/8x1 3/32x1"	.1	1.92	1.45	.85	.68
47F272	47496	3/16x3/4x1 3/4"	.47	2.85	2.15	1.26	1.01
47F274	10596	3/4x3 1/32x2"	1.0	4.35	3.28	1.92	1.53

TYPE 630D EXTRALYTIC® ELECTROLYTICS FOR TIMING CIRCUITS

- **Extremely Low Leakage**
- **Tight Tolerance Values**
- **Meets 2000 Hour Life Test**
- **All Welded Construction**

These aluminum electrolytics are specifically designed for use in long-interval timing circuits. They feature extremely low leakage current levels and an unusually tight tolerance of only ±10%. These premium grade units offer capacitance values needed for commonly used R-C timing circuits. Excellent shelf and life characteristics over the temperature range of −55°C to +125°C. Reliable welded connections with an outer plastic film insulation and polymer-coated end-seals. The maximum leakage ranges from 1.0 μA to 5.0 μA; the maximum ESR ranges from 13.3 ohms to 0.3 ohms. Working Voltage: 25 VDC.

Stock No.	Type	μF	Size, Inches D x L	1-9	10-24	25-49	50-99
17F2237	630D100	10	0.270 x 0.812	1.44	1.15	.72	.58
17F2238	630D101	25	0.332 x 0.812	1.45	1.16	.73	.58
17F2239	630D102	50	0.332 x 0.937	1.48	1.19	.75	.60
17F2240	630D103	100	0.395 x 1.062	1.52	1.21	.76	.61
17F2241	630D104	250	0.395 x 1.625	1.80	1.44	.90	.72
17F2242	630D105	500	0.505 x 1.875	3.32	2.64	1.50	1.20



SPRAGUE — THE MARK OF RELIABILITY

Yellow Jacket Filmite "E" Capacitors

TYPE 416P FILMITE "E" CAPACITORS

- For Commercial Applications
- Protected Against Moisture
- Light Weight; Minimum Size

Suited for transistorized or low voltage tube circuits. Extended foil design. End seals are of plastic resin to assure long service life. Temp. range; −55°C to +85°C w/voltage derating to +105C. Capacitance tol. ±10%.

50 WVDC

Stk. No.	Type	Mfd.	Sizes	1-24	25-49	50-99	100-499
47F1561	416P1539R5	.015	.190x.531				
47F1562	416P2239R5	.022	.200x.594	.39	.25	.19	.16
47F1563	416P3339R5	.033	.210x.656				
47F1564	416P6839R5	.068	.250x.718				
47F1565	416P1049R5	.10	.290x.750				
47F1566	416P1549R5	.15	.315x.812	.42	.27	.21	.18
47F1567	416P2249R5	.22	.315x.062	.45	.28	.22	.18
47F1568	416P3349R5	.33	.375x1.062	.54	.34	.27	.22
47F1569	416P4749R5	.47	.430x1.062	.63	.41	.32	.27
47F1570	416P6849R5	.68	.450x1.375	.81	.51	.40	.33
47F1571	416P1059R5	1.0	.500x1.375	1.08	.69	.54	.45

100 WVDC

47F1572	416P68291	.0068	.190x.450	.33	.20	.16	.13
47F1549	416P10391	.01	.190x.450	.33	.20	.16	.13
47F1550	416P33391	.033	.190x.718	.33	.20	.16	.13
47F1551	416P47391	.047	.215x.718	.33	.21	.16	.14
47F1552	416P68391	.068	.215x.844	.36	.23	.18	.15
47F1553	416P10491	.10	.245x.844	.39	.25	.19	.16
47F1554	416P15491	.15	.285x.844	.42	.27	.21	.18
47F1555	416P22491	.22	.290x1.250	.45	.28	.22	.19
47F1556	416P33491	.33	.325x1.250	.51	.32	.25	.21
47F1557	416P47491	.47	.380x1.250	.60	.37	.29	.24
47F1558	416P68491	.68	.455x1.562	.72	.46	.36	.30
47F1559	416P10591	1.0	.535x1.562	.99	.63	.49	.41

200 WVDC

47F1560	416P10292	.001	.190x.450				
47F1537	416P15292	.0015	.190x.450				
47F1538	416P22292	.0022	.190x.450				
47F1539	416P33292	.0033	.190x.450				
47F1540	416P47292	.0047	.190x.450	.33	.20	.16	.13
47F1541	416P68292	.0068	.190x.718				
47F1542	416P10392	.01	.190x.718				
47F1543	416P22392	.022	.190x.718				
47F1544	416P15392	.015	.190x.718				

200 WVDC (Con't)

Stk. No.	Type	Mfd.	Sizes	1-24	25-49	50-99	100-499
47F1545	416P33392	.033	.190x.844	.33	.20	.16	.13
47F1546	416P47392	.047	.210x.844	.33	.21	.16	.13
47F1547	416P68392	.068	.240x.844	.36	.23	.18	.15
47F1548	416P10492	.10	.275x.969	.42	.27	.21	.18
47F1525	416P15492	.15	.345x1.000	.45	.28	.22	.19
47F1526	416P22492	.22	.355x1.250	.48	.30	.23	.20
47F1527	416P33492	.33	.355x1.250	.54	.34	.27	.22
47F1528	416P47492	.47	.440x1.562	.63	.41	.32	.27
47F1529	416P68492	.68	.610x1.750	.78	.49	.38	.32
47F1530	416P10592	1.0	.710x1.875	1.05	.66	.52	.43

400 WVDC

47F1531	416P33294	.0033	.190x.718	.36	.23	.18	.15
47F1532	416P47294	.0047	.190x.718	.36	.23	.18	.15
47F1533	416P68294	.0068	.210x.844	.36	.23	.18	.15
47F1534	416P10394	.01	.210x.844	.36	.23	.18	.15
47F1535	416P15394	.015	.230x.844	.36	.23	.18	.15
47F1536	416P22394	.022	.265x.844	.36	.23	.18	.15
47F1513	416P33394	.033	.315x.875	.36	.23	.18	.15
47F1514	416P47394	.047	.325x1.000	.39	.24	.19	.16
47F1515	416P68394	.068	.340x1.250	.39	.25	.20	.17
47F1516	416P10494	.10	.400x1.250	.42	.27	.21	.18
47F1517	416P15494	.15	.405x1.562	.48	.30	.23	.20
47F1518	416P22494	.22	.480x1.562	.66	.42	.33	.27
47F1519	416P33494	.33	.650x1.750	.99	.63	.49	.41
47F1520	416P47494	.47	.725x1.937	1.23	.79	.62	.51

600 WVDC

47F1521	416P10296	.001	.190x.718				
47F1522	416P15296	.0015	.190x.718				
47F1523	416P22296	.0022	.190x.718				
47F1524	416P33296	.0033	.205x.718				
47F1500	416P47296	.0047	.235x.718	.42	.26	.20	.17
47F1501	416P68296	.0068	.240x.844				
47F1502	416P10396	.01	.270x.844				
47F1503	416P15396	.015	.315x.875				
47F1504	416P22396	.022	.375x.875				
47F1505	416P33396	.033	.395x1.000				
47F1506	416P47396	.047	.400x1.250	.42	.27	.21	.18
47F1507	416P68396	.068	.455x1.250	.45	.29	.23	.19
47F1508	416P10496	.10	.470x1.562	.57	.37	.29	.24
47F1509	416P15496	.15	.545x1.562	.66	.42	.33	.27
47F1510	416P22496	.22	.590x1.937	.78	.50	.39	.33
47F1511	416P33496	.33	.590x1.937	1.35	.86	.67	.56
47F1512	416P47496	.47	.890x2.125	1.80	1.14	.90	.75

J-150 CERAMICENTER

- 795 Ceramic Disc Capacitors
- One Stop Servicenter
- Time Saving Aid

Packaged in plastic Kleer-Paks, capacitors are "filed" in compartmented drawers outfitted with pre-printed index cards. Contains 290 Type 5GA, 140 Type 5HK, 100 Type 10-TS, 150 Type TG and 115 Type HY. Heavy-gauge steel cabinet finished in blue baked enamel. 30¾"w x 11½"d x 5½"h.

80W415. NET **184.25**

J-141 LITTL-LYTIC CENTER

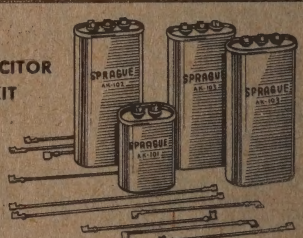
- Two drawer space-saving cabinet
- Withstands temp. up to 85°C (185°F)
- Contains 200 of the most-popular, fastest ratings

Custom designed cabinet puts hundreds of popular rated Litt!-Lytic metal encased tubular electrolytic capacitors at your disposal. Contains 200 of the most-popular, fastest moving capacitance and voltage rating of electrolytic capacitors. Included are 15 at 3 WVDC, 10 at 6 WVDC, 25 at 12 WVDC, 25 at 16 WVDC, 55 at 25 WVDC, 50 at 50 WVDC, 10 at 100 WVDC and 10 at 150 WVDC. Capacitors are "filed" in compartmented drawers outfitted with pre-printed index cards, permitting fast and easy selections. Packed 5 to a Handy Rigid Kleer-Pak Plastic Box. Withstands temperatures up to 85°C (185°F). Heavy-gauge steel cabinet finished in blue baked enamel. Size: 30¾"w x 11½"d x 5½"h.

47F1399. NET **163.65**

AK-100 MOTOR-RUN CAPACITOR REPLACEMENT KIT

ONLY **$32.95**



Capacitors in this kit replace any motor run capacitor rated from 165 Vac thru 440 Vac. Includes six 6" jumper leads with connectors and four 10" jumper leads. Packaged in a compact, fiberboard case measuring 17" x 8¾" x 2¼". With lift-off cover.

47F1348. NET **32.95**

AK-200 EMERGENCY KIT FOR MOTOR START CAPACITORS

$25.39

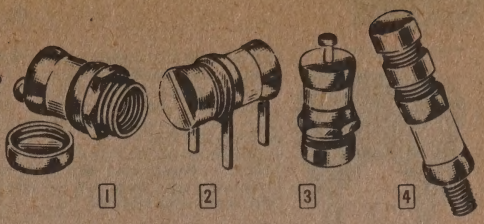
6 motor start capacitors can be used singly, or in parallel, to obtain 87 capacitance/voltage ratings. Includes resistors, terminal adapters, leads and instructions. Provides quick and effective emergency replacement. Size: 11" x 7½" x 4½".

47F1349. NET **25.39**

Johanson Capacitors

HIGH Q VARIABLE AIR CAPACITORS

Stock No.	Type	Figure	Q Factor @ 100 MHZ	Capacitance Range	Size L x D	1-24	25-49	50-99	100-299
17F153	5200	1	> 5000	0.8-10.0 pf	.47" x .28"	4.80	3.95	3.35	2.80
17F154	5201	2	> 5000	0.8-10.0 pf	.47" x .28"				
17F155	5202	3	> 5000	0.8-10.0 pf	.47" x .28"				
17F159	5400	1	> 3000	1.0-14.0 pf	.47" x .28"	6.00	5.40	4.90	4.20
17F160	5401	2	> 3000	1.0-14.0 pf	.47" x .28"				
17F161	5402	3	> 3000	1.0-14.0 pf	.47" x .28"				
17F165	5500	1	> 1500	1.0-20.0 pf	.75" x .28"	7.70	6.85	5.90	5.40
19F001	5600	1	> 750	1.0-30.0 pf	.94" x .28"	10.45	8.50	7.60	7.05
17F182	5701	2	>10,000	.6- 6.0 pf	.48" x .22"	7.15	6.35	5.50	5.15
17F173	5800	4	>10,000	.35- 3.5 pf	.48" x .15"	6.45	5.75	4.95	4.70
17F174	5801	2	>10,000	.35- 3.5 pf	.48" x .15"				
17F175	5802	3	>10,000	.35- 3.5 pf	.48" x .15"				
17F213	5751	2	> 7500	.8-10.0 pf	.52" x .22"	7.60	6.65	5.90	5.40
17F214	5752	3	> 7500	.8-10.0 pf	.52" x .22"				
17F211	5851	2	> 7500	.5- 5.0 pf	.52" x .15"				

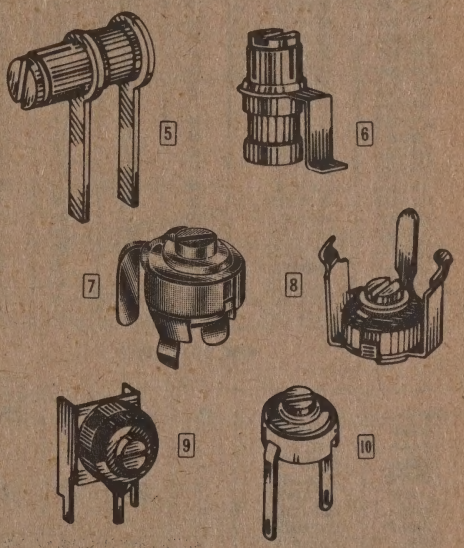


Ultra high Q variable air capacitors feature the new integral contact slotted rotor which provides tuning stability with virtually no dynamic tuning noise. Capacitors are ideal for UHF and VHF applications. With the addition of extended range capacitor series 5450, 5750 and 5850, the selection listed offers broad capacity ranges and sizes to meet every requirement. The following lists each series and its temperature co-efficient: 5200, 5700, 5800, 0±15 ppm/°C; 5400, 5500, 5600, 0±30 ppm/°C; 5450, 5750, 5850, 0±50 ppm/°C.

GIGA-TRIM CAPACITORS

Giga-Trim variable capacitors provide a means for series and shunt high resolution trimming of transistor MIC's, impedance matching in transistor amplifiers, fine tuning crystal oscillators and "gag-trimming" of microstrips. Replaces cut-and-try adjustment techniques and trimming by interchange of fixed capacitors. Non-shorting press fit design allows resoldering repeatedly without damage. Temperature co-efficient specification 50+50 ppm/°C.

Stock No.	Type	Figure	Q Factor @ 250 MHz	Capacitance Range	Size L x D"	1-24	25-49	50-99	100-299
19F010	7261	5	>4000	.3-1.2 pf	.210 x .075"	7.25	6.45	5.65	5.15
19F011	7263	6	>4000	.3-1.2 pf	.210 x .075"	7.25	6.45	5.65	5.15
19F014	7271	5	>2000	.6-4.5 pf	.31 x .118"	7.85	6.95	5.95	5.50
19F015	7273	6	>2000	.6-4.5 pf	.31 x .118"	7.85	6.95	5.95	5.50
19F019	7283	6	>3000	.4-2.5 pf	.21 x .118"	7.55	6.75	5.80	5.35



CERAMIC TRIMMER CAPACITORS

For applications such as crystal oscillators and filters, tuning CATV amplifiers as well as various broadband uses in communications and test equipment. The precision designed rotor assembly incorporates specially formulated ceramic materials which provide long life and environmental stability.

Stock No.	Type	Figure	Q @ 10 MHz (†100)	Capacitance Range	Temp. PPM°C Coefficient	1-24	25-49	50-99	100-249
17F195	9300	7	>500	1.7- 6.0 pf	NPO ±250	1.75	1.35	1.05	.80
17F196	9301	7	>500	1.7-10.0 pf	NPO ±250	1.75	1.35	1.05	.80
17F199	9304	7	>200	4.0-40.0 pf	—1400 ±800	1.95	1.55	1.25	1.00
17F200	9305	7	>200	4.5-50.0 pf	—1400 ±800	1.95	1.55	1.25	1.00
19F023	9321	8	>500	1.7-10.0 pf	NPO ±250	1.95	1.50	1.15	.90
19F024	9322	8	>500	2.3-20.0 pf	—450 ±250	1.95	1.50	1.15	.90
19F025	9323	8	>300	3.8-30.0 pf	—550 ±250	2.05	1.65	1.30	1.05
19F028	9330	9	>500	1.7- 6.0 pf	NPO ±250	1.95	1.50	1.15	.90
19F030	9332	9	>500	2.3-20.0 pf	—450 ±250	1.95	1.50	1.15	.90
19F031	9333	9	>300	3.8-30.0 pf	—550 ±250	2.05	1.65	1.30	1.05
19F032	9334	9	>200	4.0-40.0 pf	—1400 ±800	2.15	1.70	1.35	1.05
19F033	9335	9	>200	4.5-50.0 pf	—1400 ±800	2.15	1.70	1.35	1.05
19F034	9350	10	>500†	1.0- 3.0 pf	50 ±50	3.25	2.75	2.25	1.75
19F035	9351	10	>500†	2.0- 5.0 pf	NPO ±200				
19F036	9352	10	>300†	3.0-10.0 pf	N600 ±300				
19F037	9353	10	>100†	3.5-18.0 pf	N800 ±300				
19F038	9354	10	>100†	5.0-25.0 pf	N1400 ±500				

9300 Series. Top tuning style. Size: .276" Dia., .315" above board height.
9320 Series. Bottom tuning style allowing "through the board" adjustment. Size: .396" Dia., .328" above board height.
9330 Series. Side tuning style allowing adjustment where PC cards are rack mounted. Size: .296" Lng., .350" W, .356" above board height.
9350 Series. Sub-miniature size and drop in replacement for other units available. Size: .218" Dia., .175" above board height.

CHIP CAPACITOR PROTOTYPING KITS

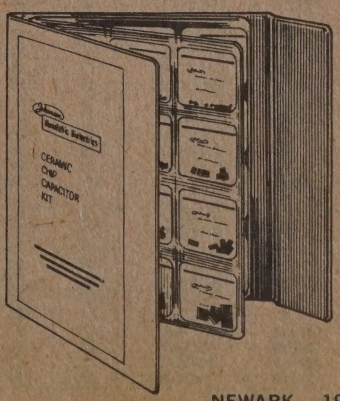
Designer kits contain standard size chips in popular capacitance values and dielectric characteristics, with palladium silver terminations. Kits are supplied in a special vinyl cover for convenient shelf storage with each chip value individually packaged for easy access.

NPO KIT S-900

288 ceramic NPO capacitor chips. Includes 12 chips each of 24 different values from 1.0 pf to 4700 pf with tolerances from ± .25 pf to ±10% at 50 VDCW. Sizes included are from .50" x .40" x .040"T for the 1.0 pf chip to .125" x .095" x .065"T for the 4700 pf chip.
17F149. NET.....65.00

BX AND Z5U KIT S-905

432 ceramic BX and Z5U capacitor chips. Kit includes 12 chips each of 23 BX types with values from 560 pf to .22 mfd with tolerances of ±10% at 25 and 50 VDCW and 13 Z5U types with values from .018 mfd to 1.0 mfd with tolerances to +100 −0% at 6 VDCW. Sizes included are from .50" x .40" x .040"T in both dielectrics to .125" x .095" x .065"T.
17F150. NET.....65.00



Cornell-Dubilier Dipped Mica Capacitors

Feature multi-coat dipped process to meet rigid humidity requirements. Conform to EIA specs. Meets requirements of MIL-C-5. Operating temperature: -55° to +125°C. Tolerance: ±5% or 0.5pF, whichever greater. Operating potential 500 WVDC.
(*)-3000V. (**)-100V.
Have 1¼" tinned brass wire leads, except CD which has copperweld lead. All units meet 10-2000 cycle vibration tests.

TYPE CD10-CM04

Stk. No.	Type CD10	pF	1-24	25-99	100-499	500-999
15F1338	CD050D03	5	.38	25	.19	.16
15F1339	CD100D03	10	.41	.28	.21	.18
15F2600	CD100J03	10	.41	.28	.21	.18
15F1340	CD120J03	12	.29	.19	.15	.12
15F1341	CD150J03	15	.29	.19	.15	.12
15F1342	CD180J03	18	.29	.19	.15	.12
15F863	ED200J03	20	.29	.19	.15	.12
15F1344	ED220J03	22	.29	.19	.15	.12
15F1345	ED240J03	24	.30	.20	.15	.13
15F1346	ED270J03	27	.30	.20	.15	.13
15F1347	ED300J03	30	.30	.20	.15	.13
15F1348	ED330J03	33	.30	.20	.15	.13
15F1350	ED390J03	39	.30	.20	.15	.13
15F1352	ED470J03	47	.31	.21	.16	.13
15F1353	ED510J03	51	.31	.21	.16	.13
15F1354	ED560J03	56	.32	.22	.16	.14
15F1355	ED620J03	62	.32	.22	.16	.14
15F1356	ED680J03	68	.33	.22	.17	.14
15F1358	ED820J03	82	.33	.22	.17	.14
15F1360	FD101J03	100	.35	.23	.18	.15
15F1362	FD121J03	120	.36	.24	.18	.15
15F1364	FD151J03	150	.42	.29	.22	.18
15F1366	FD181J03	180	.49	.32	.24	.20
15F1367	FD201J03	200	.52	.35	.26	.22
15F1368	FD221J03	220	.54	.36	.27	.23
15F1369	FD241J03	240	.58	.39	.29	.24
15F2240	FA331J03**	330	.58	.39	.29	.24

TYPE CD15-CM05

Stk. No.	TYPE CD15	pF	1-24	25-99	100-499	500-999
15F884	CD010D03	1				
15F867	CD020D03	2				
15F866	CD030D03	3				
15F1203	CD050D03	5				
15F968	CD070D03	7	.29	.20	.15	.13
15F1204	CD100D03	10				
15F2601	CD100J03	10				
15F873	CD100K03	10	.22	.15	.11	.09
15F889	CD120J03	12	.29	.20	.15	.13
15F2602	CD150J03	15	.29	.20	.15	.13
15F1207	CD180J03	18	.29	.20	.15	.13
15F2603	ED200J03	20	.24	.16	.12	.10
15F1209	ED220J03	22	.24	.16	.12	.10
15F1210	ED240J03	24	.24	.16	.12	.10
15F973	ED270G03	27	.28	.19	.14	.12
15F1211	ED270J03	27	.24	.16	.12	.10
15F1212	ED300J03	30	.24	.16	.12	.10
15F967	ED330G03	33	.28	.19	.14	.12
15F1213	ED330J03	33	.24	.16	.12	.10
15F1214	ED360J03	36	.24	.16	.12	.10
15F972	ED390G03	39	.28	.19	.14	.12
15F1215	ED390J03	39	.24	.16	.12	.10
15F871	ED430J03	43	.24	.16	.12	.10
15F881	ED470G03	47	.28	.19	.14	.12
15F1217	ED470J03	47	.24	.16	.12	.10
15F870	ED500J03	50	.24	.16	.12	.10
15F1219	ED510J03	51	.24	.16	.12	.10
15F978	ED560G03	56	.28	.19	.14	.12
15F1220	ED560J03	56	.24	.16	.12	.10
15F1221	ED620J03	62	.24	.16	.12	.10
15F971	ED680G03	68	.28	.19	.14	.12
15F891	ED820G03	82	.28	.19	.14	.12
15F876	FD910J03	91	.24	.16	.12	.10
15F979	FD101F03	100	.34	.23	.17	.14
15F872	FD101G03	100	.29	.20	.15	.13
15F879	FD111J03	110	.26	.18	.13	.11
15F893	FD121G03	120	.31	.21	.16	.13
15F2604	FD121J03	120	.26	.18	.13	.11
15F1229	FD131J03	130	.28	.19	.14	.12
15F974	FD151G03	150	.33	.22	.17	.14
15F883	FD161J03	160	.30	.20	.15	.13
15F976	FD201G03	200	.38	.26	.19	.16
15F975	FD221G03	220	.41	.27	.21	.17
15F880	FD251J03	250	.37	.25	.19	.16
15F977	FD271G03	270	.46	.31	.23	.20
15F970	FD331G03	330	.54	.36	.27	.23

CD SERIES DIPPED MICA CAPACITORS TYPE CD15—CM05 (Cont'd)

Stk. No.	Type CD15	pF	1-24	25-99	100-499	500-999
15F2605	FD471J03	470	.56	.37	.28	.23
15F2606	FD501J03	500	.60	.40	.30	.25
15F2607	FD511J03	510	.60	.40	.30	.25
15F864	FC561J03*	560	.60	.40	.30	.25
15F969	FC621J03*	620	.64	.43	.32	.27
15F2608	FC681J03*	680	.70	.47	.35	.30
15F875	FC751J03*	750	.75	.50	.37	.31
15F2609	FC821J03*	820	.81	.54	.41	.34
15F2610	FA102J03	1000	.77	.52	.39	.32

TYPE CD19-CM06

Stk. No.	Type CD19	pF	1-24	25-99	100-499	500-999
15F1243	FD471J03	470	.41	.28	.21	.17
15F1245	FD511J03	510	.41	.28	.21	.17
15F1246	FD561J03	560	.41	.28	.21	.17
15F1247	FD621J03	620	.45	.30	.23	.19
15F1248	FD681J03	680	.45	.30	.23	.19
15F1249	FD751J03	750	.49	.33	.25	.21
15F1250	FD821J03	820	.49	.33	.25	.21
15F1251	FD911J03	910	.53	.36	.27	.23
15F1252	FD102J03	1000	.53	.36	.27	.23
15F1253	FD112J03	1100	.54	.36	.28	.23
15F1254	FD122J03	1200	.54	.36	.28	.23
15F1256	FD152J03	1500	.65	.43	.33	.27
15F1258	FD182J03	1800	.74	.49	.37	.31
15F1259	FD202J03	2000	.79	.53	.40	.33
15F1260	FD222J03	2200	.83	.56	.42	.35
15F1261	FD242J03	2400	.91	.61	.46	.38
15F1263	FD272J03	2700	1.01	.67	.51	.42
15F1264	FD302J03	3000	1.08	.72	.54	.45
15F1265	FD332J03	3300	1.17	.78	.59	.49
15F1267	FD392J03	3900	1.43	.96	.72	.60
15F1268	FD432J03	4300	1.58	1.06	.79	.66
15F1269	FD472J03	4700	1.77	1.18	.89	.74
15F1271	FD512J03	5100	1.82	1.21	.91	.76

TYPE CD30-CM07

Stk. No.	Type CD30	pF	1-99	100-249	250-499	500-999
15F1272	FD562J03	5600	1.56	.78	.70	.65
15F1273	FD622J03	6200	1.69	.84	.76	.70
15F1274	FD682J03	6800	1.87	.94	.85	.78
15F1275	FD752J03	7500	2.02	1.01	.91	.85
15F1276	FD822J03	8200	2.19	1.10	.99	.92
15F1277	FD912J03	9100	2.34	1.17	1.05	.98
15F1278	FD103J03	10000	2.64	1.32	1.19	1.10
15F1378	FD153J03	15000	3.77	1.89	1.70	1.58

100 WVDC

Stk. No.	Type	pF	1-24	25-99	100-499	500-999
15F985	CD7FA561J03	100	1.05	.71	.53	.45
15F982	CD7FA331J03	330	.89	.59	.45	.37
15F1736	CD7FA391G03	390	1.46	.98	.73	.61
15F983	CD7FA391J03	390	.93	.62	.47	.39
15F1738	CD7FA471G03	470	1.55	1.04	.78	.65
15F980	CD7FA471J03	470	.98	.65	.49	.41
15F1739	CD7FA511G03	510	1.59	1.06	.80	.67
15F1740	CD7FA561G03	560	1.64	1.09	.82	.69
15F1741	CD7FA621G03	620	1.68	1.12	.84	.70
15F1742	CD7FA681G03	680	2.12	1.42	1.06	.89
15F984	CD7FA681J03	680	1.33	.89	.67	.56
15F1743	CD7FA751G03	750	2.30	1.53	1.15	.98
15F986	CD7FA821J03	820	1.46	.98	.73	.61
15F1746	CD7FA102G03	1000	2.79	1.86	1.40	1.16
15F981	CD7FA102J03	1000	1.73	1.15	.87	.72
15F1747	CD7FA112G03	1100	2.88	1.92	1.44	1.20
15F1748	CD7FA122G03	1200	2.96	1.98	1.48	1.24
15F1749	CD7FA132G03	1300	3.36	2.24	1.68	1.40
15F1750	CD7FA152G03	1500	3.67	2.45	1.84	1.53

MINIATURE MICA-DIELECTRIC CAPACITORS
300 WVDC

Stk. No.	Type	pF	1-24	25-99	100-499	500-999
15F1729	CD7FC201G03	200	1.03	.69	.52	.43
15F987	CD7FC201J03	200	.69	.46	.35	.29
15F1730	CD7FC221G03	220	1.05	.70	.53	.44
15F988	CD7FC221J03	220	.72	.48	.36	.30
15F1731	CD7FC241G03	240	1.11	.74	.56	.46
15F1732	CD7FC271G03	270	1.22	.82	.61	.51
15F989	CD7FC271J03	270	.79	.53	.40	.33
15F1733	CD7FC301G03	300	1.29	.86	.65	.54
15F990	CD7FC301J03	300	.82	.55	.41	.34

500 WVDC

Stk. No.	Type	pF	1-24	25-99	100-499	999
15F991	CD7FD151J03	150	.62	.42	.31	.26
15F992	CD7FD181J03	180	.65	.44	.33	.27
15F1726	CD7FD151G03	150	.99	.66	.50	.41
15F1725	CD7FD131G03	130	.99	66	.50	.41
15F1727	CD7FD161G03	160	1.01	.68	.51	.42
15F1728	CD7FD181G03	180	1.02	.68	.51	.43

Cornell Dubilier Dipped Mica, LMT and PC

CD SERIES DIPPED MICA CAPACITORS

- **Microminiature**
- **Silver Mica Capacitors**

Microminiature, radial lead capacitors. Temperature range; −55°C to +125°C. Capacitance tolerance; ±1pf (C); ±.5pf(D); ±2% (G); ±5% (J); ±5% ±10% (K).

300 WVDC

Stk. No.	Type	pF	1-24	25-99	100-499	500-999
15F897	CD6EC820J03	82	.60	.40	.30	.25
15F1720	CD6EC820G03	82	.94	.63	.47	.39
15F898	CD6EC910J03	91	.60	.40	.30	.25
15F1721	CD6EC910G03	91	.94	.63	.47	.39
15F899	CD6FC101K03	100	.53	.35	.27	.22
15F900	CD6FC101J03	100	.60	.40	.30	.25
15F1722	CD6FC101G03	100	.94	.63	.47	.39
15F1723	CD6FC111G03	101	.94	.63	.47	.39
15F901	CD6FC121J03	120	.62	.41	.31	.26
15F1724	CD6FC121G03	120	.94	.63	.47	.39

500 WVDC

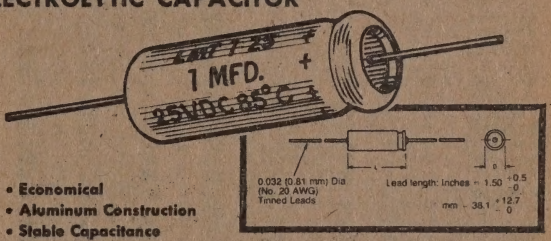
Stk. No.	Type	pF	1-24	25-99	100-449	500-999
15F1700	CD6CD030C03	3				
15F1701	CD6CD050C03	5	.37	.25	.19	.16
15F1702	CD6CD100K03	10				
15F1703	CD6CD120K03	12				
15F1705	CD6CD200J03	20	.42	.28	.21	.18
15F1706	CD6CD220J03	22				
15F1707	CD6CD240J03	24	.44	.29	.22	.19
15F1708	CD6ED270J03	27				
15F1709	CD6ED300J03	30				
15F1710	CD6ED330J03	33				
15F1711	CD6ED360J03	36				
15F1712	CD6ED390J03	39	.45	.30	.23	.19
15F1713	CD6ED430J03	43				
15F1714	CD6ED470J03	47				

500 WVDC

Stk. No.	Type	pF	1-24	25-99	100-499	500-999
15F1716	CD6ED560G03	56	.75	.50	.38	.32
15F1717	CD6ED620G03	62	.75	.50	.38	.32
15F1718	CD6ED680G03	68	.83	.56	.42	.35
15F1719	CD6ED750G03	75	.83	.56	.42	.35
15F906	CD6CD050D03	5	.61	.41	.31	.26
15F903	CD6CD100D03	10	.61	.41	.31	.26
15F904	CD6CD150J03	15	.60	.40	.30	.25
15F907	CD6CD180J03	18	.60	.40	.30	.25
15F908	CD6ED500J03	50	.49	.33	.25	.21
15F909	CD6ED510J03	51	.49	.33	.25	.21
15F902	CD6ED560J03	56	.49	.33	.25	.21
15F905	CD6ED620J03	62	.49	.33	.25	.21
15F910	CD6ED680J03	68	.53	.35	.27	.22
15F911	CD6ED750J03	75	.53	.35	.27	.22

TYPE LMT SUB-MINIATURE ELECTROLYTIC CAPACITOR

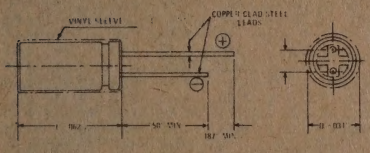
Stk. No.	Type	Cap. Mfd.	Volts DCW	1-24	25-49	50-99	100-249
15F912	LMT50-16	50	16	.49	.39	.32	.22
15F913	LMT100-16	100	16	.54	.43	.36	.24
15F914	LMT1-25	1	25	.42	.33	.28	.19
15F915	LMT2-25	2	25	.42	.33	.28	.19
15F916	LMT5-25	5	25	.42	.33	.28	.19
15F917	LMT10-25	10	25	.43	.34	.29	.19
15F918	LMT15-25	15	25	.43	.34	.29	.19
15F919	LMT25-25	25	25	.49	.39	.32	.22
15F920	LMT50-25	50	25	.54	.43	.36	.24
15F921	LMT100-25	100	25	.54	.43	.36	.24
15F922	LMT1-50	1	50	.42	.33	.28	.19
15F923	LMT2-50	2	50	.42	.33	.28	.19
15F924	LMT5-50	5	50	.43	.34	.29	.19
15F925	LMT10-50	10	50	.49	.39	.32	.21
15F926	LMT25-50	25	50	.54	.43	.36	.24
15F927	LMT100-50	100	50	.68	.54	.45	.30
15F928	LMT2-100	2	100	.47	.38	.32	.21
15F929	LMT1-150	1	150	.47	.37	.31	.21



- **Economical**
- **Aluminum Construction**
- **Stable Capacitance**

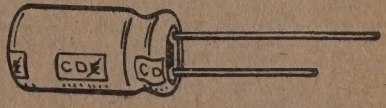
Type LMT is a metal cased, hermetically sealed, all welded aluminum electrolytic capacitor. Vibration and shock resistant. All terminal connections are welded to eliminate the possibility of open or intermittent contacts due to mechanical stresses and age. Temperature range; −40°C to +85°C (−40°F to +185°F). Capacitance tolerance; −10 +100%.

VERTICAL MINIATURE PRINTED CIRCUIT STYLE



Lead Spacing, Dimensions "S"

Case Dia. "D" inches	Lead Space "S" inches	AWG. Wire Size
.312	.140	#24 (.020)
.375	.200	#22 (.025)
.50	.200	#22 (.025)
.625	.300	#22 (.025)



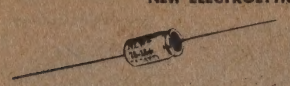
Type PC is a single ended, metal cased aluminum electrolytic. Designed for vertical mounting on printed circuit boards. Continuous duty operation over temperature range of −40°C to +85°C.

Stk. No.	Type	Cap. Mfd.	Volts DCW	1-24	25-49	50-99	100-249
15F930	PC300-3	300	3	.44	.33	.26	.22
15F931	PC300-6	300	6	.44	.33	.26	.22
15F932	PC400-6	400	6	.50	.38	.29	.25
15F933	PC1000-6	1000	6	.83	.62	.49	.42
15F934	PC50-10	50	10	.32	.24	.19	.16
15F935	PC100-10	100	10	.39	.29	.23	.20
15F936	PC200-10	200	10	.44	.33	.26	.22
15F937	PC250-10	250	10	.44	.33	.26	.22
15F938	PC300-10	300	10	.50	.38	.29	.25
15F939	PC50-16	50	16	.32	.24	.19	.16
15F940	PC68-16	68	16	.39	.29	.23	.20
15F941	PC100-16	100	16	.44	.33	.26	.22
15F942	PC200-16	200	16	.50	.38	.29	.25
15F943	PC500-16	500	16	.83	.62	.49	.42
15F944	PC1000-16	1000	16	1.16	.87	.68	.58
15F945	PC10-25	10	25	.28	.21	.17	.14
15F946	PC25-25	25	25	.50	.30	.23	.18
15F947	PC30-25	30	25	.53	.32	.24	.19
15F948	PC50-25	50	25	.65	.39	.29	.23

Stk. No.	Type	Cap. Mfd.	Volts DCW	1-24	25-49	50-99	100-249
15F949	PC68-25	68	25	.44	.33	.26	.22
15F950	PC100-25	100	25	.50	.38	.29	.25
15F951	PC150-25	150	25	.66	.50	.39	.33
15F952	PC250-25	250	25	.76	.57	.44	.38
15F953	PC30-35	30	35	.39	.29	.23	.20
15F954	PC200-35	200	35	.79	.60	.46	.40
15F955	PC1-50	1	50	.26	.20	.16	.13
15F956	PC5-50	5	50	.28	.21	.17	.14
15F957	PC6.8-50	6.8	50	.28	.21	.17	.14
15F958	PC10-50	10	50	.32	.24	.19	.16
15F959	PC20-50	20	50	.36	.27	.21	.18
15F960	PC30-50	30	50	.41	.31	.24	.21
15F961	PC50-50	50	50	.50	.38	.29	.25
15F962	PC100-50	100	50	.66	.50	.39	.33
15F963	PC1-100	1	100	.28	.21	.17	.14
15F964	PC2-100	2	100	.30	.23	.18	.15
15F965	PC5-100	5	100	.33	.25	.20	.17
15F966	PC6-100	6	100	.37	.28	.22	.19

Cornell Dubilier Aluminum Electrolytics

NLW ELECTROLYTIC CAPACITORS



Type NLW. Rugged physical construction. Hermetically sealed aluminum foil electrolytic capacitors. Low leakage currents; freedom from shorts. Long shelf and operating life. Suitable for printed circuits. Tinned copper leads with plastic sleeves. Temperature range, −40°C to +105°. Tol. −10% to +75%.

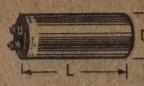
Stock No.	Type NLW	Cap. µF	WV DC	DXL	1-24	25-49	50-99	100-249
15F1007	200-3	200	3	5/16 x 3/4	.84	.58	.46	.36
15F2087	450-3	450	3	3/8 x 7/8	.96	.65	.52	.41
47F831	500-3	500	3	3/8 x 1	.96	.65	.52	.41
15F1014	10-6	10	6	1/4 x 1/2	.60	.41	.33	.26
15F2088	20-6	20	6	1/4 x 1/2	.60	.41	.33	.26
47F833	100-6	100	6	5/16 x 3/8	.84	.58	.46	.36
15F2089	150-6	150	6	3/8 x 7/8	.88	.60	.48	.38
47F834	200-6	200	6	3/8 x 3/4	.88	.60	.48	.38
15F2090	250-6	250	6	3/8 x 7/8	.92	.63	.50	.39
15F2091	300-6	300	6	3/8 x 7/8	.92	.63	.50	.39
47F835	500-6	500	6	3/8 x 1 1/4	.99	.68	.54	.42
47F837	800-6	800	6	3/8 x 1 1/2	1.09	.75	.60	.47
15F1085	4-16	4	16	1/4 x 1/2	.60	.41	.33	.26
15F1028	5-16	5	16	1/4 x 1/2	.60	.41	.33	.26
15F1029	10-16	10	16	1/4 x 1/2	.60	.41	.33	.26
15F1062	15-16	15	16	1/4 x 1/2	.60	.41	.33	.26
15F1030	20-16	20	16	1/4 x 1/2	.60	.41	.33	.26
15F1087	25-16	25	16	1/4 x 5/8	.60	.41	.33	.26
15F1063	50-16	50	16	5/16 x 5/8	.67	.46	.37	.29
15F1064	100-16	100	16	5/16 x 3/4	.88	.60	.48	.38
15F2096	150-16	150	16	3/8 x 3/4	.92	.63	.50	.39
15F2097	200-16	200	16	3/8 x 7/8	.96	.65	.52	.41
47F838	300-16	300	16	3/8 x 1 1/4	.99	.68	.54	.42
47F839	450-16	450	16	3/8 x 1 1/2	1.09	.75	.60	.47
47F840	1-25	1	25	1/4 x 1/2	.60	.41	.33	.26
47F841	2-25	2	25	1/4 x 1/2	.60	.41	.33	.26
15F2098	3-25	3	25	1/4 x 1/2	.60	.41	.33	.26
47F842	5-25	5	25	1/4 x 1/2	.60	.41	.33	.26
15F1033	6-25	6	25	1/4 x 1/2	.60	.41	.33	.26
15F1092	8-25	8	25	1/4 x 1/2	.60	.41	.33	.26
15F1034	10-25	10	25	1/4 x 1/2	.60	.41	.33	.26
15F1035	15-25	15	25	1/4 x 1/2	.60	.41	.33	.26
15F1763	25-25	25	25	5/16 x 3/8	.67	.46	.37	.29
15F1094	35-25	35	25	5/16 x 3/8	.67	.46	.37	.29
15F1765	50-25	50	25	5/16 x 3/4	.84	.58	.46	.36
15F1766	100-25	100	25	3/8 x 3/4	.92	.63	.50	.39
47F843	150-25	150	25	3/8 x 1	.96	.65	.52	.41
47F844	200-25	200	25	3/8 x 1 1/4	1.02	.70	.56	.43
47F845	250-25	250	25	3/8 x 1 1/2	1.09	.75	.60	.47
15F1096	1-50	1	50	1/4 x 1/2	.60	.41	.33	.26
15F1097	2-50	2	50	1/4 x 1/2	.60	.41	.33	.26
15F2099	3-50	3	50	1/4 x 1/2	.60	.41	.33	.26
15F1767	4-50	4	50	1/4 x 1/2	.60	.41	.33	.26
15F1037	5-50	5	50	1/4 x 1/2	.60	.41	.33	.26
15F2100	8-50	8	50	1/4 x 5/8	.60	.41	.33	.26
15F1038	10-50	10	50	1/4 x 5/8	.67	.46	.37	.29
15F1144	15-50	15	50	5/16 x 3/8	.67	.46	.37	.29
15F1039	20-50	20	50	5/16 x 3/4	.84	.58	.46	.36
15F1145	25-50	25	50	5/16 x 3/4	.84	.58	.46	.36
15F1066	30-50	30	50	3/8 x 3/8	.88	.60	.48	.38
15F2101	35-50	35	50	3/8 x 3/4	.88	.60	.48	.38
15F1147	40-50	40	50	3/8 x 3/4	.92	.63	.50	.39
15F1768	50-50	50	50	3/8 x 7/8	.92	.63	.50	.39
15F1067	75-50	75	50	3/8 x 1	.96	.65	.52	.41
47F846	100-50	100	50	3/8 x 1 1/4	.99	.68	.54	.42
47F847	125-50	125	50	3/8 x 1 1/2	1.09	.75	.60	.47
15F1040	2-100	2	100	1/4 x 1/2	.67	.46	.37	.29
15F1045	10-100	10	100	3/8 x 3/4	.88	.60	.48	.38
15F1047	20-100	20	100	3/8 x 1	.96	.65	.52	.41
47F849	25-100	25	100	3/8 x 1	.99	.68	.54	.42
15F2102	1-150	1	150	1/4 x 1/2	.67	.46	.37	.29
15F1148	2-150	2	150	1/4 x 5/8	.67	.46	.37	.29
15F2103	4-150	4	150	3/8 x 5/8	.84	.58	.46	.36
15F1049	5-150	5	150	3/8 x 5/8	.84	.58	.46	.36
15F1051	8-150	8	150	3/8 x 7/8	.88	.60	.48	.38
15F1052	10-150	10	150	3/8 x 7/8	.92	.63	.50	.39
15F1149	15-150	15	150	3/8 x 1 1/4	.96	.65	.52	.41
47F850	20-150	20	150	3/8 x 1 1/2	1.02	.70	.56	.43
47F851	25-150	25	150	3/8 x 1 1/2	1.09	.75	.60	.47

WBR CAP-KIT

The type WBR tubular electrolytic assortment is ideal for prototype shops, laboratory work, and general maintenance. The kit includes two each of the most popular WBR ratings.

Type	µF	WVDC	Type	Mfd.	WVDC
WBR1000-16	1000	16	WBR60-150	60	150
WBR10-50	10	50	WBR100-150	100	150
WBR100-50	100	50	WBR160-250	160	250
WBR250-50	250	50	WBR50-450	50	450
WBR500-50	500	50	WBR100-450	100	450
WBR1000-50	1000	50	WBR20-500	20	500
WBR2000-50	2000	50			

15F480. NET **45.00**



COMPUTER GRADE HIGH CAPACITANCE TYPE FAH

Low leakage current, minimum ESR, high 120cps ripple currents, molded terminal block with safety vent seal, provided with screw terminals, plastic insulating sleeve. Oper. Temp. Range: −40°C to +85°C. Tol: 3-50 VDC, −10 +100%; 51-350 VDC, −10 +75%; 351-450 VDC, −10 +50%.

Stk. No.	Type*	VDC	µF	1-24	25-49	50-99	100-Up
15F594	FAH270000-3-D6	3	270000	18.17	14.53	12.72	9.81
15F595	FAH120000-6-D3	6	120000	13.21	10.57	9.25	7.13
15F596	FAH190000-6-D6	6	190000	18.17	14.53	12.72	9.81
15F597	FAH6000-10-A1	10	6000	2.92	2.29	2.00	1.59
15F598	FAH12000-10-A2	10	12000	3.50	2.78	2.46	1.88
15F599	FAH18000-10-A3	10	18000	4.08	3.29	2.87	2.24
67F2355	FAH22000-10-A3	10	22000	4.08	3.29	2.87	2.24
15F600	FAH28000-10-B2	10	28000	5.79	4.64	4.06	3.13
67F2356	FAH32000-10-B2	10	32000	5.79	4.64	4.06	3.13
15F601	FAH48000-10-B3	10	48000	6.17	4.93	4.27	3.30
67F2358	FAH125000-10-C6	10	125000	12.27	9.81	8.59	6.63
67F2359	FAH200000-10-D6	10	200000	18.17	14.53	12.72	9.81
15F602	FAH4600-15-A1	15	4600	2.92	2.29	2.00	1.59
67F2361	FAH12000-15-A2	15	12000	3.50	2.78	2.46	1.88
15F603	FAH13000-15-A3	15	13000	4.08	3.29	2.87	2.24
15F604	FAH21000-15-B2	15	21000	5.79	4.64	4.06	3.13
15F605	FAH36000-15-B3	15	36000	6.17	4.93	4.27	3.30
67F2364	FAH42500-15-B3	15	42500	6.17	4.93	4.27	3.30
15F606	FAH63000-15-C3	15	63000	8.92	7.14	6.27	4.83
67F2366	FAH100000-15-D3	15	100000	13.21	10.57	9.25	7.13
67F2367	FAH3700-25-A1	25	3700	2.92	2.29	2.00	1.59
67F2368	FAH6000-25-A2	25	6000	3.50	2.78	2.46	1.88
67F2369	FAH11000-25-A3	25	11000	4.08	3.29	2.87	2.24
15F607	FAH18000-25-B3	25	18000	6.17	4.93	4.27	3.30
67F2371	FAH39500-25-C3	25	39500	8.92	7.14	6.27	4.83
15F608	FAH55000-25-D3	25	55000	13.21	10.57	9.25	7.13
67F2372	FAH59000-25-D3	25	59000	13.21	10.57	9.25	7.13
67F2373	FAH84000-25-D6	25	84000	18.17	14.53	12.72	9.81
15F609	FAH36000-30-D3	30	36000	13.21	10.57	9.25	7.13
67F2374	FAH42500-30-D3	30	42500	13.21	10.57	9.25	7.13
67F2375	FAH6300-40-A3	40	6300	4.08	3.29	2.87	2.24
67F2376	FAH12000-40-B2	40	12000	5.79	4.64	4.06	3.13
67F2377	FAH14500-40-B3	40	14500	6.17	4.93	4.27	3.30
15F610	FAH21000-40-C3	40	21000	8.92	7.14	6.27	4.83
67F2378	FAH23500-40-C3	40	23500	8.92	7.14	6.27	4.83
67F2379	FAH1600-50-A1	50	1600	2.92	2.29	2.00	1.59
67F2380	FAH3000-50-A2	50	3000	3.50	2.78	2.46	1.88
67F2381	FAH4500-50-A3	50	4500	4.08	3.29	2.87	2.24
67F2382	FAH7000-50-B2	50	7000	5.79	4.64	4.06	3.13
67F2383	FAH9500-50-B3	50	9500	6.17	4.93	4.27	3.30
67F2384	FAH20000-50-C3	50	20000	8.92	7.14	6.27	4.83
67F2385	FAH23000-50-D3	50	23000	13.21	10.57	9.25	7.13
67F2386	FAH40000-50-D6	50	40000	18.17	14.53	12.72	9.81
67F2387	FAH2600-75-A3	75	2600	4.42	3.57	3.14	2.41
67F2388	FAH4100-75-B2	75	4100	6.61	5.28	4.62	3.57
67F2389	FAH6500-75-B3	75	6500	7.42	5.93	5.19	4.01
67F2390	FAH10500-75-C3	75	10500	10.77	8.62	7.54	5.82
15F611	FAH14000-75-D3	75	14000	15.08	12.07	10.60	8.18
67F2391	FAH16000-75-D3	75	16000	15.08	12.07	10.60	8.18
67F2393	FAH800-100-A1	100	800	3.25	2.60	2.28	1.76
67F2394	FAH1650-100-A3	100	1650	4.42	3.57	3.14	2.41
67F2395	FAH4100-100-B3	100	4100	7.42	5.93	5.19	4.01
67F2396	FAH6500-100-C3	100	6500	10.77	8.62	7.54	5.82
67F2397	FAH9000-100-C6	100	9000	14.48	11.58	10.14	7.82
67F2399	FAH1050-150-A3	150	1050	4.42	3.57	3.14	2.41
67F2400	FAH1850-150-B2	150	1850	6.61	5.28	4.62	3.57
67F2402	FAH4100-150-C3	150	4100	10.77	8.62	7.54	5.82
67F2405	FAH250-200-A1	200	250	3.25	2.60	2.28	1.76
15F612	FAH1400-200-B3	200	1400	7.42	5.93	5.19	4.01
67F2408	FAH1500-200-B3	200	1500	7.42	5.93	5.19	4.01
67F2409	FAH3700-200-D3	200	3700	15.08	12.07	10.60	8.18
67F2410	FAH5500-200-D6	200	5500	19.75	15.79	13.80	10.65
67F2411	FAH530-250-A3	250	530	4.42	3.57	3.14	2.41
67F2413	FAH3000-250-C6	250	3000	14.48	11.58	10.14	7.82
67F2414	FAH4500-250-D6	250	4500	19.75	15.79	13.80	10.65
15F613	FAH240-300-A2	300	240	3.83	3.07	2.66	2.06
67F2416	FAH1050-300-B3	300	1050	7.42	5.93	5.19	4.01
15F614	FAH2100-300-D3	300	2100	15.08	12.07	10.60	8.18
67F2417	FAH2500-300-D3	300	2500	15.08	12.07	10.60	8.18
67F2418	FAH100-350-A1	350	100	3.25	2.60	2.28	1.76
67F2419	FAH190-350-A2	350	190	3.83	3.07	2.66	2.06
67F2420	FAH420-350-B2	350	420	6.61	5.28	4.62	3.57
67F2422	FAH1200-350-C3	350	1200	10.77	8.62	7.54	5.82
67F2425	FAH500-400-B3	400	500	7.42	5.93	5.19	4.01
15F615	FAH50-450-A1	450	50	3.25	2.60	2.28	1.76
15F616	FAH140-450-A3	450	140	4.42	3.57	3.14	2.41
15F617	FAH220-450-B2	450	220	6.61	5.28	4.62	3.57
15F618	FAH330-450-B3	450	330	7.42	5.93	5.19	4.01

*CASE CODE AND UNINSULATED CASE SIZES

Last two digits of CDE No. indicate case size (FAH6500-15-A1). Add 1/16" to dia. and 3/8" to lgth. for size including sleeve.

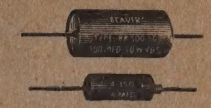
Code	Size, In. Dia. x L.	Code	Size, In. Dia. x L.	Code	Size, In. Dia. x L.
A1	1 3/8 x 2 1/8	B2	2x3 1/8	C6	2 1/2 x 5 5/8
A2	1 3/8 x 3 1/8	B3	2x4 1/8	D3	3x4 1/8
A3	1 3/8 x 4 1/8	C3	2 1/2 x 4 1/8	D6	3x5 5/8

Cornell-Dubilier Capacitors

CDE

WBR TUBULAR ALUMINUM ELECTROLYTICS

Compact aluminum cased. All welded construction. Has plastic sleeve, except 600V and 700V which has cardboard. Temp. —40°C to +85°C to 450V.



6VDC RATED—8VDC SURGE

Stock No.	Type	Mfd.	D x L	1-24	25-49	50-99	100-249
15F153	WBR1000-6	1000	.625x1.437	1.69	1.30	.94	.71
15F154	WBR2000-6	2000	.75x1.437	1.83	1.40	1.02	.77

10VDC RATED—12VDC SURGE

67F2297	WBR3000-10	3000	.75x1.687	2.03	1.56	1.13	.85
67F2298	WBR4000-10	4000	.875x1.687	2.20	1.69	1.23	.92
67F2299	WBR5000-10	5000	.875x2.0	2.88	2.21	1.60	1.20
67F2300	WBR10000-10	10000	1.0x2.687	3.22	2.47	1.79	1.34

16VDC RATED—20VDC SURGE

67F2301	WBR100-16	100	.312x.75	.95	.73	.53	.40
15F159	WBR250-16	250	.375x1.0	1.15	.89	.64	.48
15F160	WBR500-16	500	.50x1.437	1.36	1.04	.76	.57
15F165	WBR1000-16	1000	.625x1.687	1.69	1.30	.94	.71
15F166	WBR2000-16	2000	.75x2.0	2.03	1.56	1.13	.85
15F194	WBR3000-16	3000	.75x2.5	2.37	1.82	1.32	.99
15F195	WBR4000-16	4000	.875x2.5	2.71	2.08	1.51	1.13
15F196	WBR5000-16	5000	1.0x2.187	3.05	2.34	1.70	1.27
67F2302	WBR10000-16	10000	1.125x3.562	3.38	2.59	1.88	1.41

25VDC RATED—30VDC SURGE

15F317	WBR10-25	10	.25x.50	.79	.60	.44	.33
15F319	WBR25-25	25	.312x.625	.85	.65	.47	.36
15F320	WBR50-25	50	.312x.75	.88	.68	.49	.37
15F321	WBR100-25	100	.375x.75	1.09	.83	.61	.46
15F162	WBR250-25	250	.50x1.437	1.53	1.17	.85	.64
15F163	WBR500-25	500	.625x1.437	1.98	1.52	1.10	.83
15F112	WBR1000-25	1000	.75x1.687	3.28	2.55	1.82	1.37
15F113	WBR2000-25	2000	.75x2.50	4.03	3.08	2.24	1.68

35VDC RATED—40VDC SURGE

67F2303	WBR100-35	100	.375x1.0	1.09	.83	.61	.46
67F2304	WBR150-35	150	.50x1.062	1.19	.91	.66	.50
67F2305	WBR300-35	300	.675x1.062	1.59	1.22	.89	.67
67F2306	WBR500-35	500	.675x1.437	1.98	1.52	1.10	.83
67F2307	WBR1000-35	1000	.75x1.687	3.28	2.55	1.82	1.37
67F2308	WBR2000-35	2000	.875x2.5	4.03	3.08	2.24	1.68
67F2309	WBR3000-35	3000	1.0x2.5	4.62	3.53	2.57	1.93
67F2310	WBR5500-35	5500	1.125x3.562	5.75	4.41	3.20	2.40

50VDC RATED—65VDC SURGE

15F322	WBR1-50	1	.25x.50	.71	.55	.40	.30
15F323	WBR2-50	2	.25x.50	.71	.55	.40	.30
15F325	WBR5-50	5	.25x.50	.79	.60	.44	.33
15F326	WBR10-50	10	.375x.625	.79	.60	.44	.33
15F327	WBR25-50	25	.375x.625	.85	.65	.47	.36
67F2312	WBR35-50	35	.375x.75	.92	.70	.51	.39
67F2313	WBR50-50	50	.375x.875	.98	.76	.55	.41
15F164	WBR100-50	100	.50x1.437	1.09	.83	.61	.46
67F2314	WBR125-50	125	.50x1.437	1.16	.88	.64	.48
15F199	WBR150-50	150	.625x1.062	1.23	.94	.69	.52
15F198	WBR250-50	250	.625x1.437	1.56	1.19	.87	.65
15F197	WBR500-50	500	.75x1.687	2.06	1.57	1.15	.86
15F114	WBR1000-50	1000	.875x2.0	3.46	2.64	1.92	1.44
15F536	WBR1500-50	1500	1.0x2.187	4.25	3.25	2.36	1.77
15F537	WBR2000-50	2000	1.0x2.687	4.79	3.66	2.66	2.00
15F347	WBR3000-50	3000	1.0x4.062	5.40	4.13	3.00	2.25
67F2315	WBR5000-50	5000	1.375x3.625	6.40	4.89	3.56	2.67

75VDC RATED—95VDC SURGE

67F2316	WBR150-75	150	.625x1.437	1.49	1.14	.83	.62
67F2317	WBR275-75	275	.75x1.687	1.76	1.35	.98	.74
67F2318	WBR500-75	500	.875x2.0	2.88	2.21	1.60	1.20
67F2319	WBR1000-75	1000	1.0x2.5	3.46	2.64	1.92	1.44
67F2320	WBR2000-75	2000	1.375x2.562	5.75	4.41	3.20	2.40

100VDC RATED—125VDC SURGE

67F2321	WBR400-100	400	.875x2.5	2.71	2.08	1.51	1.13
67F2322	WBR600-100	600	1.0x2.687	3.05	2.34	1.70	1.27
67F2324	WBR1000-100	1000	1.0x4.062	3.46	2.64	1.92	1.44
67F2325	WBR1500-100	1500	1.375x3.625	4.40	3.37	2.45	1.84
67F2326	WBR2000-100	2000	1.375x4.125	5.75	4.41	3.20	2.40

150VDC RATED—175VDC SURGE

15F330	WBR4-150	4	.312x.75	.92	.70	.51	.39
67F2327	WBR5-150	5	.375x.625	.95	.73	.53	.40
15F331	WBR8-150	8	.375x.75	1.02	.78	.57	.43
15F332	WBR10-150	10	.375x.875	1.09	.83	.61	.46
15F334	WBR16-150	16	.375x1.0	1.12	.86	.62	.47
15F313	WBR20-150	20	.375x1.25	1.19	.91	.66	.50
15F862	WBR30-150	30	.375x1.50	1.29	.99	.72	.54
15F124	WBR40-150	40	.625x1.437	1.59	1.22	.89	.67
15F125	WBR50-150	50	.625x1.437	1.69	1.30	.94	.71
15F303	WBR60-150	60	.625x1.437	1.80	1.38	1.00	.75
15F126	WBR80-150	80	.75x1.437	1.90	1.45	1.06	.79
15F167	WBR100-150	100	.75x1.687	1.96	1.51	1.09	.82
15F168	WBR150-150	150	.875x1.687	2.07	1.58	1.15	.86
67F2328	WBR160-150	160	.875x1.687	2.13	1.64	1.19	.89

150VDC RATED—175VDC SURGE (Cont.)

Stock No.	Type	Mfd.	D x L	1-24	25-49	50-99	100-249
15F098	WBR200-150	200	.875x2.0	2.61	2.00	1.45	1.09
15F118	WBR250-150	250	1.0x1.687	2.74	2.10	1.53	1.15
15F099	WBR300-150	300	1.0x2.187	2.88	2.21	1.60	1.20
67F2329	WBR350-150	350	1.0x2.187	2.98	2.28	1.66	1.25
67F2330	WBR500-150	500	1.125x2.50	4.06	3.11	2.26	1.70

180VDC RATED—200VDC SURGE

67F2331	WBR125-180	125	.75x2.5	2.64	2.02	1.47	1.10
67F2332	WBR225-180	225	.875x2.5	2.84	2.18	1.58	1.19
67F2333	WBR260-180	260	1.0x2.187	3.18	2.44	1.77	1.33
67F2334	WBR400-180	400	1.125x2.5	4.23	3.24	2.35	1.77

250VDC RATED—300VDC SURGE

15F993	WBR4-250	4	.50x1.062	.88	.68	.49	.37
15F994	WBR8-250	8	.50x1.437	1.36	1.04	.76	.57
15F995	WBR12-250	12	.50x1.437	1.39	1.07	.78	.58
15F115	WBR16-250	16	.625x1.062	1.53	1.17	.85	.64
15F116	WBR20-250	20	.75x1.062	1.69	1.30	.94	.71
15F304	WBR30-250	30	.75x1.437	1.76	1.35	.98	.74
15F117	WBR40-250	40	.625x1.687	1.86	1.43	1.04	.78
15F305	WBR50-250	50	.75x1.687	1.93	1.48	1.08	.81
15F306	WBR60-250	60	.75x2.0	2.00	1.53	1.11	.84
67F2335	WBR80-250	80	.875x2.0	2.30	1.77	1.28	.96
15F119	WBR100-250	100	.875x2.0	2.54	1.95	1.41	1.06
67F2336	WBR160-250	160	1.0x2.187	2.74	2.10	1.53	1.15
67F2337	WBR225-250	225	1.0x2.687	2.84	2.18	1.58	1.19
67F2338	WBR300-250	300	1.0x3.562	4.09	3.14	2.28	1.71
67F2339	WBR450-250	450	1.375x3.062	4.70	3.60	2.62	1.96

350VDC RATED—400VDC SURGE

15F886	WBR4-350	4	.50x1.062	1.36	1.04	.76	.57
15F887	WBR8-350	8	.625x1.062	1.39	1.07	.78	.58
15F890	WBR20-350	20	.75x1.437	1.80	1.38	1.00	.75
15F892	WBR40-350	40	.75x1.687	1.96	1.51	1.09	.82
15F894	WBR60-350	60	.75x2.50	2.37	1.82	1.32	.99
15F896	WBR100-350	100	1.0x2.0	2.88	2.21	1.60	1.20
67F2340	WBR160-350	160	1.125x2.5	3.04	2.33	1.69	1.27
15F122	WBR200-350	200	1.0x4.062	3.89	2.98	2.17	1.63
67F2341	WBR250-350	250	1.125x3.562	4.40	3.37	2.45	1.84

450VDC RATED—525VDC SURGE

15F102	WBR1-450	1	.625x1.062	1.42	1.09	.79	.60
15F103	WBR2-450	2	.625x1.062	1.42	1.09	.79	.60
15F104	WBR4-450	4	.625x1.062	1.46	1.12	.81	.61
67F2342	WBR5-450	5	.625x1.062	1.46	1.12	.81	.61
15F105	WBR8-450	8	.75x1.062	1.59	1.22	.89	.67
15F106	WBR10-450	10	.75x1.062	1.59	1.22	.89	.67
15F107	WBR12-450	12	.75x1.062	1.63	1.25	.91	.68
15F108	WBR16-450	16	.75x1.062	1.66	1.27	.93	.70
15F109	WBR20-450	20	.75x1.687	1.69	1.30	.94	.71
15F110	WBR30-450	30	.875x1.687	2.37	1.82	1.32	.99
15F111	WBR40-450	40	.875x2.0	2.54	1.95	1.41	1.06
67F2343	WBR50-450	50	.875x2.5	2.74	2.10	1.53	1.15
15F147	WBR60-450	60	1.0x2.187	2.81	2.15	1.56	1.17
15F148	WBR80-450	80	1.0x2.687	2.88	2.21	1.60	1.20
15F169	WBR100-450	100	1.0x3.562	3.89	2.98	2.17	1.63
67F2344	WBR120-450	120	1.125x3.0	4.23	3.24	2.35	1.77
67F2345	WBR160-450	160	1.125x4.062	4.40	3.37	2.45	1.84
67F2346	WBR225-450	225	1.375x3.625	5.24	4.02	2.92	2.19

500VDC RATED—550VDC SURGE

67F2347	WBR1-500	1	.50x1.062	1.36	1.04	.76	.57
67F2348	WBR3-500	3	.50x1.437	1.42	1.09	.79	.60
67F2349	WBR5-500	5	.625x1.062	1.53	1.17	.85	.64
15F100	WBR8-500	8	.75x1.062	1.69	1.30	.94	.71
67F2350	WBR10-500	10	.625x1.687	1.69	1.30	.94	.71
15F101	WBR16-500	16	.75x1.687	1.86	1.43	1.04	.78
15F145	WBR20-500	20	.75x2.0	2.03	1.56	1.13	.85
15F146	WBR30-500	30	.875x1.687	2.54	1.95	1.41	1.06
67F2351	WBR40-500	40	.875x2.5	2.71	2.08	1.51	1.13
67F2352	WBR60-500	60	1.0x2.5	2.88	2.21	1.60	1.20

600VDC RATED—650VDC SURGE

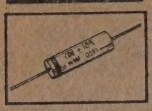
15F183	WBR4-600	4	.687x2.437	2.77	2.13	1.54	1.16
15F185	WBR8-600	8	.812x2.437	3.08	2.36	1.72	1.29
15F186	WBR10-600	10	.812x3.187	3.08	2.36	1.72	1.29
15F188	WBR16-600	16	.937x3.187	3.22	2.47	1.79	1.34
15F184	WBR20-600	20	.937x3.687	3.38	2.59	1.88	1.41

700VDC RATED—750VDC SURGE

15F190	WBR10-700	10	.937x3.812	3.18	2.44	1.77	1.33
15F192*	WBR16-700	16	.937x4.312	3.38	2.59	1.88	1.41

Cornell-Dubilier Capacitors and Decades

WMF MYLAR DIELECTRIC FILM ENCASED



Mylar film wrapping. End sealed with a high density thermo-setting plastic. Miniscule in size. High resistance to humidity. Full rated voltate@85C, 50% rated voltage@125C. Temp. range: -55 to +125°C. Tolerance: ±10%.

50 WVDC

Stk. No.	Type	Mfd.	DxL (in.)	1-24	25-49	50-99	100-499
15F2104	WMF05P1	.1	.250x1 3/16	.39	.30	.24	.20
15F2105	WMF05P12	.12	.275x1 3/16	.40	.31	.24	.20
15F2106	WMF05P15	.15	.285x1 3/16	.40	.31	.24	.20
15F2107	WMF05P18	.18	.315x1 3/16	.41	.32	.25	.21
15F2108	WMF05P22	.22	.330x1 3/16	.43	.33	.26	.22
15F2109	WMF05P27	.27	.390x1 3/16	.47	.36	.28	.24
15F2110	WMF05P33	.33	.400x1 3/16	.51	.39	.30	.26
15F2111	WMF05P39	.39	.375x1 1/16	.56	.43	.33	.28
15F2112	WMF05P47	.47	.375x1 1/16	.62	.47	.37	.31
15F2113	WMF05P5	.50	.395x1 1/16	.63	.48	.37	.32
15F2314	WMF05P56	.56	.450x1 1/16	.74	.56	.44	.37
15F2115	WMF05P68	.68	.490x1 1/16	.79	.60	.47	.40
15F2116	WMF05P82	.82	.505x1 1/16	.97	.74	.58	.49
15F2117	WMF05W1	1.0	.500x1 3/8	1.10	.84	.65	.55
15F2118	WMF05W2	2.0	.600x1 3/8	1.81	1.39	1.08	.91
15F2119	WMF05W3	3.0	.730x1 3/8	2.54	1.94	1.51	1.27
15F2120	WMF05W4	4.0	.760x1 3/8	3.00	2.29	1.78	1.50
15F2121	WMF05W5	5.0	.850x1 3/8	3.73	2.85	2.22	1.87

100 WVDC

15F1450	WMF1D1	.001	.156x1/2				
15F1837	WMF1D12	.0012	.156x1/2				
15F1451	WMF1D15	.0015	.156x1/2				
15F1838	WMF1D18	.0018	.156x1/2				
15F1452	WMF1D22	.0022	.156x1/2				
15F1839	WMF1D27	.0027	.156x1/2				
15F1453	WMF1D33	.0033	.156x1/2				
15F1840	WMF1D39	.0039	.156x1/2				
15F1454	WMF1D47	.0047	.156x1/2				
15F1841	WMF1D5	.005	.156x1/2	.32	.25	.19	.16
15F1842	WMF1D56	.0056	.156x1/2				
15F1455	WMF1D68	.0068	.175x1/2				
15F1843	WMF1D82	.0082	.175x1/2				
15F1456	WMF1S1	.01	.200x1/2				
15F1844	WMF1S12	.012	.215x1/2				
15F1457	WMF1S15	.015	.235x1/2				
15F1845	WMF1S18	.018	.255x1/2				
15F1458	WMF1S22	.022	.275x3/8				
15F1846	WMF1S27	.027	.300x3/8				
15F1459	WMF1S33	.033	.300x3/8				
15F1847	WMF1S39	.039	.245x3/4				
15F1848	WMF1S5	.05	.270x3/4	.33	.25	.20	.17
15F1849	WMF1S56	.056	.270x3/4	.34	.26	.21	.17
15F1461	WMF1S68	.068	.280x3/4	.35	.27	.21	.18
15F1850	WMF1S82	.082	.270x7/8	.36	.27	.21	.18
15F1462	WMF1P1	.1	.290x7/8	.36	.27	.21	.18
15F1460	WMF1S47	.047	.265x3/4	.36	.27	.21	.18
15F1463	WMF1P15	.15	.335x7/8	.36	.28	.22	.18
15F1464	WMF1P22	.22	.385x1	.39	.30	.23	.20
15F1465	WMF1P33	.33	.415x1 1/8	.46	.35	.28	.23
15F1466	WMF1P47	.47	.475x1 1/4	.55	.42	.33	.28
15F1467	WMF1P68	.68	.570x1 1/4	.72	.55	.43	.36
15F1468	WMF1W1	1.0	.625x1 1/2	.99	.76	.59	.50
15F1469	WMF1W1P25	1.25	.690.1 1/2	1.14	.87	.68	.57
15F1470	WMF1W1P5	1.5	.715x1 5/8	1.35	1.03	.80	.68
15F1471	WMF1W2	2.0	.800x1 3/4	1.63	1.25	.97	.82

200 WVDC

15F1742	WMF2D1	.001	.156x1/2				
15F1473	WMF2D15	.0015	.156x1/2				
15F1474	WMF2D22	.0022	.156x1/2				
15F1475	WMF2D33	.0033	.160x1/2				
15F1476	WMF2D47	.0047	.170x1/2	.32	.25	.19	.16
15F1477	WMF2D68	.0068	.200x1/2				
15F1478	WMF2S1	.01	.230x1/2				
15F1479	WMF2S15	.015	.290x1/2				
15F1480	WMF2S22	.022	.275x3/8				
15F1481	WMF2S33	.033	.270x3/4				
15F1482	WMF2S47	.047	.320x3/4	.33	.25	.20	.17
15F1483	WMF2S68	.068	.350x3/4	.35	.27	.21	.18
15F1484	WMF2P1	.1	.410x7/8	.43	.33	.26	.22
15F1485	WMF2P15	.15	.500x7/8	.45	.34	.27	.23
15F1486	WMF2P11	.22	.500x1 1/8	.48	.36	.28	.24
15F1487	WMF2P33	.33	.550.1 1/8	.54	.41	.32	.27
15F1488	WMF2P47	.47	.600x1 1/4	.61	.47	.36	.31
15F1489	WMF2P68	.68	.650x1 3/8	.72	.55	.43	.36
15F1490	WMF2W1	1.0	.750x1 3/4	.99	.76	.59	.50
15F1491	WMF2W1P25	1.25	.825x1 3/4	1.14	.87	.68	.57
15F1492	WMF2W1PS	1.5	.900x1 3/4	1.35	1.03	.80	.68
15F1493	WMF2W2	2.0	980x1 7/8	1.63	1.25	.97	.82

400 WVDC

15F1494	WMF4D1	.001	.156x3/8				
15F1495	WMF4D15	.0015	.156x3/8				
15F1496	WMF4D22	.0022	.156x3/8	.36	.28	.22	.18
15F1497	WMF4D33	.0033	.190x3/8				
15F1498	WMF4D47	.0047	.200x3/8				
15F1499	WMF4D68	.0068	.250x3/8				

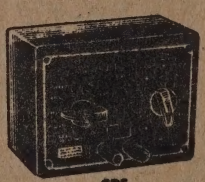
400 WVDC (Con't.)

Stk. No.	Type	Mfd.	DxL (in.)	1-24	25-49	50-99	100-499
15F1500	WMF4S1	.01	.300x3/8				
15F1501	WMF4S15	.015	.360x3/8	.36	.28	.22	.18
15F1502	WMF4S22	.022	.320x3/4				
15F1503	WMF4S33	.033	.350x3/8				
15F1504	WMF4S47	.047	.400x3/8	.37	.29	.22	.19
15F1505	WMF4S68	.068	.390x1	.40	.31	.24	.20
15F1506	WMF4P1	.1	.465x1	.41	.31	.24	.21
15F1507	WMF4P15	.15	.515x1 1/4	.43	.33	.26	.22
15F1508	WMF4P22	.22	.565x1 3/8	.49	.38	.29	.25
15F1509	WMF4P33	.33	.600x1 3/8	.80	.61	.47	.40
15F1510	WMF4P47	.47	.700x1 3/8	.95	.72	.56	.48
15F1511	WMF4P68	.68	.790x1 3/4	1.16	.88	.69	.58
15F1512	WMF4W1	1.0	.875x2	1.38	1.05	.82	.69
15F1513	WMF4W1P25	1.25	.950x2	1.51	1.15	.90	.76
15F1514	WMF4W1P5	1.5	.975x2 1/4	1.71	1.31	1.02	.86
15F1515	WMF4W2	2.0	1.250x2 1/4	2.24	1.71	1.33	1.12

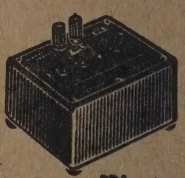
600 WVDC

15F1516	WMF6D1	.001	.170x3/4				
15F1517	WMF6D15	.0015	.170x3/4				
15F1518	WMF6D22	.0022	.187x3/4				
15F1519	WMF6D33	.0033	.203x3/4				
15F1520	WMF6D47	.0047	.234x3/4	.41	.32	.25	.21
15F1521	WMF6D68	.0068	.265x3/4				
15F1522	WMF6S1	.01	.290x3/4				
15F1523	WMF6S15	.015	.312x3/8				
15F1524	WMF6S22	.022	.335x3/8				
15F1525	WMF6S33	.033	.350x1				
15F1526	WMF6S47	.047	.415x1	.41	.32	.25	.21
15F1527	WMF6S68	.068	.500x1	.43	.33	.26	.22
15F1528	WMF6P1	.1	.520x1 1/8	.54	.41	.32	.27
15F1529	WMF6P15	.15	.625x1 1/4	.56	.43	.33	.28
15F1530	WMF6P22	.22	.660x1 3/8	.63	.49	.38	.32
15F1935	WMF6P33	.33	.687x2	1.08	.83	.65	.54
15F1936	WMF6P47	.47	.855x2	1.39	1.06	.83	.70
15F1930	WMF6P68	.68	.970x2	1.86	1.42	1.10	.93
15F1931	WMF6W1	1.0	1.165x2 1/2	2.93	2.24	1.74	1.47
15F1932	WMF6W1P25	1.25	1.340x2 1/2	3.16	2.42	1.88	1.58
15F1933	WMF6W1P5	1.5	1.275x3	3.83	2.93	2.28	1.92
15F1934	WMF6W2	2.0	1.460x3	4.79	3.66	2.84	2.40

CAPACITOR AND RESISTOR DECADES



CDE



RDA

CD Capacitor and RD Resistor Decade boxes provide precision values for breadboarding and substitution. Direct-reading value ranges, six-way molded nylon terminal posts, and calibration chart for capacitance boxes to improve accuracy. Capacitor decade box CDE uses toggle switches, all other boxes have rotary-type switches. Resistor decade box RDC rated at 2 watts maximum, types RDA and RDB rated at 10 watts maximum dissipation. Individual capacitor boxes available in tantalum electrolytic type. Size: 3 13/16X5X3 9/16", weight 2 lbs.

CAPACITOR DECADE RATINGS

Type	Tol.	Dielectric	Max. Volt.	Min.	Max.	Steps
CDA-2	±2%	Silv. Mica	600VDC,220VAC	.0001	.011	.0001
CDB-3	±3%	Paper		.01	1.1	.01
CDC-3	±3%	Paper		1.0	10.0	1.0
CDE	-10%,+50%	Etched Cath. Alum. Elec.	450VDC	10	150	10

RESISTOR DECADE RATINGS

		Resistance, Ohms				
Type	Resistor	L. Range	H. Range	Max.	Step	Tol.
RDA	Wire Wound	1-10	10-100	110	1	*
RDB	Non-Induc. W. Wound	100-1K	1K-10K	11K	100	+3%
RDC	Carbon Precision	10K-100K	100K-1M	1.1M	10K	+1%

(*) Low Range ±5%, High Range ±3%

Stock No.	Type	1-9	10-Up	Stock No.	Type	1-9	10-Up
62F657	CDA-2	19.47	17.70	62F655	RDA	25.05	22.95
62F645	CDB-3	22.00	20.00	62F656	RDB	26.60	25.30
62F646	CDC-3	36.40	33.10	62F654	RDC	24.85	22.70
62F647	CDE	21.35	19.40				

Cornell-Dubilier Capacitors

DPMS KRAFT/POLYESTER TUBULAR CAPACITOR

High impact, dipped casing protects against moisture, soldering iron contact, other mechanical damage. Leads formed for PC wiring. Temperature characteristic stable within temperature range of −55° to +125°C at full rated voltage. Type DPMS meets applicable parts of MIL-C-25 regarding moisture resistance and immersion cycling. Leads are #20 AWG tinned copper clad steel wire. 2000 Volt values are available.

200 VOLTS

Stk. No.	Type	Mfd.	Size	EACH 1-24	25-49	50-99	100-499
15F1600	DPMS2S2	.02	.350x.855	.28	.19	.15	.13
67F2000	DPMS2S22	.022	.370x.855	.28	.19	.15	.13
15F1601	DPMS2S47	.047	.450x.855	.28	.20	.16	.14
67F2001	DPMS2S5	.05	.450x.855	.28	.22	.17	.15
15F1603	DPMS2P1	.1	.470x1.180	.31	.24	.19	.17
15F1604	DPMS2P15	.15	.540x1.180	.42	.30	.23	.20
67F2002	DPMS2P2	.2	.565x1.300	.42	.32	.25	.21
15F1605	DPMS2P22	.22	.590x1.300	.49	.35	.27	.24
67F2003	DPMS2P25	.25	.620x1.300	.52	.37	.29	.25
67F2004	DPMS2P33	.33	.605x1.600	.52	.40	.31	.27
15F1607	DPMS2P47	.47	.730x1.600	.63	.46	.36	.31
67F2005	DPMS2P5	.5	.730x1.600	.63	.47	.37	.32

400 VOLTS

67F2006	DPMS4S1	.01	.390x.660				
67F2007	DPMS4S15	.015	.430x.660				
67F2008	DPMS4S2	.02	.390x.855	.28	.19	.15	.13
67F2009	DPMS4S22	.022	.400x.855				
67F2010	DPMS4S33	.033	.440x.855				
67F2011	DPMS4S47	.047	.415x1.150	.28	.21	.17	.14
67F2012	DPMS4S5	.05	.415x1.150	.31	.22	.17	.15
67F2013	DPMS4S68	.068	.440x1.180	.31	.23	.18	.16
67F2014	DPMS4P1	.1	.520x1.180	.38	.27	.21	.18
67F2015	DPMS4P15	.15	.560x1.300	.42	.31	.25	.21
67F2016	DPMS4P2	.2	.600x1.560	.45	.34	.27	.23
67F2017	DPMS4P22	.22	.620x1.560	.49	.35	.27	.24
67F2018	DPMS4P25	.25	.650x1.560	.56	.42	.33	.28
67F2019	DPMS4P47	.47	.850x1.600	.80	.58	.45	.39
67F2020	DPMS4P5	.5	.850x1.600	.80	.60	.47	.40

600 VOLTS

15F1609	DPMS6D1	.001	.340x.660				
67F2021	DPMS6D12	.0012	.340x.660				
67F2022	DPMS6D15	.0015	.340x.660	.28	.19	.15	.13
15F1610	DPMS6D2	.002	.340x.660				
67F2023	DPMS6D22	.0022	.340x.660				
15F1611	DPMS6D25	.0025	.340x.660				
67F2024	DPMS6D27	.0027	.370x.660				
15F1612	DPMS6D3	.003	.370x.660	.28	.19	.15	.13
67F2025	DPMS6D33	.0033	.370x.660				
67F2027	DPMS6D39	.0039	.370x.660				
67F2028	DPMS6D4	.004	.370x.660				
67F2029	DPMS6D47	.0047	.400x.690				
15F1613	DPMS6D5	.005	.400x.690	.28	.19	.15	.13
67F2030	DPMS6D56	.0056	.415x.690				
67F2031	DPMS6D6	.006	.415x.690				
67F2032	DPMS6D68	.0068	.430x.690				
67F2033	DPMS6D75	.0075	.430x.690				
67F2034	DPMS6D8	.008	.430x.690	.28	.19	.15	.13
67F2035	DPMS6D82	.0082	.370x.870				
15F1614	DPMS6S1	.01	.390x.870				

600 VOLTS (cont'd)

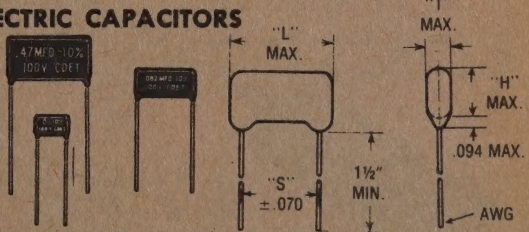
Stk. No.	Type	Mfd.	Size	EACH 1-24	25-49	50-99	100-499
67F2036	DPMS6S12	.012	.400x.870	.28	.19	.15	.13
67F2037	DPMS6S15	.015	.415x.870	.28	.19	.15	.13
15F1615	DPMS6S2	.02	.445x.870	.28	.20	.15	.13
67F2038	DPMS6S22	.022	.470x.870	.28	.20	.15	.13
67F2039	DPMS6S25	.025	.500x.870	.28	.21	.16	.14
67F2040	DPMS6S27	.027	.415x1.150	.28	.22	.17	.15
15F1616	DPMS6S3	.03	.415x1.150	.31	.24	.19	.16
67F2041	DPMS6S33	.033	.430x1.150	.31	.24	.19	.16
67F2042	DPMS6S36	.036	.450x1.150	.35	.25	.20	.17
67F2043	DPMS6S39	.039	.470x1.150	.35	.25	.20	.17
67F2044	DPMS6S4	.04	.470x1.150	.38	.27	.21	.18
15F1617	DPMS6S47	.047	.490x1.150	.38	.27	.21	.18
15F1618	DPMS6S5	.05	.490x1.150	.38	.27	.21	.18
67F2045	DPMS6S56	.056	.520x1.180	.38	.27	.21	.18
67F2046	DPMS6S6	.06	.520x1.180	.38	.29	.22	.19
15F1619	DPMS6S68	.068	.540x1.300	.42	.30	.23	.20
67F2047	DPMS6S75	.075	.575x1.300	.42	.32	.25	.21
67F2048	DPMS6S82	.082	.590x1.300	.42	.32	.25	.21
15F1620	DPMS6P1	.1	.640x1.300	.45	.34	.27	.23
67F2049	DPMS6P15	.15	.650x1.560	.56	.41	.32	.28
67F2050	DPMS6P2	.2	.730x1.560	.63	.47	.37	.31
15F1622	DPMS6P22	.22	.750x1.560	.69	.51	.40	.34
15F1623	DPMS6P25	.25	.830x1.560	.76	.56	.44	.37
67F2051	DPMS6P33	.33	.890x1.560	.94	.71	.55	.47

1600 VOLTS

67F2052	DPMS16D1	.001	.350x.870	.28	.22	.17	.15
67F2053	DPMS16D15	.0015	.375x.870	.31	.22	.17	.15
67F2054	DPMS16D18	.0018	.400x.870	.31	.23	.18	.16
67F2055	DPMS16D2	.002	.405x.870	.31	.23	.18	.16
67F2056	DPMS16D22	.0022	.420x.870	.31	.23	.18	.16
67F2057	DPMS16D3	.003	.475x.870	.31	.23	.18	.16
67F2058	DPMS16D33	.0033	.480x.870	.35	.24	.19	.16
67F2059	DPMS16D4	.004	.520x.870	.35	.25	.19	.17
67F2060	DPMS16D47	.0047	.540x.870	.35	.26	.21	.18
67F2061	DPMS16D5	.005	.565x.870	.35	.26	.21	.18
67F2062	DPMS16D6	.006	.460x1.180	.35	.26	.21	.18
67F2063	DPMS16D68	.0068	.485x1.180	.35	.26	.21	.18
67F2064	DPMS16D7	.007	.485x1.180	.35	.27	.21	.18
67F2065	DPMS16D75	.0075	.495x1.180	.38	.27	.21	.18
67F2066	DPMS16D8	.008	.510x1.180	.38	.27	.21	.18
67F2067	DPMS16S1	.01	.525x1.180	.38	.29	.23	.19
67F2068	DPMS16S15	.015	.560x1.300	.42	.29	.23	.20
67F2069	DPMS16S2	.02	.570x1.600	.45	.32	.25	.21
67F2070	DPMS16S22	.022	.585x1.600	.49	.36	.28	.24
67F2071	DPMS16S3	.03	.665x1.600	.87	.52	.40	.31
67F2072	DPMS16S33	.033	.695x1.600	.56	.42	.33	.28
67F2073	DPMS16S4	.04	.735x1.600	.59	.44	.34	.29
67F2074	DPMS16S47	.047	.785x1.600	.63	.47	.37	.32
67F2075	DPMS16S5	.05	.815x1.600	.63	.47	.37	.32

DMT POLYESTER FILM DIELECTRIC CAPACITORS

General purpose capacitors feature close capacitance tolerances, high insulation resistance, better capacitance stability, low dissipation factor, and excellent moisture resistance. Encased in brown plastic combination coating for superior protection against extremes of humidity and temperature. Non-inductive extended foil construction assures low losses; directly attached to tinned, copperclad steel wire leads. Continuous operation over the range of −55°C to +125°C without derating. Capacitance, voltage rating and type designation are clearly marked on encasement.



100 VDC at 125°C—200 VDC at 85°C **Lead Wire Size:** AWG #22 (.635 MM)

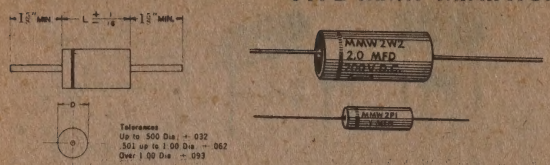
Stk. No.	Type	Mfd.	Size "T" x "L"	EACH 1-24	25-99	100-499	500-999
15F2185	DMT1D1	.001	.190x.437	.20	.13	.09	.07
15F2186	DMT1D15	.0015	.200x.437	.20	.13	.09	.07
15F2187	DMT1D22	.0022	.210x.437	.20	.13	.09	.07
15F2188	DMT1D33	.0033	.210x.437	.20	.13	.09	.07
15F2189	DMT1D47	.0047	.210x.437	.20	.13	.09	.07
15F2190	DMT1D68	.0068	.210x.437	.20	.13	.09	.07
15F2191	DMT1S1	.01	.250x.437	.20	.13	.09	.07
14F2192	DMT1S15	.015	.290x.437	.20	.13	.09	.07
15F2193	DMT1S22	.022	.260x.437	.20	.13	.09	.07

100 VDC at 125°C—200 VDC at 85°C **Lead Wire Size:** AWG #20 (.812 MM)

Stk. No.	Type	Mfd.	Size "T" x "L"	EACH 1-24	25-49	100-499	500-999
15F2194	DMT1S33	.033	.275x.562	.21	.14	.09	.08
15F2195	DMT1S47	.047	.275x.562	.22	.14	.10	.08
15F2196	DMT1S68	.068	.275x.562	.23	.15	.10	.08
15F2197	DMT1P1	.1	.330x.718	.26	.17	.11	.09
15F2198	DMT1P15	.15	.360x.718	.31	.21	.14	.11
15F2199	DMT1P22	.22	.375x.843	.37	.24	.16	.13
15F2200	DMT1P33	.33	.430x1.000	.42	.27	.18	.15
15F2201	DMT1P47	.47	.600x1.125	.48	.32	.21	.17

Cornell-Dubilier Capacitors

TYPE MMW MINIATURE POLYESTER TUBULARS



Tolerances
Up to .500 Dia. ± .032
.501 up to 1.00 Dia. ± .062
Over 1.00 Dia. ± .093

Metallized polyester dielectric capacitor features extremely small sizes and is ideally suited for application in miniature transistorized circuits and compact, miniaturized military, industrial, and commerical equipment. Metallized polyester film dielectric section tightly wound and encased in tough film wrapper. Epoxy end seals bonded to the wrapper and leads. Has excellent resistance to humidity and moisture as well as capacitance stability over the operating temperature range of −55°C to +85°C at full rated voltage. May be operated to maximum temperature of +125°C with voltage derated to 50% of the +85°C value. Tolerance: ±20%. Average shpg. wt. 3 oz.

400 V DCW

Stock No.	Type No.	Cap. Mfd.	D x L Inches	1-24	25-49	50-99	100-499
67F2136	MMW4S1	.01	.180x3/16	.66	.50	.39	.33
67F2137	MMW4S15	.015	.180x1 1/16	.69	.52	.40	.35
67F2138	MMW4S22	.022	.210x1 1/16	.69	.52	.40	.35
67F2139	MMW4S33	.033	.250x1 1/16	.72	.54	.42	.36
67F2140	MMW4S47	.047	.300x1 1/16	.75	.56	.44	.38
67F2141	MMW4S68	.068	.350x1 1/16	.78	.58	.45	.39
67F2142	MMW4P1	.1	.325x1	.84	.63	.49	.42
67F2143	MMW4P15	.15	.375x1	.93	.70	.54	.47
67F2144	MMW4P22	.22	.400x1 1/4	1.02	.76	.59	.51
67F2169	MMW4P33	.33	.450x1 1/2	1.16	.87	.68	.58
67F2170	MMW4P47	.47	.520x1 1/2	1.34	1.01	.79	.67
67F2171	MMW4P68	.68	.625x1 1/2	1.52	1.14	.89	.76
67F2172	MMW4W1	1.0	.675x1 3/4	1.91	1.44	1.12	.96
67F2173	MMW4W1P5	1.5	.825x1 3/4	2.39	1.79	1.40	1.20
67F2174	MMW4W2	2.0	.950x1 3/4	2.90	2.17	1.69	1.45

600 V DCW

Stock No.	Type No.	Cap. Mfd.	D x L Inches	1-24	25-49	50-99	100-499
67F2145	MMW6S1	.01	.200x3/4	.69	.52	.40	.35
67F2146	MMW6S15	.015	.250x3/4	.72	.54	.42	.36
67F2147	MMW6S22	.022	.300x3/4	.75	.56	.44	.38
67F2148	MMW6S33	.033	.370x3/4	.78	.58	.45	.39
67F2149	MMW6S47	.047	.325x1 1/16	.84	.63	.49	.42
67F2150	MMW6S68	.068	.400x1 1/16	.90	.67	.52	.45
67F2151	MMW6P1	.1	.450x1 1/16	.96	.72	.56	.48
67F2152	MMW6P15	.15	.475x1 1/4	1.07	.81	.63	.54
67F2153	MMW6P22	.22	.575x1 1/4	1.25	.94	.73	.63
67F2175	MMW6P33	.33	.560x1 3/4	1.55	1.16	.91	.78
67F2176	MMW6P47	.47	.675x1 3/4	1.88	1.41	1.10	.94
67F2177	MMW6P68	.68	.800x1 3/4	2.28	1.71	1.33	1.14
67F2178	MMW6W1	1.0	.950x1 3/4	3.01	2.26	1.76	1.51

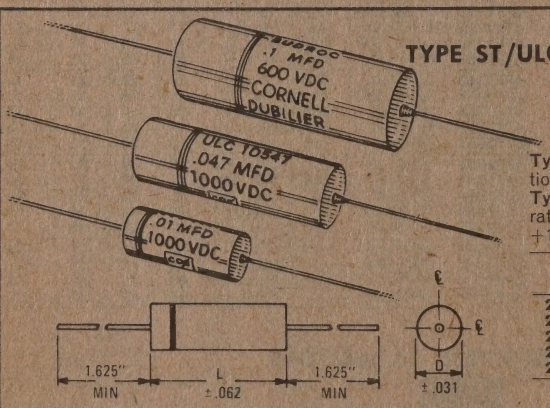
50 V DCW

Stock No.	Type No.	Cap. Mfd.	D x L Inches	1-24	25-49	50-99	100-499
67F2127	MMW05P1	.1	.170x1 1/16	.75	.56	.44	.38
67F2128	MMW05P15	.15	.190x1 1/16	.81	.61	.47	.41
67F2129	MMW05P22	.22	.215x1 1/16	.90	.67	.52	.45
67F2154	MMW05P33	.33	.265x1 1/16	1.02	.76	.59	.51
67F2155	MMW05P47	.47	.315x1 1/16	1.05	.79	.61	.53
67F2156	MMW05P68	.68	.280x1	1.13	.85	.66	.57
67F2157	MMW05W1	1.0	.325x1	1.27	.95	.74	.64
67F2158	MMW05W1P5	1.5	.340x1 1/4	1.52	1.14	.89	.76
67F2159	MMW05W2	2.0	.405x1 1/4	1.83	1.37	1.07	.92
67F2160	MMW05W3	3.0	.500x1 1/4	2.22	1.67	1.30	1.11
67F2161	MMW05W4	4.0	.510x1 3/8	2.81	2.11	1.64	1.41
67F2162	MMW05W5	5.0	.510x1 3/4	3.12	2.34	1.82	1.56

200 V DCW

Stock No.	Type No.	Cap. Mfd.	D x L Inches	1-24	25-49	50-99	100-499
67F2130	MMW2S33	.033	.180x9/16	.69	.52	.40	.35
67F2131	MMW2S47	.047	.200x9/16	.69	.52	.40	.35
67F2132	MMW2S68	.068	.200x1 1/16	.72	.54	.42	.36
67F2133	MMW2P1	.1	.240x1 1/16	.75	.56	.44	.38
67F2134	MMW2P15	.15	.280x1 1/16	.81	.61	.47	.41
67F2135	MMW2P22	.22	.340x1 1/16	.90	.67	.52	.45
67F2163	MMW2P33	.33	.390x1 1/16	1.02	.76	.59	.51
67F2164	MMW2P47	.47	.370x1	1.05	.79	.61	.53
67F2165	MMW2P68	.68	.420x1	1.13	.85	.66	.57
67F2166	MMW2W1	1.0	.500x1	1.27	.95	.74	.64
67F2167	MMW2W1P5	1.5	.540x1 1/4	1.52	1.14	.89	.76
15F1657	MMW2W2	2.0	.620x1 1/4	1.83	1.37	1.07	.92

TYPE ST/ULC CAPACITORS

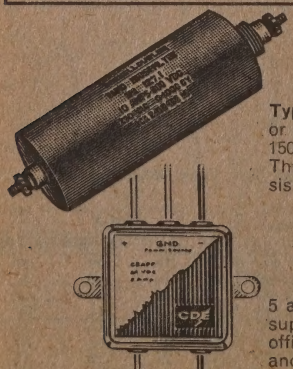


- AC LINE-BY-PASS
- ACROSS-THE-LINE
- ANTENNA COUPLING
- U/L LISTED

Type ST. Listed for A.C. line-by-pass and antenna coupling applications. May be operated at full rated voltage from −55°C to +85°C. **Type ULC.** For across the line applications. May be operated at full rated voltage from −55°C to +85°C and derated linearly to 50% at +125°C. Steatite case with flame retardant epoxy end seals.

Stk. No.	Type No.	Cap. Mfd.	Voltage AC	Voltage DC	Wire Size	1-24	25-49	50-99	100-499
20F1092	ST6S47	.047	125	600	#20	.34	.26	.20	.17
20F1093	ST6P1	.1	125	600	#18	.44	.33	.26	.22
20F1096	ULC10S1	.01	250	1000	#22	.77	.58	.45	.39
20F1097	ULC10S22	.022	250	1000	#22	.85	.64	.50	.43
20F1098	ULC10S47	.047	250	1000	#20	.92	.69	.54	.46

EMI FILTERS—TYPE NFR



Type NFR. Designed for high attenuation or RF interference over the ranges of (#) 150kHz to 10 gHz and (+) 14kHz to 10gHz. Three terminal design for bulkhead or chassis shielded mounting.

Stock No.	Type	Amps	Volts AC	Volts DC	1-24	25-49	50-99	100-499
15F2222	NFR100-8	1.0	250	600	19.20	12.80	9.60	8.64
15F2223	NFR110-4	3.0	250	600	19.46	12.97	9.72	8.76
15F2224	NFR101-4	5.0	250	600	19.90	13.27	9.95	8.96
15F2225	NFR102-6A	10.0	250	600	24.45	16.30	12.23	11.00
15F2226	NFR111-2A	20.0	250	600	40.83	27.22	20.42	18.38
15F2227	NFR112-1A	30.0	250	600	56.85	37.90	28.43	25.58
15F2228	NFR103-5A	50.0	250	600	76.90	51.27	38.45	34.61

TYPE IF FILTERS

5 amp portable devices designed for RFI suppression of fluorescent light sources, office machines and other small appliances. Electrical appliances are plugged into line sockets provided.

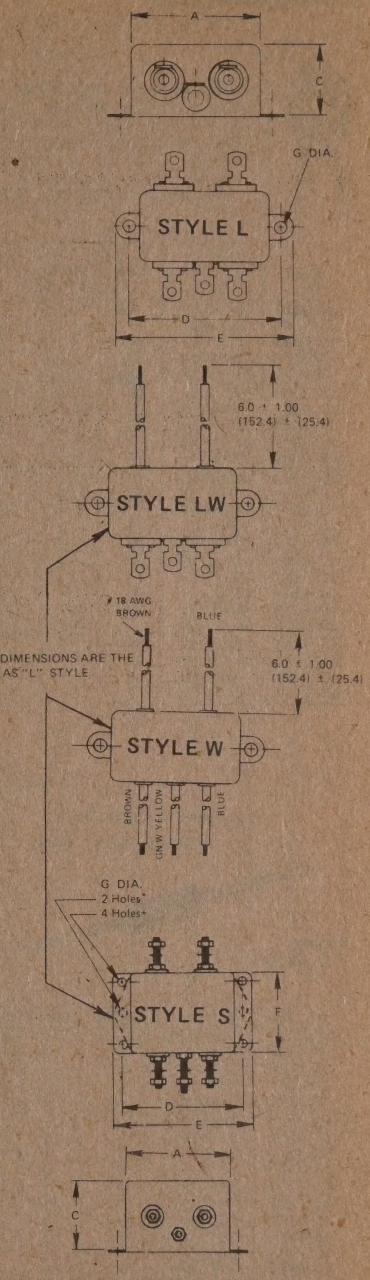
Stock No.	Type	Volts	1-24	25-99	100-Up
48F007	IF24	277VAC	2.66	2.13	1.59
48F006	IF54	110-220 AC/DC	6.22	4.98	3.73

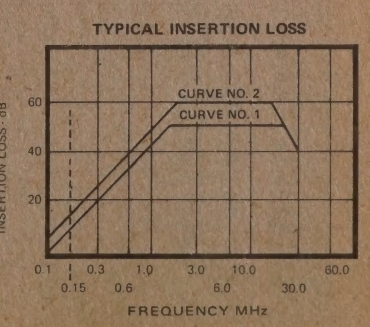
Cornell-Dubilier APF Power Line Filters

Filters for most electro-magnetic interference (EMI) applications. For line-to-line and line-to-ground uses. Rated Voltage; 115-250 VAC, 50-60 Hz. Tested Di-electric strength; 2100 VDC. Leakage Current; 0.5 mA at 115 VAC. Insertion Loss Curves; measured in 50 ohm system per MIL-STD-220. UL recognition for data processing. Applications Include: business and office machines, computer systems, calculators, disc drives, microwave ovens, plus other major uses.

Stock No.	Type	Rating Amps	A ± .031	B ± .031	C ± .031	D ± .016	E ± .031	F ± .016	G ± .005	1-24	25-49	50-99	100-499
15F1098	APF110L		1.81	1.00	1.00	2.12	2.50	....	187	7.83	6.58	5.98	5.06
15F1099	APF110LW	1	1.81	1.00	1.00	2.12	2.50	....	187	8.24	6.92	6.29	5.32
15F1101	APF110W		1.81	1.00	1.00	2.12	2.50	....	187	9.90	8.32	7.56	6.40
15F1102	APF120L		1.81	1.00	1.00	2.12	2.50	....	187	8.69	7.30	6.64	5.62
15F1103	APF120LW	1	1.81	1.00	1.00	2.12	2.50	....	187	8.86	7.44	6.76	5.73
15F1104	APF120W		1.81	1.00	1.00	2.12	2.50	....	187	10.55	8.86	8.05	6.82
15F1105	APF130L		2.00	2.00	1.12	2.38	2.75	....	187	11.64	9.78	8.89	7.53
15F1106	APF130LW	1	2.00	2.00	1.12	2.38	2.75	....	187	11.45	9.62	8.74	7.40
15F1107	APF130W		2.00	2.00	1.12	2.38	2.75	....	187	12.26	10.30	9.36	7.93
15F1108	APF140L		2.00	2.00	1.12	2.38	2.75	....	187	12.62	10.60	9.64	8.16
15F1109	APF140LW	1	2.00	2.00	1.12	2.38	2.75	....	187	12.38	10.40	9.45	8.00
15F1110	APF140W		2.00	2.00	1.12	2.38	2.75	....	187	13.19	11.08	10.07	8.53
15F1111	APF150L*		2.00	2.00	1.12	2.38	2.75	....	187	10.60	8.90	8.09	6.85
15F1112	APF150LW*	1	2.00	2.00	1.12	2.38	2.75	....	187	11.17	9.38	8.53	7.22
15F1113	APF150W*		2.00	2.00	1.12	2.38	2.75	....	187	11.98	10.06	9.14	7.74
15F1114	APF210L		1.81	1.00	1.00	2.12	2.50	....	187	7.83	6.58	5.98	5.06
15F1115	APF210LW	2	1.81	1.00	1.00	2.12	2.50	....	187	8.24	6.92	6.29	5.32
15F1116	APF210W		1.81	1.00	1.00	2.12	2.50	....	187	9.90	8.32	7.56	6.40
15F1117	APF220L		1.81	1.00	1.00	2.12	2.50	....	187	8.69	7.30	6.64	5.62
15F1118	APF220LW	2	1.81	1.00	1.00	2.12	2.50	....	187	8.86	7.44	6.76	5.73
15F1119	APF220W		1.81	1.00	1.00	2.12	2.50	....	187	10.55	8.86	8.05	6.82
15F1120	APF230L		2.00	2.00	1.12	2.38	2.75	....	187	11.64	9.78	8.89	7.53
15F1121	APF230LW	2	2.00	2.00	1.12	2.38	2.75	....	187	11.45	9.62	8.74	7.40
15F1122	APF230W		2.00	2.00	1.12	2.38	2.75	....	187	12.26	10.30	9.36	7.93
15F1123	APF240L		2.00	2.00	1.12	2.38	2.75	....	187	12.62	10.60	9.64	8.16
15F1124	APF240LW	2	2.00	2.00	1.12	2.38	2.75	....	187	12.38	10.40	9.45	8.00
15F1125	APF240W		2.00	2.00	1.12	2.38	2.75	....	187	13.19	11.08	10.07	8.53
15F1126	APF250L*		2.00	2.00	1.12	2.38	2.75	....	187	9.86	8.28	7.53	6.37
15F1127	APF250LW*	2	2.00	2.00	1.12	2.38	2.75	....	187	10.38	8.72	7.93	6.71
15F1128	APF250W*		2.00	2.00	1.12	2.38	2.75	....	187	11.14	9.36	8.51	7.20
15F1129	APF310L		1.75	1.25	1.12	2.12	2.50	....	187	8.48	7.12	6.47	5.48
15F1130	APF310LW	3	1.75	1.25	1.12	2.12	2.50	....	187	8.64	7.26	6.60	5.59
15F1131	APF310W		1.75	1.25	1.12	2.12	2.50	....	187	10.02	8.42	7.65	6.48
15F1132	APF320L		1.75	1.25	1.12	2.12	2.50	....	187	9.90	8.32	7.56	6.40
15F1133	APF320LW	3	1.75	1.25	1.12	2.12	2.50	....	187	9.50	7.98	7.25	6.14
15F1134	APF320W		1.75	1.25	1.12	2.12	2.50	....	187	10.76	9.04	8.22	6.96
15F1135	APF330L		2.00	2.00	1.12	2.38	2.75	....	187	11.57	9.72	8.84	7.48
15F1136	APF330LW	3	2.00	2.00	1.12	2.38	2.75	....	187	11.95	10.04	9.13	7.73
15F1137	APF330W		2.00	2.00	1.12	2.38	2.75	....	187	12.21	10.26	9.33	7.90
15F1138	APF340L		2.00	2.00	1.12	2.38	2.75	....	187	12.50	10.50	9.54	8.08
15F1139	APF340LW	3	2.00	2.00	1.12	2.38	2.75	....	187	12.83	10.78	9.86	8.30
15F1140	APF340W		2.00	2.00	1.12	2.38	2.75	....	187	13.10	11.00	10.00	8.46
15F1141	APF350L*		2.00	2.00	1.50	2.38	2.75	....	187	12.05	10.12	9.20	7.79
15F1142	APF350LW*	3	2.00	2.00	1.50	2.38	2.75	....	187	12.60	10.58	9.62	8.14
15F1143	APF350W*		2.00	2.00	1.50	2.38	2.75	....	187	13.55	11.38	10.34	8.76
15F1144	APF510L		1.75	1.25	1.12	2.12	2.50	....	187	8.48	7.12	6.47	5.48
15F1145	APF510LW	5	1.75	1.25	1.12	2.12	2.50	....	187	8.64	7.26	6.60	5.59
15F1146	APF510W		1.75	1.25	1.12	2.12	2.50	....	187	10.02	8.42	7.65	6.48
15F1147	APF520L		1.75	1.25	1.12	2.12	2.50	....	187	9.90	8.32	7.56	6.40
15F1148	APF520LW	5	1.75	1.25	1.12	2.12	2.50	....	187	9.50	7.98	7.25	6.14
15F1149	APF520W		1.75	1.25	1.12	2.12	2.50	....	187	10.76	9.04	8.22	6.96
15F1150	APF530L		2.00	2.00	1.12	2.38	2.75	....	187	11.57	9.72	8.84	7.48
15F1151	APF530LW	5	2.00	2.00	1.12	2.38	2.75	....	187	11.95	10.04	9.13	7.73
15F1152	APF530W		2.00	2.00	1.12	2.38	2.75	....	187	12.21	10.26	9.33	7.90
15F1153	APF540L		2.00	2.00	1.12	2.38	2.75	....	187	12.50	10.50	9.54	8.08
15F1154	APF540LW	5	2.00	2.00	1.12	2.38	2.75	....	187	12.83	10.78	9.86	8.30
15F1155	APF540W		2.00	2.00	1.12	2.38	2.75	....	187	13.10	11.00	11.00	8.46
15F1156	APF550L*		2.00	2.00	1.50	2.38	2.75	....	187	11.21	9.42	8.56	7.25
15F1157	APF550LW*	5	2.00	2.00	1.50	2.38	2.75	....	187	11.71	9.84	8.94	7.57
15F1158	APF550W*		2.00	2.00	1.50	2.38	2.75	....	187	12.60	10.58	9.62	8.14
15F1159	APF1010L		1.75	1.25	1.12	2.12	2.50	....	187	9.33	7.84	7.13	6.03
15F1160	APF1010LW	10	1.75	1.25	1.12	2.12	2.50	....	187	9.12	7.66	6.96	5.89
15F1161	APF1010W		1.75	1.25	1.12	2.12	2.50	....	187	10.45	8.78	7.98	6.76
15F1162	APF1020L		1.75	1.25	1.12	2.12	2.50	....	187	10.50	8.82	8.02	6.79
15F1163	APF1020LW	10	1.75	1.25	1.12	2.12	2.50	....	187	9.83	8.26	7.51	6.36
15F1164	APF1020W		1.75	1.25	1.12	2.12	2.50	....	187	10.95	9.20	8.36	7.08
15F1165	APF1030L		2.00	2.00	1.50	2.38	2.78	....	187	13.98	11.74	10.67	9.03
15F1166	APF1030LW	10	2.00	2.00	1.50	2.38	2.78	....	187	13.17	11.06	10.05	8.51
15F1167	APF1030W		2.00	2.00	1.50	2.38	2.78	....	187	14.31	12.02	10.93	9.25
15F1168	APF1040L		2.00	2.00	1.50	2.38	2.78	....	187	16.00	13.44	12.22	10.34
15F1169	APF1040LW	10	2.00	2.00	1.50	2.38	2.78	....	187	15.10	12.68	11.53	9.76
15F1170	APF1040W		2.00	2.00	1.50	2.38	2.78	....	187	16.41	13.78	12.53	10.60
15F1171	APF1050L*		2.00	2.00	1.50	2.38	2.78	....	187	12.17	10.22	9.29	7.86
15F1172	APF1050LW*	10	2.00	2.00	1.50	2.38	2.78	....	187	12.36	10.38	9.44	7.99
15F1173	APF1050W*		2.00	2.00	1.50	2.38	2.78	....	187	12.50	10.50	9.54	8.08
15F1174	APF2010S		2.50	2.00	1.75	2.94	3.31	....	178	14.19	11.92	10.84	9.17
15F1175	APF2020S	20	2.50	2.00	1.75	2.94	3.31	....	178	19.93	16.74	15.22	12.88
15F1176	APF2030S		2.88	2.25	2.00	3.38	3.88	1.75	203	25.10	21.08	19.16	16.22
15F1177	APF2040S		2.88	2.25	2.00	3.38	3.88	1.75	203	29.41	24.70	22.45	19.01
15F1178	APF2050S*	20	2.88	2.25	2.00	3.38	3.88	1.75	203	20.55	17.26	15.69	13.28
15F1179	APF3010S		2.50	2.00	1.75	2.94	3.31	....	178	21.17	17.78	16.16	13.68
15F1180	APF3020S		2.50	2.00	1.75	2.94	3.31	....	178	23.81	20.00	18.18	15.39
15F1181	APF3030S	30	2.88	2.25	2.00	3.38	3.88	1.75	203	28.81	24.20	22.00	18.62
15F1182	APF3040S		2.88	2.25	2.00	3.38	3.88	1.75	203	31.19	26.20	23.82	20.16

*For low-frequency applications.





Solid Tantalum Capacitors

TDC DIPPED SOLID ELECTROLYTIC TANTALUM CAPACITORS

TDC tantalum capacitors have a hard, dip coated epoxy coating and are supplied with tinned nickel radial leads. They exhibit the same long shelf life and performance as other solid tantalum capacitors. Ideally suited for use in industrial, commercial and entertainment electronics. Low priced. Operating temperature −55°C to +85°C. Tolerance ±20%.

DIMENSIONS

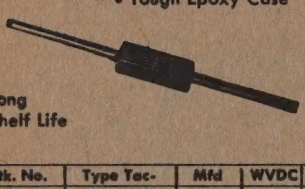
Case Size	Max. Inches Dia. x Ht.	Lead Dia. In Inches (±.002)	Lead Spacing (±.015)	Case Markings
E	.175 x .350	.020 (#24AWG)	.250	
F	.250 x .500	.020 (#24AWG)	.250	Color Coded
G	.350 x .650	.025 (#22AWG)	.250	Stamped Capacity,
H	.400 x .750	.025 (#22AWG)	.250	Voltage & Tol.

Stock No.	Mfr's. Type TDC-	Cap. µF	WV DC	Case Size	EACH 1-24	25-49	50-99	100-499
60F3851	685M006EL	6.8	6	E	.99	.79	.55	.40
60F3852	476M006FL	47	6	F	1.06	.84	.59	.43
60F3853	157M006GL	150	6	G	1.94	1.55	1.07	.78
60F3854	337M006HL	330	6	H	4.29	3.43	2.36	1.71
60F3855	475M010EL	4.7	10	E	.99	.79	.55	.40
60F3856	336M010FL	33	10	F	1.06	.84	.59	.43
60F3857	107M010GL	100	10	G	1.94	1.55	1.07	.78
60F3858	227M010HL	220	10	H	4.29	3.43	2.36	1.71
60F3859	335M015EL	3.3	15	E	.99	.79	.55	.40
60F3860	226M015FL	22	15	F	1.06	.84	.59	.43
60F3861	686M015GL	68	15	G	1.94	1.55	1.07	.78
60F3862	157M015HL	150	15	H	4.29	3.43	2.36	1.71
60F3863	225M020EL	2.2	20	E	.99	.79	.55	.40
60F3864	156M020FL	15	20	F	1.06	.84	.59	.43
60F3865	336M020GL	33	20	G	1.94	1.55	1.07	.78
60F3866	476M020GL	47	20	G	1.94	1.55	1.07	.78
60F3867	686M020HL	68	20	H	4.29	3.43	2.36	1.71
60F3868	107M020HL	100	20	H	4.29	3.43	2.36	1.71
60F3869	685M025FL	6.8	25	F	1.06	.84	.59	.43
60F3870	106M025FL	10	25	F	1.06	.84	.59	.43
60F3871	226M025GL	22	25	G	1.94	1.55	1.07	.78
60F3872	476M025HL	47	25	H	4.29	3.43	2.36	1.71
60F3873	686M025HL	68	25	H	4.29	3.43	2.36	1.71
60F3874	105M035EL	1	35	E	.99	.79	.55	.40

Stock No.	Mfrs. Type TDC-	Cap. µF	WV DC	Case Size	EACH 1-24	25-49	50-99	100-499
60F3875	155M035EL	1.5	35	E	.99	.79	.55	.40
60F3876	225M035FL	2.2	35	F				
60F3877	335M035FL	3.3	35	F				
60F3878	475M035FL	4.7	35	F	1.06	.84	.59	.43
60F3879	685M035FL	6.8	35	F				
60F3880	106M035FL	10	35	F				
60F3881	156M035GL	15	35	G	1.94	1.55	1.07	.78
60F3882	226M035GL	22	35	G	1.94	1.55	1.07	.78
60F3883	336M035HL	33	35	H	4.29	3.43	2.36	1.71
60F3884	476M035HL	47	35	H	4.29	3.43	2.36	1.71
60F3885	104M050EL	.10	50	E	1.09	.87	.60	.44
60F3886	154M050EL	.15	50	E				
60F3887	224M050EL	.22	50	E				
60F3888	334M050EL	.33	50	E	1.09	.87	.60	.44
60F3889	474M050EL	.47	50	E				
60F3890	684M050EL	.68	50	E				
60F3891	105M050EL	1.0	50	E	1.09	.87	.60	.44
60F3892	155M050FL	1.5	50	F	1.50	1.21	.83	.60
60F3893	225M050FL	2.2	50	F	1.50	1.21	.83	.60
60F3894	685M050GL	6.8	50	G	3.05	2.44	1.68	1.22
60F3895	106M050GL	10	50	G	3.05	2.44	1.68	1.22
60F3896	156M050GL	15	50	G	3.05	2.44	1.68	1.22
60F3897	226M050HL	22	50	H	4.29	3.43	2.36	1.71

TAC MOLDED SOLID ELECTROLYTIC TANTALUM CAPACITOR

- Small Uniform Size
- Tough Epoxy Case



- Long Shelf Life

Designed for high density applications. Impact resistant molded epoxy cases. ±10% tolerance. Oper. temp. −55°C to 85°C. #24 (.020") wire leads. 1½" x ¼" long.

PRICE AND SIZE CHART

Key	Dia. x Lt.	1-24	25-49	50-99	100-499
E	.105 X .290	.84	.68	.62	.56
F	.105 X .290	.79	.76	.59	.53
G	.137 X .340	.79	.76	.59	.53
H	.137 X .340	.84	.68	.62	.56
I	.187 X .530	.81	.68	.63	.56
J	.187 X .530	.88	.71	.65	.58

Stk. No.	Type Tac-	Mfd	WVDC	Key
17F1627	156K003P02	15	3	F
17F1628	186K003P02	18	3	F
60F3664	686K003P04	68	3	I
60F3665	826K003P04	82	3	I
17F1624	825K006P02	8.2	6	F
17F1625	106K006P02	10	6	F
17F1626	126K006P02	12	6	F
60F3649	156K006P04	15	6	I
60F3652	186K006P04	18	6	I
60F3655	226K006P04	22	6	I
60F3657	276K006P04	27	6	I
60F3659	336K006P04	33	6	I
60F3661	396K006P04	39	6	I
60F3662	476K006P04	47	6	I
60F3663	566K006P04	56	6	I
17F1619	335K010P02	3.3	10	F
17F1620	395K010P02	3.9	10	F
17F1621	475K010P02	4.7	10	F
17F1622	565K010P02	5.6	10	F
17F1623	685K010P02	6.8	10	F
60F3593	825K010P04	8.2	10	I
60F3597	106K010P04	10	10	I
60F3645	126K010P04	12	10	I
60F3648	156K010P04	15	10	I
60F3651	186K010P04	18	10	I
60F3654	226K010P04	22	10	I
60F3656	276K010P04	27	10	I
60F3658	336K010P04	33	10	I
60F3660	396K010P04	39	10	I
17F1618	275K015P02	2.7	15	F
60F3570	335K015P03	3.3	15	G
60F3575	395K015P04	3.9	15	I
60F3580	475K015P04	4.7	15	I
60F3584	565K015P04	5.6	15	I

Stk. No.	Type Tac-	Mfd	WVDC	Key
60F3588	685K015P04	6.8	15	I
60F3592	825K015P04	8.2	15	I
60F3596	106K015P04	10	15	I
60F3644	126K015P04	12	15	I
60F3647	156K015P04	15	15	I
60F3650	186K015P04	18	15	I
60F3653	226K015P04	22	15	I
17F1613	105K020P02	1.0	20	F
17F1614	125K020P02	1.2	20	F
17F1615	155K020P02	1.5	20	F
17F1616	185K020P02	1.8	20	F
17F1617	225K020P02	2.2	20	F
60F3569	335K020P04	3.3	20	I
60F3574	395K020P04	3.9	20	I
60F3579	475K020P04	4.7	20	I
60F3583	565K020P04	5.6	20	I
60F3587	685K020P04	6.8	20	I
60F3591	825K020P04	8.2	20	I
60F3595	106K020P04	10	20	I
60F3599	126K020P04	12	20	I
60F3646	156K020P04	15	20	I
60F3556	125K025P03	1.2	25	G
60F3558	155K025P03	1.5	25	G
60F3560	185K025P03	1.8	25	G
60F3562	225K025P03	2.2	25	G
60F3565	275K025P04	2.7	25	I
60F3568	335K025P04	3.3	25	I
60F3573	395K025P04	3.9	25	I
60F3578	475K025P04	4.7	25	I
60F3582	565K025P04	5.6	25	I
60F3586	685K025P04	6.8	25	I
60F3590	825K025P04	8.2	25	I
60F3594	106K025P04	10	25	I
60F3598	126K025P04	12	25	I

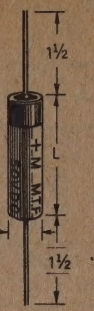
Stk. No.	Type Tac-	Mfd	WVDC	Key
17F1610	564K035P02	.56	35	F
17F1611	684K035P02	.68	35	F
17F1612	824K035P02	.82	35	F
60F3555	125K035P03	1.2	35	G
60F3564	275K035P04	2.7	35	I
60F3567	335K035P04	3.3	35	I
60F3572	395K035P04	3.9	35	I
60F3577	475K035P04	4.7	35	I
60F3581	565K035P04	5.6	35	I
60F3585	685K035P04	6.8	35	I
60F3589	825K035P04	8.2	35	I
17F1600	823K050P02	.082	50	E
17F1601	104K050P02	.1	50	E
17F1603	154K050P02	.15	50	E
17F1604	184K050P02	.18	50	E
17F1605	224K050P02	.22	50	E
17F1606	274K050P02	.27	50	E
17F1607	334K050P02	.33	50	E
17F1608	394K050P02	.39	50	E
17F1609	474K050P02	.47	50	E
60F3550	564K050P03	.56	50	H
60F3551	684K050P03	.68	50	H
60F3552	824K050P03	.82	50	H
60F3553	105K050P03	1.0	50	H
60F3554	125K050P04	1.2	50	J
60F3557	155K050P04	1.5	50	J
60F3559	185K050P04	1.8	50	J
60F3561	225K050P04	2.2	50	J
60F3563	275K050P04	2.7	50	J
60F3566	335K050P04	3.3	50	J
60F3571	395K050P04	3.9	50	J
60F3576	475K050P04	4.7	50	J

Wet Slug Tantalum Capacitors

MALLORY

MTP TANTALUM CAPACITORS

Offers the greatest capacity of any tantalum type. Meets or exceeds MIL-STD-202 for high frequency vibration, shock, temperature and immersion cycling, moisture resistance, sleeving dielectric strength, and insulation resistance. Housed in silver cases with elastomer end seals. Completely insulated. Operating temperature from −50°C to 85°C. Tolerance ±20%.



PRICE AND SIZE LOCATOR

Case Size	Dia. x Lgth. Inches	1-9	10-24	15-49	50-99
A	.115 x .400	2.85	2.51	2.19	1.88
B	.145 x .590	3.42	3.01	2.63	2.27
C	.225 x .775	3.98	3.50	3.06	2.63
D	.115 x .312	2.83	2.49	2.17	1.86

Stk. No.	Mfr's Type MTP-	Cap. µF	WVDC @ 85°C	Max. D.C.L. at Max. WVDC in µA +25°C	Max. D.C.L. at Max. WVDC in µA +85°C	Max. DF @ 25°C	Code
60F2260	156M006P1D	15	6	2.0	6.0	35	D
60F2136	476M006P1A	47	6	2.0	6.0	33	A
60F2261	157M006P1B	150	6	2.0	8.0	37	B
13F314	187M006P1B	180	6	2.0	8.0	37	B
13F315	457M006P1C	450	6	2.0	10.0	50	C
60F2137	477M006P1C	470	6	2.0	10.0	50	C
60F2262	106M010P1D	10	10	2.0	6.0	20	D
60F2263	336M010P1A	33	10	2.0	6.0	30	A
60F2264	107M010P1B	100	10	2.0	8.0	33	B
13F316	127M010P1B	120	10	2.0	8.0	35	B
13F317	307M010P1C	300	10	2.0	10.0	35	C
60F2265	337M010P1C	330	10	2.0	10.0	35	C
60F2266	226M015P1A	22	15	2.0	6.0	33	A
60F2267	686M015P1B	68	15	2.0	8.0	27	B
13F318	806M015P1B	80	15	2.0	8.0	30	B
13F319	207M015P1C	200	15	2.0	10.0	30	C
60F2138	227M015P1C	220	15	2.0	10.0	30	C
60F2268	685M020P1D	6.8	20	2.0	6.0	20	D
60F2269	156M020P1A	15	20	2.0	6.0	25	A
60F2270	476M020P1B	47	20	2.0	8.0	25	B
13F320	606M020P1B	60	20	2.0	8.0	25	B
60F2271	157M020P1C	150	20	2.0	10.0	30	C
13F321	605M030P1D	6	30	2.0	6.0	20	D
13F322	106M030P1A	10	30	2.0	6.0	20	A
13F323	456M030P1B	45	30	2.0	8.0	25	B
13F324	127M030P1C	120	30	2.0	10.0	30	C
60F2272	475M035P1D	4.7	35	2.0	6.0	20	D
60F2139	106M035P1A	10	35	2.0	6.0	20	A
60F2140	107M035P1C	100	35	2.0	10.0	25	C
13F325	405M050P1D	4	50	2.0	6.0	20	D
13F326	685M050P1A	6.8	50	2.0	6.0	20	A
13F327	306M050P1B	30	50	2.0	8.0	20	B
60F2141	336M050P1B	33	50	2.0	8.0	20	B
60F2273	686M050P1C	68	50	2.0	10.0	20	C
13F328	786M050P1C	78	50	2.0	10.0	20	C
60F2274	335M060P1D	3.3	60	2.0	6.0	15	D
60F2275	475M060P1A	4.7	60	2.0	6.0	15	A
60F2277	106M060P1B	10	60	2.0	8.0	20	B
60F2278	156M060P1B	15	60	2.0	8.0	20	B
60F2142	226M060P1B	22	60	2.0	8.0	20	B
60F2143	336M060P1C	33	60	2.0	10.0	20	C
60F2144	476M060P1C	47	60	2.0	10.0	20	C
60F3850	686M060P1C	68	60	2.0	10.0	20	C

CMT TANTALUM CAPACITORS

Polar wet slug tantalum capacitor ideal for miniature circuits. This line offers much higher CV product per unit volume than other wet slug and solid types. Sealed in copper alloy case that is closed on an elastomer end seal. Anode lead-weld joint and end seal are epoxy resin encapsulated. Operating Temperature from −55°C to +85°C. Tolerance ±20%.

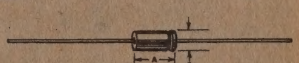
PRICE AND SIZE LOCATOR

Case Size	Dia. x Lgth. Inches	1-9	10-24	25-49	50-99
E	.115 x .403	2.71	2.41	2.12	1.85
F	.145 x .600	3.25	2.89	2.55	2.21
G	.225 x .778	3.78	3.36	2.96	2.58
H	.115 x .300	2.69	2.39	2.10	1.83

Stk. No.	Mfr's. Type CMT-	Cap. µF	WVDC @ 85°C	MAX DCL (µA) +25C	MAX DCL (µA) +85C	MAX DF 25°C	Case Size
15F619	156M006P1D	15	6	1.0	3.0	22	H
15F620	476M006P1A	47	6	2.0	6.0	38	E
15F621	157M006P1B	150	6	2.0	8.0	39	F
15F622	187M006P1B	180	6	2.0	8.0	40	F
15F623	457M006P1C	450	6	3.0	11.0	54	G
15F624	106M010P1D	10	10	1.0	3.0	20	H
15F625	306M010P1A	30	10	2.0	6.0	34	E
15F626	107M010P1B	100	10	2.0	8.0	30	F
15F627	127M010P1B	120	10	2.0	8.0	32	F
15F628	307M010P1C	300	10	3.0	12.0	39	G
15F629	206M015P1A	20	15	2.0	6.0	20	E
15F630	706M015P1B	70	15	2.0	8.0	30	F
15F631	806M015P1B	80	15	2.0	8.0	30	F
15F632	207M015P1C	200	15	3.0	12.0	30	G
15F633	685M020P1D	6.8	20	1.0	3.0	16	H
15F634	156M020P1A	15	20	2.0	6.0	18	E
15F649	506M020P1B	50	20	2.0	8.0	22	F
15F635	606M020P1B	60	20	2.0	8.0	28	F
15F636	157M020P1C	150	20	3.0	12.0	28	G
15F637	605M030P1D	6	30	1.5	5.0	16	H
15F638	106M030P1A	10	30	2.0	6.0	12	E
15F639	456M030P1B	45	30	2.0	8.0	22	F
15F640	107M030P1C	100	30	3.5	12.5	28	G
15F641	127M030P1C	120	30	4.0	15.0	28	G
15F642	475M035P1D	4.7	35	1.5	5.0	15	H
15F643	905M035P1A	9	35	2.0	6.0	15	E
15F644	107M035P1C	100	35	3.5	14.0	28	G
15F645	125M050P1D	1.2	50	1.0	3.0	20	H
15F650	305M050P1D	3	50	1.5	5.0	20	H
15F647	405M050P1D	4	50	1.5	5.0	12	H
15F648	685M0501PA	6.8	50	2.0	6.0	14	E
15F651	306M050P1B	30	50	2.0	8.0	18	F
15F652	686M050P1C	68	50	3.5	14.0	18	G
15F653	786M050P1C	78	50	4.0	16.0	18	G
15F654	105M060P1D	1	60	1.0	3.0	9	H
15F664	205M060P1D	2	60	1.5	5.0	11.0	H
15F655	335M060P1D	3.3	60	2.0	6.0	11	H
15F663	405M060P1A	4	60	2.0	6.0	11.5	E
15F656	565M060P1A	5.6	60	2.0	6.0	12	E
15F657	106M060P1B	10	60	2.0	8.0	13.5	F
15F658	156M060P1B	15	60	2.0	8.0	15	F
15F659	226M060P1B	22	60	2.0	8.0	18	F
15F660	336M060P1C	33	60	2.0	10.0	13.5	G
15F661	506M060P1C	50	60	3.0	12.0	15	G
15F662	686M060P1C	68	60	4.5	17.0	16.5	G

CTL TANTALUM ELECTROLYTIC CAPACITORS

The CTL is a miniature, polarized, sintered tantalum anode, liquid electrolyte capacitor. These capacitors, available in three case sizes, exhibit high MFD-Volt rating to volume ratios. The CTL capacitors are equivalent to style TLS except they come in copper alloy cases instead of silver. Capacitance tolerance ±20%. Operating temperature from −55°C to +85°C (at full rated voltage); −55°C to +125°C (with proper voltage derating).



PRICE AND SIZE LOCATOR

Case Size	Dia. x Lgth. Inches	1-24	25-49	50-99	100-499
A	.219 x .453	2.78	2.42	2.08	1.77
B	.312 x .641	4.26	3.71	3.19	2.71
C	.406 x .766	6.69	5.82	5.01	4.25

Stk. No.	Type CTL-	µF	WV DC	Code
15F665	686M006P1A	68	6	A
15F666	567M006P1C	560	6	C
15F667	476M010P1A	47	10	A
15F668	187M010P1B	180	10	B
15F669	156M015P1A	15	15	A
15F670	127M015P1B	120	15	B
15F671	177M015P1C	170	15	C
15F672	277M015P1C	270	15	C
15F673	106M025P1A	10	25	A
15F674	226M025P1A	22	25	A
15F675	107M025P1B	100	25	B
15F676	187M025P1C	180	25	C
15F677	805M030P1A	8	30	A
15F678	156M030P1A	15	30	A

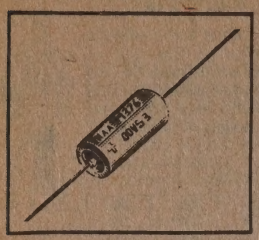
Stk. No.	Type CTL-	F	WV DC	Code
15F679	406M030P1B	40	30	B
15F680	107M030P1C	100	30	C
15F681	157M030P1C	150	30	C
15F682	505M050P1A	5	50	A
15F683	106M050P1A	10	50	A
15F684	256M050P1B	25	50	B
15F685	476M050P1B	47	50	B
15F686	826M050P1C	82	50	C
15F687	405M060P1A	4	60	A
15F688	396M060P1B	39	60	B
15F689	506M060P1C	50	60	C
15F691	355M075P1A	3.5	75	A
15F692	685M075P1A	6.8	75	A
15F693	156M075P1B	15	75	B

Stk. No.	Type CTL-	µF	WV DC	Code
15F694	336M075P1B	33	75	B
15F695	566M075P1C	56	75	C
15F696	255M100P1A	2.5	100	A
15F697	226M100P1B	22	100	B
15F698	436M100P1C	43	100	C
15F699	365M125P1A	3.6	125	A
15F700	146M125P1B	14	125	B

MALLORY

CSR13 Tantalum Capacitors

TYPE CSR SOLID ELECTROLYTE CAPACITORS



Solid electrolyte tantalum capacitors meet or exceed established reliability requirements of MIL-C-39003/01 for 2% (L) and 1% (M) failure rate levels.

Rigid MIL specifications. Have hermetically sealed metal cases with insulating sleeves. WVDC at +85°C ±10% tol. Wt.: 2 oz.

PRICE CHART AND SIZE

Key	WVDC	Dia. × Lgth.	1-24	25-49	50-99	100-499	500-999	Key	WVDC	Dia. × Lgth.	1-24	25-49	50-99	100-499	500-999
A	6	.135x.286	1.46	1.17	.80	.65	.53	E		.135x.286	2.71	2.17	1.83	1.58	1.31
B	TO	.185x.474	1.71	1.37	.83	.69	.54	F	50	.185x.474	2.86	2.29	1.94	1.65	1.39
C	35	.289x.686	2.82	2.25	1.55	1.25	.98	G		.289x.686	4.70	3.75	3.19	2.70	2.26
D		.351x.786	5.21	4.15	3.08	2.49	1.91	H		.351x.786	8.76	7.00	5.92	5.03	4.20

2% FAILURE

Stock No.	Type CSR13	MIL-C 39003/01	MFD	WV DC	Key	Stock No.	Type CSR12	MIL-C 39003/01	MFD	WV DC	Key	Stock No.	Type CSR13-	MIL-C 39003/001	MFD	WV DC	Key
17F1505	B565KL	2001	5.6	6	A	47F694	E126KL	2048	12	20	B	47F073	G683KL	2095	.068	50	E
17F1506	B685KL	2002	6.8	6	A	17F1538	E156KL	2049	15	20	B	47F074	G823KL	2097	.082	50	E
17F1507	B476KL	2004	47	6	B	17F1539	E276KL	2051	27	20	C	17F1570	G104KL	2098	.1	50	E
17F1508	B566KL	2006	56	6	B	17F1540	E336KL	2052	33	20	C	47F075	G124KL	2100	.12	50	E
17F1509	B157KL	2007	150	6	C	17F1541	E396KL	2054	39	20	C	17F1572	G154KL	2101	.15	50	E
17F1510	B187KL	2009	180	6	C	17F1542	E476KL	2055	47	20	C	47F076	G184KL	2103	.18	50	E
47F688	B277KL	2010	270	6	D	47F695	E566KL	2057	56	20	D	17F1574	G224KL	2104	.22	50	E
47F689	B337KL	2011	330	6	D	17F1544	E686KL	2058	68	20	D	47F077	G274KL	2106	.27	50	E
47F690	C395KL	2013	3.9	10	A	47F696	E826KL	2060	82	20	D	17F1576	G334KL	2107	.33	50	E
17F1514	C475KL	2014	4.7	10	A	17F1546	E107KL	2061	100	20	D	47F738	G394KL	2109	.39	50	E
17F1515	C276KL	2016	27	10	B	17F1547	F565KL	2063	5.6	25	B	17F1578	G474KL	2110	.47	50	E
17F1516	C336KL	2017	33	10	B	17F1548	F685KL	2064	6.8	25	B	17F1579	G564KL	2112	.56	50	E
17F1517	C396KL	2019	39	10	B	17F1549	F226KL	2066	22	35	C	17F1580	G684KL	2113	.68	50	E
17F1518	C826KL	2020	82	10	C	17F1550	F276KL	2068	27	25	D	17F1581	G824KL	2115	.82	50	E
17F1519	C107KL	2021	100	10	C	17F1551	F336KL	2069	33	35	D	17F1582	G105KL	2116	1.0	50	E
17F1520	C127KL	2023	120	10	C	17F1552	F396KL	2071	39	35	D	47F739	G125KL	2118	1.2	50	F
47F691	C187KL	2024	180	10	D	17F1553	F476KL	2072	47	35	D	17F1584	G155KL	2119	1.5	50	F
17F1522	C227KL	2025	220	10	D	17F1554	G472KL	2074	.0047	50	E	47F740	G185KL	2121	1.8	50	F
17F1523	D275KL	2027	2.7	15	A	47F697	G562KL	2076	.0056	50	E	17F1586	G225KL	2122	2.2	50	F
17F1524	D335KL	2028	3.3	15	A	47F698	G682KL	2077	.0068	50	E	47F741	G275KL	2124	2.7	50	F
17F1525	D186KL	2030	18	15	B	47F699	G822KL	2079	.0082	50	E	17F1588	G335KL	2125	3.3	50	F
17F1526	D226KL	2031	22	15	B	17F1558	G103KL	2080	.01	50	E	47F742	G395KL	2127	3.9	50	F
17F1527	D566KL	2033	56	15	C	17F1559	G123KL	2082	.012	50	E	17F1590	G475KL	2128	4.7	50	F
17F1528	D686KL	2034	68	15	C	47F070	G153KL	2083	.015	50	E	17F1591	G565KL	2130	5.6	50	G
47F692	D127KL	2036	120	15	D	47F071	G183KL	2085	.018	50	E	17F1592	G685KL	2131	6.8	50	G
17F1530	D157KL	2037	150	15	D	17F1563	G273KL	2088	.027	50	E	47F743	G825KL	2133	8.2	50	G
17F1531	E125KL	2039	1.2	20	A	17F1564	G333KL	2089	.033	50	E	17F1594	G106KL	2134	10	50	G
17F1532	E155KL	2040	1.5	20	A	47F072	G393KL	2091	.039	50	E	17F1595	G126KL	2136	12	50	G
47F693	E185KL	2042	1.8	20	A	17F1566	G473KL	2092	.047	50	E	17F1596	G156KL	2137	15	50	G
17F1534	E225KL	2043	2.2	20	A	17F1567	G563KL	2094	.056	50	E	47F744	G186KL	2139	18	50	G
17F1535	E825KL	2045	8.2	20	B							17F1598	G226KL	2140	22	50	H
17F1536	E106KL	2046	10	20	B												

1% FAILURE

PRICE CHART AND SIZE

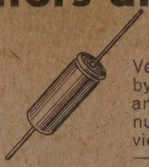
Key	WVDC	Dia. × Lgth.	1-24	25-49	50-99	100-499	500-599	Key	WVDC	Dia. x Lgth.	1-24	25-49	50-99	100-499	500-999
A	6	.135x.286	1.99	1.60	1.10	.90	.77	E		.135x.286	3.69	2.95	2.49	2.15	1.93
B	TO	.185x.474	2.34	1.88	1.13	.93	.78	F	50	.185x.474	3.91	3.11	2.63	2.25	2.05
C	35	.289x.686	3.83	3.08	2.11	1.72	1.45	G		.289x.686	6.40	5.10	4.34	3.69	3.35
D		.351x.786	7.10	5.66	4.20	3.40	2.85	H		.351x.786	11.95	9.54	8.07	6.86	6.28

Stock No.	Type CSR13	MIL-C 39003/01	MFD	WV DC	Key	Stock No.	Type CSR13-	MIL-C 39003/01	MFD	WV DC	Key	Stock No.	Type CSR13	MIL-C 39003/01	MFD	WV DC	Key
47F745	B565KM	2241	5.6	6	A	17F1692	E106KM	2286	10	20	B	47F787	G823KM	2337	.082	50	E
17F1678	B685KM	2242	6.8	6	A	47F766	E126KM	2288	12	20	B	17F1663	G104KM	2338	.1	50	E
17F1680	B476KM	2244	47	6	B	17F1693	E156KM	2289	15	20	B	47F788	G124KM	2340	.12	50	E
47F746	B566KM	2246	56	6	B	47F767	E276KM	2291	27	20	C	17F1665	G154KM	2341	.15	50	E
47F747	B157KM	2247	150	6	C	47F768	E336KM	2292	33	20	C	47F789	G184KM	2343	.18	50	E
47F748	B187KM	2249	180	6	C	47F769	E396KM	2294	39	20	C	47F790	G224KM	2344	.22	50	E
47F749	B277KM	2250	270	6	D	17F1695	E476KM	2295	47	20	C	47F791	G274KM	2346	.27	50	E
47F750	B337KM	2251	330	6	D	47F770	E566KM	2297	56	20	D	17F1666	G334KM	2347	.33	50	E
47F751	C395KM	2253	3.9	10	A	17F1696	E686KM	2298	68	20	D	47F792	G394KM	2349	.39	50	E
17F1683	C475KM	2254	4.7	10	A	47F771	E826KM	2300	82	20	D	17F1667	G474KM	2350	.47	50	E
47F752	C276KM	2256	27	10	B	17F1697	E107KM	2301	100	20	D	17F1668	G684KM	2353	.68	50	E
17F1684	C336KM	2257	33	10	B	47F772	F565KM	2303	5.6	35	B	47F794	G824KM	2355	.82	50	E
47F753	C396KM	2259	39	10	B	17F1698	F685KM	2304	6.8	35	B	17F1669	G105KM	2356	1.0	50	E
47F754	C826KM	2260	82	10	C	17F1699	F226KM	2306	22	35	C	47F795	G125KM	2358	1.2	50	F
17F1685	C107KM	2261	100	10	C	47F773	F276KM	2308	27	35	D	47F796	G155KM	2359	1.5	50	F
47F755	C127KM	2263	120	10	C	17F1655	F336KM	2309	33	35	D	47F797	G185KM	2361	1.8	50	F
47F756	C187KM	2264	180	10	D	47F774	F396KM	2311	39	35	D	17F1671	G225KM	2362	2.2	50	F
17F1686	C227KM	2265	220	10	D	17F1656	F476KM	2312	47	35	D	47F731	G275KM	2364	2.7	50	F
47F757	D275KM	2267	2.7	15	A	47F776	G562KM	2316	.0056	50	E	17F1672	G335KM	2365	3.3	50	F
17F1687	D335KM	2268	3.3	15	A	47F778	G822KM	2319	.0082	50	E	47F732	G395KM	2367	3.9	50	F
47F758	D186KM	2270	18	15	B	47F779	G103KM	2320	.01	50	E	17F1673	G475KM	2368	4.7	50	F
47F759	D226KM	2271	22	15	B	47F780	G123KM	2322	.012	50	E	47F733	G565KM	2370	5.6	50	G
47F760	D566KM	2273	56	15	C	47F781	G153KM	2323	.015	50	E	17F1674	G685KM	2371	6.8	50	G
47F761	D686KM	2274	68	15	C	47F782	G183KM	2325	.018	50	E	47F734	G825KM	2373	8.2	50	G
47F762	D127KM	2276	120	15	D	17F1659	G223KM	2326	.022	50	E	17F1675	G106KM	2374	10	50	G
17F1689	D157KM	2277	150	15	D	47F783	G273KM	2328	.027	50	E	47F735	G126KM	2376	12	50	G
47F763	E125KM	2279	1.2	20	A	17F1660	G333KM	2329	.033	50	E	47F736	G156KM	2377	15	50	G
17F1690	E155KM	2280	1.5	20	A	47F784	G393KM	2331	.039	50	E	47F737	G186KM	2379	18	50	G
47F764	E185KM	2282	1.8	20	A	17F1661	G473KM	2332	.047	50	E	17F1677	G226KM	2380	22	50	H
17F1691	E225KM	2283	2.2	20	A	47F785	G563KM	2334	.056	50	E						
47F765	E825KM	2285	8.2	20	B	47F786	G683KM	2335	.068	50	E						

Electrolytic Capacitors and Hardware

MALLORY

TC METAL TUBULAR CAPACITORS



TC Electrolytic with Mylar Sleeve. Single section capacitor with clear mylar insulating sleeve. Sizes shown are for base can, without sleeve. More capacitance and voltage in a smaller sized can. Tolerance: −10% +100%. Temperature: rated up to 85°C. (*) includes mounting strap.

Stock No.	Type	Mfd.	WV DC	Can Size Dia. x Len.	1-24	25-49	50-99	100-249
14F153	TC1505C	500	15	⅜x1⅜	1.30	.99	.84	.72
14F443	TC1501C	1000	15	½x1¼	1.72	1.33	1.11	.90
16F1689	TC1520C	2000	15	⅝x1⅜	2.05	1.55	1.24	1.07
14F363	TC1530A	3000	15	⅞x1⅝	2.98	2.09	1.80	1.50
14F364	TC1540A	4000	15	⅞x1⅞	3.42	2.98	2.20	1.84
14F365	TC1550B	5000	15	⅞x2⅜	3.79	3.42	2.57	2.01
16F1693	TC25025B	250	25	7/16x1	1.27	.98	.82	.67
16F1695	TC2510A	1000	25	⅝x1½	2.45	1.45	1.13	.99
16F1696	TC2515B	1500	25	¾x2⅛	2.91	2.19	1.67	1.10
16F1697	TC2520A	2000	25	⅞x1⅞	3.38	1.96	1.52	1.17
14F366	TC2530	3000	25	⅞x2⅜	3.51	2.09	1.65	1.33
14F367	TC2540	4000	25	1x2⅜	3.63	2.24	1.79	1.61
14F368	TC2550	5000	25	1x2¾	3.94	2.38	1.97	1.78
16F1701	TC50050C*	500	50	¾x1⅞	1.74	1.32	1.03	.79
16F1702	TC50100C*	1000	50	⅞x2⅜	2.36	1.61	1.32	1.07
14F369	TC50150A	1500	50	1x2⅝	2.05	1.46	1.17	.94
14F370	TC50200A	2000	50	1x2¾	2.52	1.68	1.44	1.22
14F371	TC50300	3000	50	1x3 1/16	2.99	2.06	1.69	1.38
14F372	TC50500A	5000	50	1⅜x3⅜	3.89	2.68	2.17	1.78
14F373	TC75101A	100	75	⅝x1⅜	1.53	.98	.79	.63
14F374	TC75251A	250	75	¾x1⅝	2.00	1.29	1.02	.86
14F375	TC75501A	500	75	⅞x2⅛	2.56	1.64	1.32	1.07
14F376	TC10101B	100	100	¾x1⅜	1.53	.98	.80	.64
14F377	TC10151A	150	100	¾x1⅞	1.68	1.07	.84	.71
14F378	TC10251A	250	100	⅞x1⅞	2.00	1.29	1.02	.86
14F379	TC10501A	500	100	1x2⅝	2.55	1.64	1.32	1.07
14F380	TC10102	1000	100	1x3⅞	3.06	1.97	1.56	1.30
14F171	TC47A	30	150	⅝x1⅛	1.28	.89	.71	.60
14F172	TC48A	40	150	¾x1⅛	1.32	.95	.75	.62
14F173	TC49A	50	150	⅝x1⅝	1.35	.96	.78	.64
16F1703	TC492A	80	150	¾x1⅝	1.53	1.08	.89	.74
16F1704	TC493B	100	150	¾x1⅝	1.70	1.22	.93	.80
16F1705	TC496B*	200	150	⅞x2⅛	2.13	1.50	1.19	.99
16F1706	TC499A*	300	150	1x2⅛	2.64	1.95	1.55	1.20
26F990	TC50XB	5	250	½x1⅛	1.11	.78	.62	.53
16F1707	TC51A	8	250	⅝x1⅛	1.13	.86	.68	.57
16F1708	TC52A	10	250	⅝x1⅛	1.16	.90	.71	.60
14F381	TC53A	12	250	⅝x1⅛	1.22	.92	.74	.60
14F382	TC54C	16	250	⅝x1⅜	1.28	.96	.78	.64
16F1709	TC55B	20	250	¾x1⅛	1.32	1.04	.83	.67
14F383	TC57B	30	250	¾x1⅜	1.40	1.10	.87	.74
16F1710	TC58A	40	250	¾x1⅝	1.52	1.11	.90	.74
16F1711	TC59B	50	250	¾x1⅞	1.65	1.19	.98	.81
16F1712	TC1265C	100	250	⅞x2⅝	2.37	1.56	1.25	1.02
14F384	TC1266	160	250	1x2⅝	2.51	1.86	1.37	1.15
14F385	TC1267	225	250	1x3⅛	2.37	1.56	1.24	1.02
14F386	TC593B	150	300	1x3⅛	2.97	2.18	1.73	1.43
14F387	TC594	200	300	1x3⅜	4.37	2.69	2.20	1.71
14F388	TC595A	2	350	½x1⅛	.96	.75	.58	.50
16F1713	TC60A	5	350	⅜x1⅛	1.05	.77	.63	.55
14F389	TC61C	8	350	⅝x1⅜	1.16	.89	.71	.60
16F1714	TC62B	10	350	⅝x1⅜	1.22	.95	.76	.62
14F390	TC63B	12	350	¾x1⅛	1.28	.98	.78	.63
14F391	TC64B	16	350	¾x1⅜	1.35	.96	.83	.69
14F024	TC65B	20	350	¾x1⅜	1.40	1.05	.86	.73
14F392	TC67B	40	350	⅞x1⅝	1.70	1.29	1.02	.85
26F991	TC68B	60	350	⅞x2⅛	1.89	1.40	1.08	.98
67F3000	TC69B	100	350	⅞x2⅝	2.94	1.77	1.32	1.16
14F393	TC692A	150	350	1x3⅝	3.59	2.34	1.84	1.54
14F394	TC695B	2	450	⅝x1⅛	1.05	.81	.65	.56
67F3001	TC697B	4	450	⅝x1⅛	1.11	.84	.67	.59
14F176	TC70B	5	450	¾x1⅛	1.16	.84	.65	.59
14F177	TC71C	8	450	¾x1⅛	1.22	.90	.75	.62
14F178	TC72B	10	450	⅞x1⅜	1.25	.95	.78	.62
14F395	TC73B	12	450	⅞x1⅜	1.32	1.02	.83	.67
14F396	TC74B	16	450	¾x1⅝	1.35	1.04	.86	.69
14F180	TC75A	20	450	⅞x1⅜	1.50	1.13	.94	.78
14F397	TC77B	30	450	1x1⅝	1.65	1.28	1.03	.85
14F182	TC78A	40	450	1x2⅛	1.74	1.34	1.07	.87
14F183	TC79B	50	450	1x2⅛	2.03	1.50	1.22	1.04
67F3002	TC795A	60	450	1x2⅝	2.27	1.71	1.48	1.23
14F184	TC80B	80	450	1x3⅛	2.64	1.79	1.37	1.16
14F398	TC805A	100	450	1⅜x2 13/16	2.94	2.15	1.80	1.51
67F3003	TC807	100	450	1x3⅞	2.94	2.15	1.80	1.51
14F399	TC808	160	450	1⅜x3⅞	2.94	2.15	1.80	1.51

For special needs in Mallory Capacitors see your nearest NEWARK Branch

FP AND WP CAPACITORS

Vertical mounting dry electrolytics for all filter and audio bypass circuits, and TV apps. Includes deep etched anodes & etched cathodes. Hermetically sealed in aluminum cases. Negative can; separate positive terms. provided. With mounting washers.

Stock No.	Type	Mfd.	WV	Size	1-24	25-49	50-99	100-249
14F216	WP039A	1000	15	B	2.20	1.30	1.06	.78
14F243	WP042A	3000	15	E	3.66	2.17	1.77	1.32
60F2105	FP042.8A	10000	15	D	8.36	4.96	4.04	3.00
14F214	WP057A	500	25	B	1.86	1.10	.90	.67
14F215	WP059	1000	25	E	2.73	1.62	1.32	.98
60F2106	FP060.2	2000	25	G	3.66	2.17	1.77	1.31
60F2107	FP060.4A	4000	25	F	5.63	3.33	2.71	2.02
60F2108	FP060.6A	5000	25	D	6.63	3.93	3.20	2.37
14F212	WP065	500	50	E	2.19	1.29	1.05	.78
14F245	WP068A	1500	50	E	3.71	2.50	2.04	1.51
60F2110	FP070A	2000	50	D	4.23	2.85	1.85	1.73
14F205	FP144A	20	450	C	1.58	1.06	.87	.64
14F207	FP146	40	450	A	1.90	1.28	1.04	.77
14F208	FP149	80	450	F	2.75	1.85	1.51	1.12
14F973	FP150A	100	450	F	3.03	2.04	1.66	1.23
DUAL SECTION								
14F219	FP231A	10-10	450-450	C	1.68	1.13	.92	.68
14F220	FP234A	20-20	450-450	A	2.21	1.31	1.07	.79
14F222	FP238A	40-40	450-450	F	2.96	1.99	1.63	1.21
14F223	FP240	50-50	450-450	D	3.76	2.23	1.82	1.35
14F262	FP288A	40-40	500-500	F	3.73	2.20	1.80	1.34
TRIPLE SECTION								
14F263	FP311.5A	40-40-40	150-150-150	C	2.19	1.29	1.05	.78
14F275	FP375.8	10-10-10	450-450-450	A	2.25	1.33	1.08	.81
14F278	FP376.5A	20-20	450-450-450	E	3.10	1.84	1.50	1.11
14F234	FP377.1A	40-40-40	450-450-450	D	4.23	2.50	2.04	1.51
14F235	FP378	80-40-20	450-450-450	H	4.56	2.70	2.20	1.64
QUADRUPLE SECTION								
14F239	FP434	10-10-10-10	.....	D	2.89	1.71	1.39	1.03
14F240	FP444A	20-20-20-20	.....	F	4.00	2.17	1.77	1.31

Key	Size	Key	Size	Key	Size	Key	Size
A	1x2½	C	1x1¾	E	1⅜x2	G	1⅜x1¾
B	1x1½	D	1⅜x3	F	1⅜x2½	H	1⅜x4

CAPACITOR HARDWARE FOR FP & WP CAPACITORS

MOUNTING PLATES FIG. G

Stock No.	Type	Size	1-499	500-999	1000-Up
14F401	MP-4	1"	.17	.06	.05
14F402	MP-6	1⅛"	.17	.06	.05
14F404	BP4	1"	.14	.06	.05
14F406	BP6	1⅜"	.14	.06	.05

G

MOUNTING SOCKETS FIG. H

29F549	PS4	1"	.95	.50	.43
29F550	PS6	1⅜"	1.13	.76	.66

H

INSULATING SLEEVES FIG. K

14F425	CE5	1⅜x2"	.14	.06	.05
14F426	CE6	1⅜x3"			
14F427	CE7	1x2½"			
14F429	CE9	1⅜x2½"			
14F430	CE10	1⅜x4"			
60F2116	CE13	1x1¾"			

K

MOUNTING CLIPS FIG. L

For Mounting Tubular Components

14F414	TH13	⅜x7/16"	.09	.07	.07
14F415	TH15	½x9/16"			
14F416	TH17	⅝x1 1/16"			
14F417	TH19	¾x1 3/16"			
14F418	TH21	⅞x1 5/16"			
14F419	TH23	1x1 7/16"			
14F420	TH25	1⅜x1 7/16"	.14	.11	.10

L

MOUNTING CLAMPS FIG. M

For Mounting Computer Grade Caps

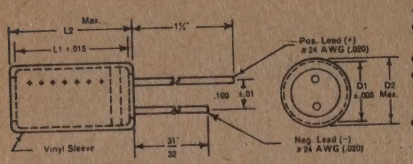
14F409	VR1	1x1 1/16"	.37	.12	.11
14F410	VR3	1⅜x1 7/16"	.37	.12	.11
14F411	VR4	1½x1 9/16"	.40	.13	.12
14F412	VR6	1¾x1 13/16"	.43	.21	.18
14F413	VR8	2x2 1/16"	.48	.22	.20
60F2292	VR10	2½x2 5/16"	.51	.24	.21
60F2113	VR12	3	.58	.26	.23

M

Miniature Electrolytic Capacitors

MALLORY

VTT SINGLE ENDED ELECTROLYTICS

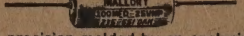


- High Density
- Low Leakage
- Low ESR
- Polarity Encoded Leads
- Vinyl Sleeve
- -20°C to +85°C

These miniature single-ended capacitors are ideal where space is at a premium. Made from the highest purity aluminum foil. Every unit offers low DCL, low equivalent series resistance, and has excellent humidity characteristics in a rugged aluminum case with a vinyl insulating sleeve. One inch long polarity encoded #24 wire leads, with the positive lead ¼" longer. Terminal connections are welded. From -20°C to +85°C. Tolerance -10%,+75%, type numbers ending with (§) tolerance -10%,+100%.

Stock No.	Type	µF	WV DC	Size DXL	1-49	50-99	100-249	250-499
47F2416	VTT47A6 §	47	6.3	.248 x .472	.33	.22	.17	.14
47F2417	VTT1000J6	1000	6.3	.512 x .984	.75	.55	.38	.32
47F2418	VTT2200L6	2200	6.3	.630 x 1.240	1.11	.74	.56	.46
47F2419	VTT3300N6	3300	6.3	.630 x 1.614	1.44	.96	.72	.60
47F2420	VTT33A10 §	33	10	.248 x .472	.33	.22	.17	.14
47F2421	VTT100E10	100	10	.394 x .492	.36	.24	.18	.15
47F2422	VTT220F10	220	10	.394 x .630	.42	.27	.21	.17
47F2423	VTT330G10	330	10	.394 x .787	.48	.31	.24	.20
47F2424	VTT22A16 §	22	16	.248 x .472	.33	.22	.17	.14
47F2425	VTT47D16	47	16	.315 x .492	.33	.22	.17	.14
47F2426	VTT100F16	100	16	.394 x .630	.42	.27	.21	.17
47F2427	VTT220G16	220	16	.394 x .787	.48	.31	.24	.20
47F2428	VTT330H16	330	16	.512 x .787	.63	.41	.31	.26
47F2429	VTT470J16	470	16	.512 x .984	.75	.55	.38	.32
47F2430	VTT1000L16	1000	16	.630 x 1.240	1.11	.74	.56	.46
47F2431	VTT1500N16	1500	16	.630 x 1.614	1.44	.96	.72	.60
47F2432	VTT15A20 §	15	20	.248 x .472	.33	.22	.17	.14
47F2433	VTT10A25 §	10	25	.248 x .472	.33	.22	.17	.14
47F2434	VTT33D25	33	25	.315 x .492	.33	.22	.17	.14
47F2435	VTT47E25	47	25	.394 x .492	.36	.24	.18	.15
47F2436	VTT100G25	100	25	.394 x .787	.48	.31	.24	.20
47F2437	VTT220H25	220	25	.512 x .787	.63	.41	.31	.26
47F2438	VTT330J25	330	25	.512 x .984	.75	.50	.38	.32
47F2439	VTT470K25	470	25	.630 x .984	.93	.62	.47	.39
47F2440	VTT1000M25	1000	25	.630 x 1.437	1.23	.81	.61	.51
47F2441	VTT6R8A35 §	6.8	35	.248 x .472	.33	.22	.17	.14
47F2442	VTT33E35	33	35	.394 x .492	.36	.24	.18	.15
47F2443	VTT47F35	47	35	.394 x .630	.61	.42	.27	.21
47F2444	VTT220J35	220	35	.512 x .984	.75	.50	.38	.32
47F2445	VTT330K35	330	35	.630 x .984	.93	.62	.47	.39
47F2446	VTT470L35	470	35	.630 x 1.240	1.10	.74	.56	.46
47F2447	VTT1R5A50 §	1.5	50	.248 x .472	.33	.22	.17	.14
47F2448	VTT2R2A50 §	2.2	50	.248 x .472	.33	.22	.17	.14
47F2449	VTT3R3A50 §	3.3	50	.248 x .472	.33	.22	.17	.14
47F2450	VTT4R7A50 §	4.7	50	.248 x .472	.33	.22	.17	.14
47F2451	VTT33F50	33	50	.394 x .630	.42	.27	.21	.17
47F2452	VTT100H50	100	50	.512 x .787	.63	.41	.31	.26
47F2453	VTT220K50	220	50	.630 x .984	.93	.62	.47	.39
47F2454	VTT330L50	330	50	.630 x 1.240	1.11	.74	.56	.46
47F2455	VTT470N50	470	50	.630 x 1.614	1.44	.96	.72	.60
47F2456	VTTR47B63	.47	63	.197 x .433	.33	.22	.17	.14
47F2457	VTT1B63	1	63	.197 x .433	.33	.22	.17	.14
47F2458	VTT10D63	10	63	.315 x .492	.39	.25	.19	.16
47F2459	VTT22E63	22	63	.394 x .492	.42	.27	.20	.17
47F2460	VTT47G63	47	63	.394 x .787	.51	.34	.26	.21

MOLDED ALUMINUM ELECTROLYTICS



Type MTA precision molded by an exclusive new technique. This process assures case uniformity and quality unattainable by conventional tube-and-fill methods. Polypropylene case material provides extreme humidity protection. All-welded construction. Temperature Range: -20°C to +65°C. Tol: -10%, +100%.

Stock No.	Type	Mfd.	WV DC	Size	1-24	25-49	50-99	100-249
17F1746	MTA175E3	175	3	⅜x1"	.59	.46	.41	.35
17F1747	MTA600F3	600	3	½x1⅜"	.59	.46	.41	.35
17F1748	MTA50D6	50	6	5/16x¾"	.47	.39	.32	.28
17F1749	MTA150E6	150	6	⅜x1"	.52	.41	.35	.30
17F1750	MTA500F6	500	6	½x1⅜"	.66	.52	.44	.39
26F950	MTA40D10	40	10	5/16x¾"	.47	.39	.32	.28
17F1751	MTA100E10	100	10	⅜x1"	.52	.41	.35	.30
17F1752	MTA200E10	200	10	⅜x1"	.59	.46	.41	.35
26F951	MTA400F10	400	10	½x1⅜"	.70	.56	.47	.41
26F952	MTA30D15	30	15	5/16x¾"	.47	.39	.32	.28
17F1753	MTA50E15	50	15	⅜x1"	.52	.41	.35	.30
26F956	MTA100E15	100	15	⅜x1"	.52	.41	.35	.30
17F1754	MTA250F15	250	15	½x1⅜"	.66	.52	.44	.39
17F1816	MTA300F15	300	15	½x1⅜"	.75	.58	.50	.43
26F958	MTA350F15	350	15	7/16x¾"	.75	.58	.50	.43
26F959	MTA25D20	25	20	5/16x¾"	.47	.39	.32	.28
17F1817	MTA60E20	60	20	⅜x1"	.52	.41	.35	.30
26F962	MTA250F20	250	20	½x1⅜"	.75	.58	.50	.43
26F963	MTA50E25	50	25	⅜x1"	.52	.41	.35	.30
17F1818	MTA175F25	175	25	½x1⅜"	.70	.56	.47	.41
26F965	MTA200F25	200	25	½x1⅜"	.75	.58	.50	.43
17F1819	MTA20D30	20	30	5/16x¾"	.47	.39	.32	.28
17F1820	MTA40E30	40	30	⅜x1"	.52	.41	.35	.30
17F1755	MTA10D35	10	35	5/16x¾"	.47	.39	.32	.28
17F1821	MTA15D35	15	35	5/16x¾"	.47	.39	.32	.28
26F968	MTA25D35	25	35	5/16x¾"	.52	.41	.35	.30
17F1822	MTA35E35	35	35	⅜x1"	.52	.41	.35	.30
26F972	MTA100F35	100	35	½x1⅜"	.70	.56	.47	.41
17F1823	MTA125F35	125	35	½x1⅜"	.70	.56	.47	.41
26F974	MTA150F35	150	35	½x1⅜"	.75	.58	.50	.43
26F975	MTA1D50	1	50	5/16x¾"	.47	.39	.32	.28
26F976	MTA2D50	2	50	5/16x¾"				
17F1824	MTA3D50	3	50	5/16x¾"				
17F1825	MTA4D50	4	50	5/16x¾"				
26F977	MTA5D50	5	50	5/16x¾"	.47	.39	.32	.28
17F1826	MTA6D50	6	50	5/16x¾"				
17F1827	MTA7D50	7	50	5/16x¾"				
17F1828	MTA8D50	8	50	5/16x¾"				
26F978	MTA10D50	10	50	5/16x¾"	.52	.41	.35	.30
17F1830	MTA15D50	15	50	5/16x¾"	.52	.41	.35	.30
26F981	MTA25E50	25	50	⅜x1"	.59	.46	.41	.35
26F982	MTA30E50	30	50	⅜x1"	.59	.46	.41	.35
26F985	MTA50E50	50	50	⅜x1"	.59	.46	.41	.35
17F1831	MTA60F50	60	50	½x1⅜"	.66	.52	.44	.39
17F1832	MTA70F50	70	50	½x1⅜"	.66	.52	.44	.39
26F988	MTA80F50	80	50	½x1⅜"	.70	.56	.47	.41
17F1833	MTA5D75	5	75	5/16x¾"	.59	.46	.41	.35
17F1834	MTA15E75	15	75	⅜x1"	.59	.46	.41	.35
17F1835	MTA50F75	50	75	½x1⅜"	.66	.52	.44	.39
17F1836	MTA1D100	1	100	5/16x¾"				
17F1837	MTA2D100	2	100	5/16x¾"				
17F1838	MTA3D100	3	100	5/16x¾"				
17F1839	MTA4D100	4	100	5/16x¾"				
17F1840	MTA5D100	5	100	5/16x¾"	.59	.46	.41	.35
17F1842	MTA8E100	8	100	⅜x1"				
17F1843	MTA10E100	10	100	⅜x1"				
17F1844	MTA15E100	15	100	⅜x1"				
17F1845	MTA25F100	25	100	½x1⅜"				
17F1846	MTA30F100	30	100	½x1⅜"	.66	.52	.44	.39
17F1847	MTA40F100	40	100	½x1⅜"				

HC CAPACITORS

Plastic case electrolytics for high capacity, low-voltage applications such as dry disc rectifier filters, movie equipment, etc. All are polarized. Two screw terminals. 10 oz.

Stk. No.	Type	Mfd.	WV DC	Size	1-9	10-24	25-49	50-99
14F105	HC1560A	6000	15	1⅝x3⅜	7.27	6.24	3.64	2.81
14F106	HC2510A	1000	25	1⅞x2¾	4.13	3.53	2.05	1.58

Stk. No.	Type	Mfd.	WV	Size	1-9	10-24	25-49	50-99
14F107	HC2520A	2000	25	1⅞x3⅜	5.38	4.61	2.68	2.06
14F108	HC2540A	4000	25	1 13/16x3⅜	7.22	6.20	3.61	2.78
14F298	HC5040	4000	50	2 1/16x4⅜	5.69	8.13	4.74	3.65
14F109	HC5005A	500	50	1⅞x2¾	4.31	3.68	2.15	1.66
14F110	HC5010A	1000	50	1⅞x3⅜	5.51	4.73	2.76	2.12
14F111	HC5020A	2000	50	1 13/16x3⅜	6.55	5.62	3.28	2.52
14F997	HC15010	1000	150	2 1/16x4⅜	8.93	7.72	4.64	3.47
14F112	HC15010A	1000	150	1 13/16x4⅜	8.34	7.15	4.16	3.20
14F113	HC20005A	500	200	1 13/16x3⅜	7.16	6.13	3.59	2.76
14F114	HC45003	300	450	2 1/16x4⅜	10.97	9.41	5.48	4.24

TYPE NP NON-POLARIZED HIGH CAP ELECTROLYTICS

Stk. No.	Type	Mfd.	WV	Size	1-9	10-24	25-49	50-99
14F136	NP1255A	500	125	1 13/16x4⅜	8.16	7.00	4.08	3.13

Stk. No.	Type	Mfd.	WV	1-9	10-24	25-49	50-99
14F134	NP3025	200	300	9.07	7.78	4.54	3.49
14F131	NP4505	50	450	8.16	7.00	4.08	3.13
14F132	NP4510	100	450	9.97	8.54	4.98	3.84

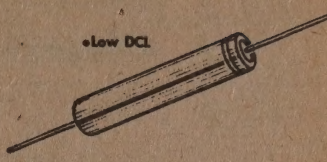
TT Miniature Electrolytic Capacitors

MALLORY

TT Miniature Electrolytic Capacitors

TT miniature tubular aluminum capacitors are made from high purity aluminum foil, deep-etched to provide maximum capacity per unit volume. Etched cathode construction assures long hum-free operation. Utilizes all-welded construction; exhibits exceptionally low DCL and ESR. Supplied in aluminum case with insulating sleeve. Temperature range: -55°C to +85°C (3 through 100 WVDC), -30°C to +85°C on everything else. Tolerance: -10 +75%, 1-100 WVDC; -10 +50%, 100-150 WVDC.

- Low ESR
- All Welded Construction
- Clear Insulating Sleeves
- Low DCL



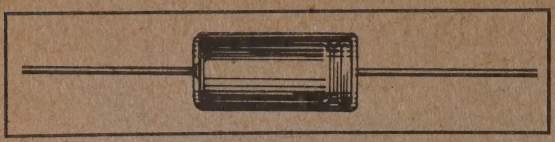
Stock No.	Type	μ F	WV DC	Case Sizes D x L	1-24	25-49	50-99	100-249
55F2670	TT3X5	5	3	1/4x3/8	.58	.42	.33	.26
55F2671	TT3X25	25	3	1/4x3/8	.58	.42	.33	.26
55F2672	TT3X50	50	3	1/4x3/8	.58	.42	.33	.26
55F2673	TT3X100A	100	3	5/16x3/8	.66	.48	.37	.31
55F2674	TT3X150A	150	3	5/16x3/8	.81	.62	.48	.37
55F2675	TT3X200C	200	3	3/8x3/4	.81	.62	.48	.37
55F2676	TT3X250B	250	3	3/8x3/4	.85	.64	.49	.39
55F2677	TT3X300A	300	3	3/8x3/4	.85	.64	.49	.39
55F2678	TT3X400A	400	3	3/8x7/8	.88	.66	.52	.41
55F2679	TT3X500A	500	3	3/8x7/8	.93	.69	.54	.42
55F2680	TT3X590	590	3	3/8x1	.93	.69	.54	.42
55F2681	TT3X1000A	1000	3	1/2x1	.97	.73	.58	.49
55F2682	TT3X1500	1500	3	7/16x1 3/8	.97	.73	.58	.49
55F2683	TT3X2500	2500	3	7/16x2	1.00	.75	.63	.52
55F2684	TT3X3600A	3600	3	5/8x1 3/8	1.03	.82	.67	.56
55F2685	TT6X1	1	6	1/4x3/8				
55F2686	TT6X2	2	6	1/4x3/8				
55F2687	TT6X3	3	6	1/4x3/8	.58	.42	.33	.26
55F2688	TT6X4	4	6	1/4x3/8				
55F2689	TT6X5	5	6	1/4x3/8				
55F2690	TT6X6	6	6	1/4x3/8				
55F2691	TT6X8	8	6	1/4x3/8				
55F2692	TT6X10	10	6	1/4x3/8	.58	.42	.33	.26
55F2693	TT6X15	15	6	1/4x3/8				
55F2694	TT6X20	20	6	1/4x3/8				
55F2695	TT6X25	25	6	1/4x3/8				
55F2696	TT6X30	30	6	1/4x3/8				
55F2697	TT6X35	35	6	1/4x3/8	.58	.42	.33	.26
55F2698	TT6X40	40	6	1/4x3/8				
55F2699	TT6X50A	50	6	1/4x3/8				
55F2700	TT6X60A	60	6	1/4x3/8	.66	.48	.37	.31
55F2701	TT6X75A	75	6	1/4x3/8	.66	.48	.37	.31
55F2702	TT6X80B	80	6	1/4x3/8	.66	.48	.37	.31
55F2703	TT6X100A	100	6	5/16x7/8	.81	.62	.48	.37
55F2704	TT6X150A	150	6	5/16x7/8	.85	.64	.49	.39
55F2705	TT6X200B	200	6	3/8x3/4	.85	.64	.49	.39
55F2706	TT6X250A	250	6	3/8x3/4	.88	.66	.52	.41
55F2707	TT6X300B	300	6	3/8x3/4	.88	.66	.52	.41
55F2708	TT6X400A	400	6	3/8x1	.88	.66	.52	.41
55F2709	TT6X560	560	6	3/8x1 1/8	.96	.71	.55	.44
55F2710	TT6X1000A	1000	6	1/2x1	1.00	.75	.63	.52
55F2711	TT6X1500A	1500	6	7/16x1 3/4	1.03	.82	.67	.56
55F2712	TT6X2000A	2000	6	5/8x1	1.05	.84	.70	.58
55F2713	TT6X3000	3000	6	1/2x2	1.18	.94	.75	.64
55F2714	TT12X5	5	12	1/4x3/8	.58	.42	.33	.26
55F2715	TT12X10	10	12	1/4x3/8				
55F2716	TT12X15	15	12	1/4x3/8				
55F2717	TT12X25A	25	12	1/4x3/8	.58	.42	.33	.26
55F2718	TT12X35A	35	12	1/4x3/8				
55F2719	TT12X50A	50	12	1/4x3/8	.66	.48	.37	.31
55F2720	TT12X100A	100	12	5/16x3/8	.85	.64	.49	.39
55F2721	TT12X250A	250	12	3/8x3/4	.93	.69	.54	.42
55F2722	TT12X450A	450	12	3/8x1 1/8	.97	.73	.58	.49
55F2723	TT12X500	500	12	7/16x1	.97	.73	.58	.49
55F2724	TT12X600	600	12	7/16x1 1/8	.97	.73	.58	.49
55F2725	TT12X1000B	1000	12	1/2x1 1/4	1.03	.82	.67	.56
55F2726	TT12X1500A	1500	12	5/8x1 1/8	1.05	.84	.70	.58
55F2727	TT12X2000A	2000	12	5/8x1 3/8	1.21	.97	.80	.67
55F2728	TT15X1	1	15	1/4x3/8	.58	.42	.33	.26
55F2729	TT15X2	2	15	1/4x3/8	.58	.42	.33	.26
55F2730	TT15X3	3	15	1/4x3/8				
55F2731	TT15X4	4	15	1/4x3/8				
55F2732	TT15X5	5	15	1/4x3/8	.58	.42	.33	.26
55F2733	TT15X6	6	15	1/4x3/8				
55F2734	TT15X8	8	15	1/4x3/8				
55F2735	TT15X10	10	15	1/4x3/8				
55F2736	TT15X15	15	15	1/4x3/8	.58	.42	.33	.26
55F2737	TT15X20A	20	15	1/4x3/8				
55F2738	TT15X25A	25	15	1/4x3/8				
55F2739	TT15X30A	30	15	1/4x3/8				
55F2740	TT15X35A	35	15	1/4x3/8				
55F2741	TT15X40A	40	15	1/4x3/8	.66	.48	.37	.31
55F2742	TT15X50A	50	15	1/4x3/8				
55F2743	TT15X75A	75	15	1/4x3/4	.81	.62	.48	.37
55F2744	TT15X100A	100	15	5/16x3/8	.85	.64	.49	.39
55F2745	TT15X150A	150	15	5/16x3/4	.88	.66	.52	.41
55F2746	TT15X200A	200	15	3/8x3/4	.93	.69	.54	.42
55F2747	TT15X260A	260	15	3/8x7/8	.93	.69	.54	.42

Stock No.	Type	μ F	WV DC	Case Sizes D x L	1-24	25-49	50-99	100-249
55F2748	TT15X350A	350	15	3/8x1 1/8	.96	.71	.55	.44
55F2749	TT15X400	400	15	3/8x1 1/8	.97	.73	.58	.49
55F2750	TT15X500	500	15	3/8x1 3/8	.97	.73	.58	.49
55F2751	TT15X600	600	15	3/8x1 1/2	.97	.73	.58	.49
55F2752	TT15X800	800	15	7/16x1 3/8	1.00	.75	.63	.52
55F2753	TT15X1000B	1000	15	1/2x1 1/4	1.03	.82	.67	.56
55F2754	TT15X1500A	1500	15	5/8x1 1/8	1.05	.84	.70	.58
55F2755	TT25X1	1	25	1/4x3/8	.58	.42	.33	.26
55F2756	TT25X2	2	25	1/4x3/8	.58	.42	.33	.26
55F2757	TT25X3	3	25	1/4x3/8	.58	.42	.33	.26
55F2758	TT25X4	4	25	1/4x3/8				
55F2759	TT25X5	5	25	1/4x3/8				
55F2760	TT25X6	6	25	1/4x3/8	.58	.42	.33	.26
55F2761	TT25X8	8	25	1/4x3/8				
55F2762	TT25X10	10	25	1/4x3/8				
55F2763	TT25X15A	15	25	1/4x3/8	.58	.42	.33	.26
55F2764	TT25X20A	20	25	1/4x3/8	.66	.48	.37	.31
55F2765	TT25X25B	25	25	1/4x3/8	.66	.48	.37	.31
55F2766	TT25X30A	30	25	1/4x3/4	.66	.48	.37	.31
55F2767	TT25X35A	35	25	1/4x3/4	.66	.48	.37	.31
55F2768	TT25X50A	50	25	5/16x1 1/16	.81	.62	.48	.37
55F2769	TT25X75A	75	25	3/8x3/4	.85	.64	.49	.39
55F2770	TT25X100B	100	25	3/8x3/4	.88	.66	.52	.41
55F2771	TT25X150	150	25	3/8x1	.93	.69	.54	.42
55F2772	TT25X200	200	25	3/8x1 1/8	.96	.71	.55	.44
55F2773	TT25X300	300	25	3/8x1 1/2	.97	.73	.58	.49
55F2774	TT25X400	400	25	7/16x1 3/8	1.00	.75	.63	.52
55F2775	TT25X500A	500	25	1/2x1 3/8	1.03	.82	.67	.56
55F2776	TT25X600	600	25	7/16x1 3/4	1.05	.84	.70	.58
55F2777	TT25X800	800	25	1/2x1 3/4	1.05	.84	.70	.58
55F2778	TT50X1	1	50	1/4x3/8				
55F2779	TT50X2	2	50	1/4x3/8				
55F2780	TT50X3	3	50	1/4x3/8	.58	.42	.33	.26
55F2781	TT50X4	4	50	1/4x3/8				
55F2782	TT50X5A	5	50	1/4x3/8				
55F2783	TT50X6B	6	50	5/16x1 1/16	.58	.42	.33	.26
55F2784	TT50X8A	8	50	1/4x3/8	.58	.42	.33	.26
55F2785	TT50X10B	10	50	1/4x3/8	.66	.48	.37	.31
55F2786	TT50X15A	15	50	1/4x3/4	.66	.48	.37	.31
55F2787	TT50X20B	20	50	5/16x3/4	.81	.62	.48	.37
55F2788	TT50X25A	25	50	5/16x1 1/16	.81	.62	.48	.37
55F2789	TT50X35A	35	50	3/8x3/4	.85	.64	.49	.39
55F2790	TT50X50B	50	50	3/8x3/4	.88	.66	.52	.41
55F2791	TT50X75	75	50	3/8x1	.93	.69	.54	.42
55F2792	TT50X100	100	50	3/8x1 1/8	.96	.71	.55	.44
55F2793	TT50X150A	150	50	1/2x1	.97	.73	.58	.49
55F2794	TT50X200	200	50	7/16x1 3/8	1.03	.82	.67	.56
55F2795	TT50X250A	250	50	1/2x1 3/8	1.05	.84	.70	.58
55F2796	TT50X300	300	50	7/16x2	1.18	.94	.75	.64
55F2797	TT50X350A	350	50	5/8x1 1/8	1.18	.94	.75	.64
55F2798	TT50X400A	400	50	5/8x1 1/4	1.18	.94	.75	.64
55F2799	TT50X450	450	50	1/2x2	1.35	1.06	.87	.73
55F2800	TT100X2	2	100	1/4x3/8	.66	.48	.37	.31
55F2801	TT100X3	3	100	1/4x3/8	.66	.48	.37	.31
55F2802	TT100X6	6	100	5/16x1 1/16	.81	.62	.48	.37
55F2803	TT100X10	10	100	3/8x3/4	.85	.64	.49	.39
55F2804	TT100X15	15	100	3/8x7/8	.88	.66	.52	.41
55F2805	TT100X20	20	100	3/8x1	.93	.69	.54	.42
55F2806	TT100X25A	25	100	3/8x1	.96	.71	.55	.44
55F2807	TT100X30	30	100	3/8x1 1/8	.96	.71	.55	.44
55F2808	TT100X40	40	100	7/16x1 3/8	1.00	.75	.63	.52
55F2809	TT100X45	45	100	7/16x1 1/2	1.03	.82	.67	.56
55F2810	TT100X50	50	100	7/16x1 3/4	1.05	.84	.70	.58
55F2811	TT100X65	65	100	7/16x2	1.18	.94	.75	.64
55F2812	TT150X1	1	150	1/4x3/8	.58	.42	.33	.26
55F2813	TT150X2	2	150	1/4x3/8	.66	.48	.37	.31
55F2814	TT150X3	3	150	5/16x3/8	.66	.48	.37	.31
55F2815	TT150X4	4	150	3/8x3/8	.81	.62	.48	.37
55F2816	TT150X5	5	150	3/8x3/8	.81	.62	.48	.37
55F2817	TT150X6	6	150	3/8x3/4	.85	.64	.49	.39
55F2818	TT150X8	8	150	3/8x3/8	.85	.64	.49	.39
55F2819	TT150X10	10	150	3/8x3/8	.88	.66	.52	.41
55F2820	TT150X12	12	150	3/8x1	.93	.69	.54	.42
55F2821	TT150X15	15	150	3/8x1 1/8	.93	.69	.54	.42
55F2822	TT150X20	20	150	3/8x1 3/8	.96	.71	.55	.44
55F2823	TT150X25	25	150	7/16x1 3/8	1.00	.75	.63	.52
55F2824	TT150X30	30	150	7/16x1 1/2	1.00	.75	.63	.52
55F2825	TT150X35	35	150	7/16x1 3/4	1.03	.82	.67	.56

MALLORY

Electrolytic Capacitors

TCG TUBULAR COMPUTER GRADE CAPACITORS

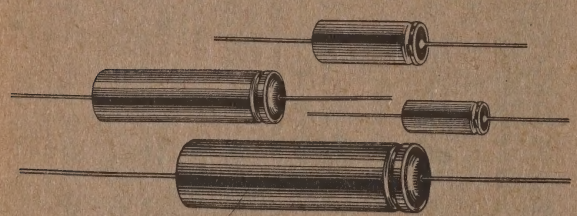


Small tubular version of the Mallory type CG electrolytic capacitor. Meets present demands for high quality performance and high C/V product. Features can wall safety vent, wide variety of container sizes, PVC insulating sleeve, low ESR and long life, all welded construction. Temperature range: −40° to +85°C. Tolerance: 10 to 50 WVDC types, −10% +75%; 100 to 450 WVDC types, −10% +50%.

Stock No.	Type TCG-	Cap. µF	WV DC	Case Size	1-24	25-49	50-99	100-499
67F3004	102U010D1G	1000	10	7/16x1 3/8	2.15	1.25	1.01	.90
67F3005	252U010N1C	2500	10	1x1 1/8	2.45	1.43	1.15	1.03
67F3006	502U010N1L	5000	10	1x1 5/8	3.02	1.77	1.41	1.26
67F3007	552U010N1L	5500	10	1x1 5/8	3.22	1.87	1.50	1.34
67F3008	103U010L3C	1000	10	7/8 x3 1/8	3.97	2.31	1.86	1.64
67F3009	122U015D2A	1200	15	7/16x2	2.31	1.34	1.08	.96
67F3010	252U015G2L	2500	15	5/8x2 5/8	2.54	1.48	1.19	1.05
67F3011	292U015G2L	2900	15	5/8x2 5/8	2.99	1.75	1.40	1.24
67F3012	402U015N1L	4000	15	1x1 5/8	3.22	1.87	1.50	1.34
67F3013	632U015L2L	6300	15	7/8 x2 5/8	3.67	2.13	1.71	1.53
67F3014	822U015N2L	8200	15	1x2 5/8	3.97	2.31	1.86	1.64
67F3015	103U015N3C	10000	15	1x3 1/8	3.97	2.31	1.86	1.64
67F3016	121U025D0N	120	25	7/16x3/4	1.99	1.17	.94	.83
67F3017	231U025D1A	230	25	7/16x1	2.03	1.19	.95	.84
67F3018	501U025D1N	500	25	7/16x1 3/4	2.31	1.34	1.08	.96
67F3019	102U025N1C	1000	25	1x1 1/8	2.45	1.43	1.15	1.03
67F3020	222U025J2L	2200	25	3/4x2 5/8	3.02	1.77	1.41	1.26
67F3021	402U025L3C	4000	25	7/8 x3 1/8	3.67	2.13	1.71	1.53
67F3022	250U030B0L	25	30	5/16x5/8	1.99	1.17	.94	.83
67F3023	750U030D0N	75	30	7/16x3/4	1.99	1.17	.94	.83
67F3024	950U030D0N	95	30	7/16x3/4	1.99	1.17	.94	.83
67F3025	151U030D1A	150	30	7/16x1	2.03	1.19	.95	.85
67F3026	251U030D1G	250	30	7/16x1 3/8	2.10	1.23	.98	.87
67F3027	501U030D2E	500	30	7/16x2 1/4	2.31	1.34	1.08	.96
67F3028	112U030G2L	1100	30	5/8x2 5/8	2.54	1.48	1.19	1.05
67F3029	242U030L2L	2400	30	7/8 x2 5/8	3.25	1.89	1.52	1.35
67F3030	302U030L3C	3000	30	7/8 x3 1/8	3.67	2.13	1.71	1.52
67F3031	500U050D0N	50	50	7/16x3/4	1.99	1.17	.94	.83

Stock No.	Type TCG-	Cap. µF	WV DC	Case Size	1-24	25-49	50-99	100-499
67F3032	101U050E1G	100	50	1/2x1 3/8	2.03	1.19	.95	.84
67F3033	151U050D1G	150	50	7/16x1 3/8	2.10	1.23	.98	.87
67F3034	251U050D2E	250	50	7/16x2 1/4	2.31	1.34	1.08	.96
67F3035	291U050D2E	290	50	7/16x2 1/4	2.31	1.34	1.08	.96
67F3036	501U050G2L	500	50	5/8x2 5/8	2.45	1.43	1.15	1.03
67F3037	601U050G2L	600	50	5/8x2 5/8	2.45	1.43	1.15	1.03
67F3038	112U050N2C	1100	50	1x2 1/8	3.02	1.77	1.41	1.26
67F3039	122U050N2C	1200	50	1x2 1/8	3.18	1.86	1.49	1.32
67F3040	232U050N3C	2300	50	1x3 1/8	3.97	2.31	1.86	1.64
67F3041	252U050N3L	2500	50	1x3 5/8	3.97	2.31	1.86	1.64
67F3042	150T100C0P	15	100	3/8x1 3/16	1.99	1.17	.94	.83
67F3043	100T150C0P	10	150	3/8x1 3/16	1.99	1.17	.94	.83
67F3044	250T150E1G	25	150	1/2x1 3/8	2.03	1.19	.95	.84
67F3045	500T150D1N	50	150	7/16x1 3/4	2.15	1.25	1.00	.90
67F3046	101T150J1L	100	150	3/4x1 5/8	2.45	1.43	1.15	1.03
67F3047	251T150L2C	250	150	7/8 x2 1/8	3.02	1.77	1.41	1.26
67F3048	561T150N3C	560	150	1x3 1/8	3.97	2.31	1.86	1.64
67F3049	101T250L2C	100	250	7/8 x2 1/8	2.99	1.74	1.40	1.24
67F3050	201T250N3C	200	250	1x3 1/8	3.25	1.89	1.52	1.35
67F3051	101T350N2L	100	350	1x2 5/8	3.16	1.86	1.49	1.32
67F3052	121T350N2L	120	350	1x2 5/8	3.25	1.89	1.52	1.35
67F3053	161T350N3L	160	350	1x3 5/8	3.97	2.31	1.86	1.64
67F3054	181T350N3L	180	350	1x3 5/8	3.97	2.31	1.86	1.64
67F3055	111T400N3L	110	400	1x3 5/8	3.97	2.31	1.86	1.64
67F3056	100T450G1L	10	450	5/8x1 5/8	2.31	1.34	1.08	.96
67F3057	200T450G2L	20	450	5/8x2 5/8	2.45	1.43	1.15	1.03
67F3058	500T450N2C	50	450	1x2 1/8	3.25	1.89	1.52	1.35
67F3059	750T450N3C	75	450	1x3 1/8	3.97	2.31	1.86	1.64

TCX EXTENDED TEMPERATURE COMPUTER GRADE ELECTROLYTICS



- −75°C to +125°C Operation
- Mylar Insulating Sleeve
- Pressure Safety Vent
- 500 Hour Life Test

The TCX capacitor is a tubular, axial lead, aluminum electrolytic capacitor. Designed to assure optimum CV product along with outstanding DC leakage current, low ESR, low impedance and temperature stability. A pressure safety vent is formed into the capacitor wall. Reverse voltage should not exceed 1.5 volts. Tolerance: 3-75 WVDC, −10% +75%; 75-100 WVDC, −10% +50%. Range: −55°C to +105°C. Storage: −75°C to +125°C, up to 200,000 feet altitude. Leads are 2 1/2" tinned copper wire, #20 AWG for case diameters of 1/2 and 5/8", #18 AWG for 3/4" and up. Dimensions are inches, diameter by length.

Stock No.	Type TCX-	µF	WV DC	Case Size	1-24	25-49	50-99	100-249
17F1908	162U006G1G1P	1600	6	5/8x1 3/8	4.52	3.93	3.38	2.87
17F1909	242U006L1C1P	2400	6	7/8 x1 1/8	5.04	4.38	3.77	3.21
17F1910	332U006G2C1P	3300	6	5/8x2 1/8	4.94	4.30	3.70	3.14
17F1911	482U006L1L1P	4800	6	7/8 x1 5/8	5.56	4.84	4.16	3.54
17F1912	652U006J2L1P	6500	6	3/4x2 5/8	5.77	5.02	4.32	3.67
17F1913	962U006L2L1P	9600	6	7/8 x2 5/8	6.60	5.74	4.94	4.20
17F1914	123U006N2L1P	12000	6	1x2 5/8	7.38	6.42	5.52	4.69
17F1915	183U006N3L1P	18000	6	1x3 5/8	8.79	7.65	6.58	5.59
17F1916	711U015G1C1P	710	15	5/8x1 1/8	4.42	3.85	3.31	2.81
17F1917	102U015J1C1P	1000	15	3/4x1 1/8	4.68	4.07	3.50	2.98
17F1918	162U015J1G1P	1600	15	3/4x1 3/8	4.78	4.16	3.58	3.04
17F1919	212U015J1L1P	2100	15	3/4x1 5/8	4.99	4.34	3.73	3.17
17F1920	282U015G2L1P	2800	15	5/8x2 5/8	5.15	4.48	3.85	3.27
17F1921	312U015L1L1P	3100	15	7/8 x1 5/8	5.56	4.84	4.16	3.54
17F1922	462U015L2C1P	4600	15	7/8 x2 1/8	6.03	5.25	4.51	3.83
17F1923	622U015L2L1P	6200	15	7/8 x2 5/8	6.60	5.74	4.94	4.20
17F1924	802U015N2L1P	8000	15	1x2 5/8	7.38	6.42	5.52	4.69
17F1925	123U015N3L1P	12000	15	1x3 5/8	8.79	7.65	6.58	5.59
17F1926	561U025F2C1P	560	25	1/2x2 1/8	4.68	4.07	3.50	2.98
17F1927	951U025J1G1P	950	25	3/4x1 3/8	4.78	4.16	3.58	3.04
17F1928	122U025N1C1P	1200	25	1x1 1/8	5.56	4.84	4.16	3.54
17F1929	182U025L1L1P	1800	25	7/8 x1 5/8	5.56	4.84	4.16	3.54
17F1930	242U025N1L1P	2400	25	1x1 5/8	6.14	5.34	4.59	3.90
17F1931	372U025L2L1P	3700	25	7/8 x2 5/8	6.60	5.74	4.94	4.20
17F1932	722U025N3L1P	7200	25	1x3 5/8	8.79	7.65	6.58	5.59
17F1933	311U030G1C1P	310	30	5/8x1 1/8	4.42	3.85	3.31	2.81
17F1934	471U030J1C1P	470	30	3/4x1 1/8	4.68	4.07	3.50	2.98
17F1935	881U030N1C1P	880	30	1x1 1/8	5.56	4.84	4.16	3.54
17F1936	142U030J2L1P	1400	30	3/4x2 1/8	5.41	4.71	4.05	3.44
17F1937	272U030L2L1P	2700	30	7/8 x2 5/8	6.60	5.74	4.94	4.20
17F1938	442U030N3C1P	4400	30	1x3 1/8	8.16	7.10	6.11	5.19

Stock No.	Type TCX-	µF	WV DC	Case Size	1-24	25-49	50-99	100-249
17F1939	361U040J1C1P	360	40	3/4x1 1/8	4.68	4.07	3.50	2.98
17F1940	701U040N1C1P	700	40	1x1 1/8	5.56	4.84	4.16	3.54
17F1941	102U040L1L1P	1000	40	7/8 x1 5/8	5.56	4.84	4.16	3.54
17F1942	142U040J2L1P	1400	40	3/4x2 5/8	5.77	5.02	4.32	3.67
17F1943	212U040L2L1P	2100	40	7/8 x2 5/8	6.60	5.74	4.94	4.20
17F1944	422U040N3L1P	4200	40	1x3 5/8	8.79	7.65	6.58	5.59
17F1945	111U050E1G1P	110	50	1/2x1 3/8	4.42	3.85	3.31	2.81
17F1946	251U050G1G1P	250	50	5/8x1 3/8	4.52	3.93	3.38	2.87
17F1947	371U050J1G1P	370	50	3/4x1 3/8	4.78	4.16	3.58	3.04
17F1948	501U050G2C1P	500	50	5/8x2 1/8	4.94	4.30	3.70	3.14
17F1949	711U050N1G1P	710	50	1x1 3/8	5.82	5.06	4.35	3.70
17F1950	951U050N1L1P	950	50	1x1 5/8	6.14	5.34	4.59	3.90
17F1951	142U050L2L1P	1400	50	7/8 x2 5/8	6.60	5.74	4.94	4.20
17F1952	192U050N2L1P	1900	50	1x2 5/8	7.38	6.42	5.52	4.69
17F1953	282U050N3L1P	2800	50	1x3 5/8	8.79	7.65	6.58	5.59
17F1954	650U075G1C1P	65	75	5/8x1 1/8	4.42	3.85	3.31	2.81
17F1955	101U075G1G1P	100	75	5/8x1 3/8	4.52	3.93	3.38	2.87
17F1956	141U075J1G1P	140	75	3/4x1 3/8	4.78	4.16	3.58	3.04
17F1957	211U075L1G1P	210	75	7/8 x1 3/8	5.30	4.61	3.97	3.37
17F1958	281U075L1L1P	280	75	7/8 x1 5/8	5.56	4.84	4.16	3.54
17F1959	371U075J2L1P	370	75	3/4x2 5/8	5.77	5.02	4.32	3.67
17F1960	561U075L2L1P	560	75	7/8 x2 5/8	6.60	5.74	4.94	4.20
17F1961	741U075N2L1P	740	75	1x2 5/8	7.38	6.42	5.52	4.69
17F1962	112U075N3L1P	1100	75	1x3 5/8	8.79	7.65	6.58	5.59
17F1963	350U100G1C1P	35	100	5/8x1 1/8	4.42	3.85	3.31	2.81
17F1964	550U100G1G1P	55	100	5/8x1 3/8	4.52	3.93	3.38	2.87
17F1965	750U100J1G1P	75	100	3/4x1 3/8	4.78	4.16	3.58	3.04
17F1966	111U100L1G1P	110	100	7/8 x1 3/8	5.30	4.61	3.97	3.37
17F1967	151U100L1L1P	150	100	7/8 x1 5/8	5.56	4.84	4.16	3.54
17F1968	201U100N1L1P	200	100	1x1 5/8	6.14	5.34	4.59	3.90
17F1969	311U100L2L1P	310	100	7/8 x2 5/8	6.60	5.74	4.94	4.20
17F1970	621U100N3L1P	620	100	1x3 5/8	8.79	7.65	6.58	5.59

Computer-Grade Electrolytic Capacitors

MALLORY

TYPE CG

Operating life exceeds ten years. Pressure sensitive safety vent. Low ESR. PVC insulating sleeves. High ripple capabilities. 7/32" high, terminal posts. 10-32 screws. Sizes do not include terminals or sleeves. Tolerance: 1-150 WVDC, -10%, +75%; 200 WV and up, -10%, +50%. Maximum DC Leakage Current @ 25°C: 4 mA. Operating Temperature: -40 to +85°C. Although temperature range is as stated, tests have been conducted at 105°C with less than rated voltage without incurring immediate catastrophic failure. Can withstand 6 hrs. of vibration at 10-55cps and return within 1 minute with max. amplitude vibration of .03". Wt. 3 oz.

Stk. No.	Type	Mfd.	WV DC	DxL In	1-49	50-99	100-249
17F1730	CG63U10B1	6,000	10	1 25/64 X 3 11/64	2.91	2.34	1.97
26F425	CG822U10C1	8,200	10	1 25/64 X 4 1/64	3.46	2.81	2.38
17F1731	CG14U10H1	10,000	10	1 49/64 X 3 1/64	3.86	3.13	2.63
26F631	CG152U25A1	1,500	25	1 25/64 X 2 1/64	2.11	1.71	1.44
17F1735	CG282U25B1	2,800	25	1 25/64 X 3 1/64	2.58	2.09	1.77
26F639	CG382U25C1	5,800	25	1 25/64 X 4 1/64	3.17	2.58	2.17
17F1736	CG452U25H1	4,500	25	1 49/64 X 3 1/64	3.38	2.74	2.32
26F641	CG63U25K1	6,000	25	2 1/64 X 3 1/64	3.95	3.21	2.70
26F427	CG852U25D1	8,500	25	2 1/64 X 4 1/64	4.77	3.86	3.27
17F1737	CG1352U25E1	13,500	25	2 33/64 X 4 1/64	7.32	5.92	4.99
26F431	CG24U25F1	20,000	25	3 1/64 X 4 1/64	8.00	6.49	5.45
26F432	CG3152U25G1	31,500	25	3 1/64 X 5 43/64	10.72	8.68	7.34
17F1738	CG212U35B1	2,100	35	1 25/64 X 3 1/64	2.64	2.14	1.81
17F1739	CG312U35C1	3,100	35	1 25/64 X 4 1/64	3.72	3.01	2.54
17F1740	CG362U35H1	3,600	35	1 49/64 X 3 1/64	3.93	3.18	2.69
26F630	CG82U50A1	800	50	1 25/64 X 2 1/64	2.13	1.73	1.45
17F1743	CG152U50B1	1,500	50	1 25/64 X 3 1/64	2.51	2.04	1.72
26F633	CG23U50C1	2,000	50	1 25/64 X 4 1/64	2.79	2.26	1.92
17F1744	CG252U50H1	2,500	50	1 49/64 X 3 1/64	3.08	2.49	2.09
60F2130	CG332U50K1	3,300	50	2 1/64 X 3 1/64	3.97	3.22	2.72
26F424	CG452U50D1	4,500	50	2 1/64 X 4 1/64	4.24	3.42	2.90
17F1745	CG732U50E1	7,300	50	2 33/64 X 4 1/64	6.50	5.27	4.46
60F2133	CG14U50F1	10,000	50	3 1/64 X 4 1/64	13.08	6.63	5.58
26F429	CG1652U50G1	16,500	50	3 1/64 X 5 43/64	11.23	9.10	7.68
26F628	CG62U75A1	600	75	1 25/64 X 2 1/64	2.47	2.00	1.68
17F1715	CG13U75B1	1,000	75	1 25/64 X 3 1/64	2.87	2.33	1.96
26F632	CG152U75C1	1,500	75	1 25/64 X 2 1/64	3.46	2.81	2.38
17F1716	CG23U75H1	2,000	75	1 49/64 X 3 1/64	3.76	3.04	2.58
26F636	CG252U75K1	2,500	75	2 1/64 X 3 1/64	4.52	3.66	3.09
26F421	CG3451U75D1	3,450	75	2 1/64 X 4 1/64	4.92	3.99	3.36
17F1717	CG552U75E1	5,500	75	2 33/64 X 4 1/64	7.83	6.34	5.35
26F643	CG822U75F1	8,200	75	3 1/64 X 4 1/64	8.85	7.17	6.04
60F2132	CG1252U75G1	12,500	75	3 1/64 X 5 43/64	11.56	9.35	7.88
60F2123	CG42U100A1	400	100	1 25/64 X 2 1/64	2.47	2.00	1.71
60F2126	CG13U100C1	1,000	100	1 25/64 X 4 1/64	3.34	2.71	2.27
17F1719	CG132U100H1	1,300	100	1 49/64 X 3 1/64	3.65	2.96	2.49
26F419	CG2251U100D1	2,250	100	2 1/64 X 4 1/64	5.02	4.07	3.43
26F640	CG532U100F1	5,300	100	3 1/64 X 4 1/64	8.23	6.67	5.63
26F426	CG832U100G1	8,300	100	3 1/64 X 5 43/64	11.84	9.58	8.05
26F627	CG2750U150A1	275	150	1 25/64 X 2 1/64	2.00	1.63	1.37
17F1721	CG52U150B1	500	150	1 25/64 X 3 1/64	2.51	2.04	1.72
60F2127	CG112U150K1	1,100	150	2 1/64 X 3 1/64	3.82	3.09	2.61
26F416	CG1551U150D1	1,550	150	2 1/64 X 4 1/64	4.90	3.97	3.36
17F1722	CG252U150E1	2,500	150	2 33/64 X 4 1/64	7.24	5.85	4.94
26F422	CG3362U150F1	3,600	150	3 1/64 X 5 43/64	8.65	7.00	5.90
60F2131	CG562U150G1	5,600	150	3 1/64 X 5 59/64	12.07	9.80	8.26
60F2119	CG181T200A1	180	200	1 25/64 X 2 1/64	2.47	2.00	1.68
60F2125	CG451T200C1	450	200	1 25/64 X 4 1/64	3.15	2.56	2.15
17F1723	CG551T200H1	550	200	2 1/64 X 4 1/64	3.50	2.83	2.38
26F414	CG13T200D1	1,000	200	2 1/64 X 4 1/64	5.51	4.47	3.77
26F420	CG2451T200F1	2,450	200	3 1/64 X 4 1/64	8.34	6.76	5.70
26F423	CG382T200G1	3,800	200	3 1/64 X 5 43/64	14.98	12.14	10.23
60F2120	CG141T250A1	140	250	1 25/64 X 2 1/64	2.95	2.39	2.02
17F1724	CG2750T250B1	275	250	1 25/64 X 3 1/64	3.35	2.71	2.30
60F2122	CG3750T250C1	375	250	1 25/64 X 4 1/64	3.65	2.96	2.49
26F413	CG82T250D1	800	250	2 1/64 X 4 1/64	5.78	4.67	3.95
26F638	CG33T250G1	3,000	250	3 1/64 X 5 43/64	12.41	10.06	8.48
17F1725	CG3250T300C1	325	300	1 25/64 X 4 1/64	3.50	2.83	2.38
26F412	CG72T300D1	700	300	2 1/64 X 4 1/64	5.80	4.71	3.96
26F637	CG262T300G1	2,600	300	3 1/64 X 5 43/64	13.00	10.53	8.86
60F2121	CG12T350A1	100	350	1 25/64 X 2 1/64	2.98	2.41	2.03
60F2118	CG251T350C1	250	350	1 25/64 X 4 1/64	3.61	2.93	2.48
60F2124	CG42T350K1	400	350	2 1/64 X 3 1/64	4.37	3.54	2.99
26F411	CG551T350D1	550	350	2 1/64 X 4 1/64	6.23	5.06	4.26
26F415	CG132T350F1	1,300	350	3 1/64 X 4 1/64	10.49	8.50	7.16
26F634	CG23T350G1	2,000	350	3 1/64 X 5 43/64	13.00	10.51	8.88
26F626	CG151T400C1	150	400	1 25/64 X 4 1/64	3.61	2.93	2.46
26F410	CG3250T400D1	325	400	2 1/64 X 4 1/64	4.64	3.76	3.18
26F624	CG41T450A1	40	450	1 25/64 X 2 1/64	2.20	1.78	1.50
26F625	CG111T450C1	110	450	1 25/64 X 4 1/64	3.35	2.71	2.29
26F409	CG241T450D1	240	450	2 1/64 X 4 1/64	4.18	3.38	2.87

TYPE CGS

Mylar sleeved maximum DC Leakage. Current: @ 25°C, 6ma. Operating Temperature: -40 to +65°C. Operating life exceeds ten years. Pressure sensitive safety vent. Low ESR. High ripple capabilities. 7/32" high terminal posts, 10-32 screws. Tolerance: 1-150 working volts DC, -10%, +75%; 200 working volts and up, -10%, +50%. Temperature tolerance and vibration capability same as Type CG. Shipping Weight, 3 oz.

10 WORKING VOLTS DC

Stk. No.	Type	Mfd.	DxL In.	1-24	25-49	50-99
60F3666	CGS722U010BB1	7,200	1 25/64 X 2 11/64	2.71	2.16	1.91
60F3667	CGS203U010BF1	20,000	1 25/64 X 4 1/64	4.83	3.85	2.71
17F1792	CGS303U010DD1	30,000	2 1/64 X 3 11/64	4.96	3.99	3.51
60F3668	CGS663U010D11	66,000	2 1/64 X 5 43/64	8.29	6.67	5.87

15 WORKING VOLTS DC

60F3669	CGS552U015BB1	5,500	1 25/64 X 2 11/64	2.54	2.05	1.79
60F3670	CGS103U015BD1	10,000	1 25/64 X 3 11/64	3.24	2.61	2.29
60F3671	CGS153U015BF1	15,000	1 25/64 X 4 1/64	3.93	3.15	2.77
17F1793	CGS233U015DD1	23,000	2 1/64 X 3 11/64	5.07	4.07	3.58
60F3672	CGS343U015DF1	34,000	2 1/64 X 4 1/64	6.28	5.04	4.43
60F3673	CGS503U015D11	50,000	2 1/64 X 5 43/64	8.29	6.67	5.87
60F3674	CGS803U015FF1	80,000	3 1/64 X 4 1/64	11.11	8.92	7.86
60F3675	CGS104U015FH1	100,000	3 1/64 X 5 11/64	13.71	11.01	9.68

25 WORKING VOLTS DC

60F3676	CGS302U025BB1	3,000	1 25/64 X 2 11/64	2.65	2.12	1.88
60F3677	CGS562U025BD1	5,600	1 24/64 X 3 11/64	3.16	2.54	2.23
60F3678	CGS822U025BF1	8,200	1 25/64 X 4 1/64	3.63	2.91	2.56
17F1794	CGS123U025DD1	12,000	2 1/64 X 3 11/64	4.51	3.62	3.18
60F3679	CGS183U025DF1	18,000	2 1/64 X 4 1/64	5.84	4.69	4.11
60F3680	CGS273U025D11	27,000	2 1/64 X 5 43/64	7.73	6.21	5.46
60F3681	CGS433U025FF1	43,000	3 1/64 X 4 1/64	10.52	8.44	7.42
60F3682	CGS573U025FH1	57,000	3 1/64 X 5 11/64	13.60	10.92	9.62

40 WORKING VOLTS DC

17F1795	CGS222U040BB1	2,200	1 25/64 X 2 11/64	2.81	2.25	1.98
17F1796	CGS422U040BD1	4,200	1 25/64 X 3 11/64	3.22	2.58	2.28
17F1797	CGS622U040BF1	6,200	1 25/64 X 4 1/64	4.06	3.25	2.86
17F1798	CGS932U040DD1	9,300	2 1/64 X 3 11/64	5.18	4.15	3.65
17F1799	CGS133U040DF1	13,000	2 1/64 X 4 1/64	6.30	5.07	4.46
17F1800	CGS203U040D11	20,000	2 1/64 X 5 13/64	8.38	6.71	5.91
17F1801	CGS323U040FF1	32,000	3 1/64 X 4 1/64	12.04	9.68	8.51
17F1802	CGS433U040FH1	43,000	3 1/64 X 5 11/64	15.06	12.09	11.33
17F1803	CGS503U040FJ1	50,000	3 1/64 X 5 45/64	16.99	13.65	10.63

50 WORKING VOLTS DC

60F3683	CGS162U050BB1	1,600	1 25/64 X 2 11/64	2.71	2.16	1.92
60F3684	CGS292U050BD1	2,900	1 25/64 X 3 11/64	3.33	2.67	2.35
60F3685	CGS432U050BF1	4,300	1 25/64 X 4 1/64	3.93	3.16	2.77
60F3686	CGS652U050DD1	6,500	2 1/64 X 3 11/64	5.05	4.06	3.56
60F3687	CGS962U050DF1	9,600	2 1/64 X 4 1/64	6.27	5.04	4.43
60F3688	CGS143U050D11	14,000	2 1/64 X 5 43/64	8.23	6.67	5.87
60F3689	CGS223U050FF1	22,000	3 1/64 X 5 11/64	11.32	9.10	7.99
60F3690	CGS303U050FH1	30,000	3 1/64 X 5 59/64	14.44	11.59	10.20

75 WORKING VOLTS DC

60F3691	CGS821U075BB1	820	1 25/64 X 2 11/64	2.65	2.12	1.88
60F3692	CGS152U075BD1	1,500	1 25/64 X 3 11/64	3.07	2.46	2.17
60F3693	CGS232U075BF1	2,300	1 25/64 X 4 1/64	3.59	2.88	2.53
60F3694	CGS342U075DD1	3,400	2 1/64 X 3 11/64	4.56	3.67	3.23
60F3695	CGS502U075DF1	5,000	2 1/64 X 4 1/64	5.57	4.48	3.93
60F3696	CGS752U075D11	7,500	2 1/64 X 5 43/64	7.28	5.84	5.14
60F3697	CGS123U075FF1	12,000	3 1/64 X 4 1/64	10.42	8.37	7.36

100 WORKING VOLTS DC

60F3700	CGS122U100BD1	1,200	1 25/64 X 3 11/64	3.72	2.97	2.62
60F3702	CGS272U100DD1	2,700	2 1/64 X 3 11/64	5.80	4.66	4.10
60F3703	CGS402U100DF1	4,000	2 1/64 X 4 1/64	7.52	6.05	5.30
60F3706	CGS123U100FH1	12,000	3 1/64 X 5 11/64	18.00	14.46	12.72

150 WORKING VOLTS DC

60F3707	CGS401U150BB1	400	1 25/64 X 2 11/64	2.96	2.38	2.09
60F3708	CGS112U150BF	1,100	1 25/64 X 4 1/64	4.36	3.47	3.06
60F3711	CGS352U150D11	3,500	2 1/64 X 5 43/64	9.05	7.27	6.40
60F3712	CGS552U150FF1	5,500	3 1/64 X 4 1/64	12.65	10.16	8.94

250 WORKING VOLTS DC

60F3714	CGS201T250BB1	200	1 25/64 X 2 11/64	2.73	2.20	1.93
60F3715	CGS381T250BD1	380	1 25/64 X 3 11/64	3.28	2.62	2.31
60F3716	CGS551T250BF1	550	1 25/64 X 4 1/64	3.81	3.06	2.69
60F3717	CGS851T250DD1	850	2 1/64 X 3 11/64	4.79	3.85	3.39
60F3718	CGS122T250DF1	1,200	2 1/64 X 4 1/64	6.03	4.83	4.26
60F3721	CGS392T250FH1	3,900	3 1/64 X 5 11/64	14.84	11.91	10.47

450 WORKING VOLTS DC

60F3722	CGS750T450BB1	75	1 25/64 X 2 11/64	3.00	2.42	2.12
60F3723	CGS141T450BD1	140	1 25/64 X 3 11/64	3.68	2.94	2.59
60F3724	CGS321T450DD1	320	2 1/64 X 3 11/64	5.78	4.63	4.08

Centralab Capacitors

LOW VOLTAGE DISC CERAMICS CAPACITORS

SEMICONDUCTOR TYPE ULTRA-KAP®

- HIGH CAPACITANCE/MINIATURE SIZE
- -55° to +85°C Operating Temp Range
- Tinned Wire Leads

These reduced titanate devices provide from 50 to 100 times greater capacitance than standard ceramic discs. Excellent choice for bypass and coupling applications with operating fequencies up to 1 MHz. Dielectric strength same as working voltage. Durez coated, wax impregnated. Cap., Tol., Voltage, temp., marked as space permits. Thickness, .156"

3VDCW (Tol. GMV) Y5T

Stock No.	Type	Mfd.	Dia.	1-99	100-900	1000-9000	10,000 Up
19F395	UK-104	.1	.220	.32	.17	.11	.09
67F5000	UK-154	.15	.290	.27	.15	.09	.07
19F396	UK-224	.22	.405	.30	.16	.10	.08
19F397	UK-474	.47	.405	.30	.16	.10	.08
19F398	UK-105	1.0	.590	.43	.23	.14	.12
19F399	UK-225	2.2	.820	.77	.41	.26	.20

10VDCW (Tol. +80 -20%) Y5P

Stock No.	Type	Mfd.	Dia.	1-99	100-900	1000-9000	10,000-Up
19F276	UK10-503	.05	.290	.20	.11	.07	.06
19F277	UK10-104	.1	.405	.25	.13	.08	.07
19F278	UK10-204	.2	.590	.32	.17	.11	.09
19F279	UK10-474	.47	.820	.58	.31	.19	.15

12 VDCW (Tol.± 20%) Y5P

Stock No.	Type	Mfd.	Dia.	1-99	100-900	1000-9000	10,000-Up
67F5001	UK12-503	.05	.290"	.22	.12	.08	.06
67F5002	UK12-104	1	.405"	.25	.14	.09	.07
67F5003	UK12-204	2	.590"	.35	.19	.12	.09
67F5004	UK12-474	.47	.820"	.62	.33	.20	.16

16 VDCW (± 20%) Y5P

Stock No.	Type	Mfd.	Dia.	1-99	100-900	1000-9000	10,000-Up
19F1267	UK16-103	.01	.290"	.20	.11	.07	.06
19F1268	UK16-223	.022	.290"	.20	.11	.07	.06
19F1269	UK16-503	.05	.390"	.22	.12	.07	.06
19F1270	UK16-104	.1	.485"	.27	.15	.09	.07

20 VDCW (Tl. +80—20%) Y5P

Stock No.	Type	Mfd.	Dia.	1-99	100-900	1000-9000	10,000-Up
19F1278	UK20-503	.05	.405"	.23	.12	.08	.06
19F1279	UK20-104	.1	.590"	.28	.16	.10	.08
19F1280	UK20-204	.2	.820"	.55	.29	.18	.15

25 DVCW (Tol.± 20%) Y5P

Stock No.	Type	Mfd.	Dia.	1-99	100-900	1000-9000	10,000-Up
19F1271	UK25-103	.01	.290"	.20	.11	.07	.06
19F1272	UK25-223	.022	.290"	.20	.11	.07	.06
19F1273	UK25-503	.05	.405"	.25	.13	.08	.09
19F1274	UK25-104	.1	.590"	.32	.17	.11	.09

50VDCW (Tol.± 20%) Y5P

Stock No.	Type	Mfd.	Dia.	1-99	100-900	1000-9000	10,000-Up
19F400	UK50-103	.01	.290"	.22	.12	.07	.06
19F401	UK50-153	.015	.390"	.23	.12	.08	.06
19F402	UK50-223	.022	.485"	.30	.16	.10	.08
19F403	UK50-503	.05	.590"	.33	.18	.11	.09
19F404	UK50-104	.1	.820"	.80	.43	.26	.21

GENERAL PURPOSE—50VDCW—Z5V

Designed for high capacity low voltage demands of transistor circuitry. Leads: #22 tinned copper, 1.5" minimum length. Max. thickness .171". Power factor: 3% max. at 1 KC. Insulation: Phenolic vacuum wax impregnated. Tolerance: +80 —20%. Operating range: -55 to +85°C.

Stock No.	Mfd.	Type	Dia.	1-99	100-999	1000-9999	10,000-Up
19F1223	.005	CK-502	.390"	.23	.10	.05	.04
19F1224	.01	CK-103	.390"	.23	.12	.06	.04
19F1225	.02	CK-203	.590"	.25	.20	.10	.07
19F1226	.025	CK-253	.590"	.33	.22	.10	.08
19F1228	.05	CK-503	.690"	.38	.25	.11	.08
19F1229	.1	CK-104	.718"	.82	.53	.24	.18

GENRAL PURPOSE LOW VOLTAGE

Designed to fulfill most solid-state circuitry demands including non-critical bypass and coupling -55° to +85°C Operating Temperature Range Durez coated, wax impregnated. Tinned wire leads. Dielectric Strength: 250% of rated working voltage. Marked as space permits.

75VDCW (Tol. +80, -30%) Z5V

Stock No.	Type	Mfd.	Dia.	1-99	100-900	1000-9000	10000-Up
19F1103	DDA-503	.05	.690"	.38	.25	.11	.08
19F1104	DDA-104	.1	.718"	.82	.53	.24	.18

100 VDCW (Tol. ±20) Z5V

Stock No.	Type	Mfd.	Dia.	1-99	100-900	1000-9000	10000-Up
67F5005	DC-502	.005	.390"	.12	.06	.04	.03
67F5006	DC-103	.01	.390"	.13	.08	.05	.04
67F5007	DC-203	.02	.590"	.25	.14	.09	.07
67F5008	DC-253	.025	.590"	.27	.15	.11	.07
67F5009	DC-303	.03	.590"	.28	.17	.12	.08
67F5010	DC-503	.05	.690"	.30	.16	.13	.08
67F5011	DC-104	.1	.718"	.67	.38	.22	.18

600 VDCW (Tol. +80, -20% *GMV)Z5U, †Z5V

Stock No.	Type	Mfd.	Dia.	1-99	100-900	1000-9000	10000-Up
67F5012	DD6-103*	.01	.590"	.27	.13	.07	.05
67F5013	DD -153	.015	.690"	.35	.17	.09	.07
19F340	DD -203	.02	.690"	.35	.17	.09	.07
19F537	DD -303	.03	.718"	1.38	.64	.34	.25
19F538	DD -403	.04	.718"	1.38	.64	.34	.25
19F539	DD -503	.05	.875"	1.55	.72	.38	.28
67F5018	DD-104†	.1	.975"	1.73	.80	.42	.31

TEMPERATURE STABLE CAPACITORS

Excellent capacitance stability over wide temperature range. Economical substitute for foil and mica CE Series. X5F used where extended temp. stability is required for RC networks and conventional applications CF Series, Z5P used where general purpose would not meet circuitry demands -55° to +85°C Operating Temp. Tange Dielectric Strength: 250% of rated working voltage Durez coated, wax impregnated. Tinned wire leads, Marked as space permits. .156" thick.

600 VDCW (Tol. ±10%) X5F

Stock No.	Type	Mfd. PF.*	Dia.	1-99	100-900	1000-9000	10000-Up
19F1235	CE-151	150*	.290"				
19F1236	CE-221	220*	.290"				
19F1237	CE-331	330*	.290"	.20	.12	.06	.05
19F1238	CE-471	470*	.290"				
19F1239	CE-501	500*	.290"				
19F1241	CE-681	680*	.290"	.20	.12	.06	.05
19F1242	CE-751	750*	.290"	.20	.12	.06	.05
19F1244	CE-102	.001	.290"	.20	.12	.06	.05
67F5019	CE-122	.0012	.390"	.22	.12	.07	.05
67F5020	CE-152	.0015	.390"	.22	.12	.07	.05
67F5021	CE-182	.0018	.485"	.28	.16	.08	.06
67F5022	CE-202	.002	.485"	.28	.16	.08	.06
67F5023	CE-222	.0022	.485"	.28	.16	.08	.06
67F5024	CE-332	.0033	.590"	.32	.18	.09	.07
67F5025	CE-392	.0039	.590"	.32	.18	.09	.07
67F5026	CE-472	.0047	.690"	.40	.23	.12	.09
67F5027	CE-502	.005	.690"	.40	.23	.12	.09
67F5028	CE-622	.0062	.820"	.48	.27	.14	.11
67F5029	CE-822	.0082	.820"	.48	.27	.14	.11
67F5030	CE-103	.01	.920"	.72	.40	.21	.15

600 VDCW (Tol. ±10%) Z5P

Stock No.	Type	Mfd.	Dia.	1-99	100-900	1000-9000	10000-Up
19F1246	CF-152	.0015	.390"	.17	.10	.05	.04
19F1247	CF-182	.0018	.390"	.17	.10	.05	.04
19F1249	CF-222	.0022	.390"	.17	.10	.05	.04
19F1250	CF-332	.0033	.485"	.23	.13	.07	.05
19F1251	CF-392	.0039	.590"	.27	.15	.08	.06
19F1252	CF-472	.0047	.590"	.27	.15	.08	.06
19F1253	CF-502	.005	.590"	.27	.15	.08	.06
19F1256	CF-103	.01	.820"	.43	.24	.13	.10

Centralab Capacitors

TYPE DD DISC CERAMIC CAPACITORS
Intended for by-pass, coupling, or filter service. Disc ceramic capacitors have a higher dielectric constant, greater voltages, and higher capacities in less space than paper or mica types. Tol. ±10% except (*) ± 20%, (†) ± .5pF, (#) GMV; +80 −20%.

SIZE CHART

(A) .290×.156″; (B) .305×.156″; (C) .405×.156″; (D) .500×.156″; (E) .605×.156″; (F) .705×.156″; (G) .718×.250″; (H) .875×.250″.

1000 VDCW

Stk. No.	Type	pF	Size	1-99	100-999	1000-9999	10,000-Up
19F300	DD-3R3	3.3†	A	.18	.09	.05	.04
19F301	DD-050	5	A	.18	.09	.05	.04
19F341	DD-060	6	A	.18	.09	.05	.04
19F302	DD-6R8	6.8	A	.18	.09	.05	.04
19F342	DD-7R5	7.5	A	.20	.10	.05	.04
19F343	DD-080	8	A	.20	.10	.05	.04
19F303	DD-100	10	A				
19F344	DD-120	12	A				
19F304	DD-150	15	A				
19F345	DD-180	18	A				
19F305	DD-200	20	A				
19F346	DD-220	22	A				
19F347	DD-240	24	A				
19F306	DD-250	25	A				
19F348	DD-270	27	A				
19F349	DD-300	30	A				
19F307	DD-330	33	A				
19F308	DD-390	39	A				
19F309	DD-470	47	A				
19F310	DD-500	50	A	.18	.09	.05	.04
19F516	DD-510	51	A				
19F311	DD-560	56	B				
19F312	DD-680	68	B				
19F313	DD-750	75	B				
19F358	DD-820	82	B				
19F359	DD-910	91	B				
19F314	DD-101	100	B				
19F315	DD-121	120	B				
19F365	DD-131	130	B				
19F316	DD-151	150	B				
19F317	DD-181	180	B				
19F318	DD-201	200	B				
19F319	DD-221	220	B				
19F366	DD-241	240	B				
19F320	DD-251	250	B				
19F321	DD-271	270	B				
19F322	DD-301	300	B				
19F323	DD-331	330	B				
19F368	DD-351	350	B				
19F369	DD-361	360	B				
19F324	DD-391	390	B				
19F379	DD-401	400	B				
19F325	DD-471	470	B				
19F326	DD-501	500	B				
19F518	DD-511	510	B	.18	.09	.05	.04
19F327	DD-561	560	B				
19F519	DD-601	600	B				
19F328	DD-681	680	B				
19F329	DD-751	750	B				
19F380	DD-821	820	B				
19F531	DD-911	910	B				
19F331	DD-102	1000	C	.20	.10	.05	.04
19F532	DD-102G	1000#	B	.16	.08	.04	.03
19F381	DD-122	1200	C	.20	.10	.05	.04
19F382	DD-132	1300	C	.20	.10	.05	.04
19F332	DD-152	1500	C	.20	.10	.05	.04
19F534	DD-152G	1500#	B	.16	.08	.04	.03
19F383	DD-162	1600	C	.20	.10	.05	.04
19F384	DD-182	1800	C	.20	.10	.05	.04
19F333	DD-202	2000*	C	.20	.10	.05	.04
19F385	DD-222	2200*	C	.20	.10	.05	.04
19F386	DD-252	2500*	C	.20	.10	.05	.04
19F387	DD-272	2700*	C	.20	.10	.05	.04
19F334	DD-302	3000*	C	.20	.10	.05	.04
19F388	DD-332	3300*	C	.20	.10	.05	.04
19F389	DD-392	3900*	D	.22	.11	.06	.04
19F390	DD-402	4000*	D	.22	.11	.06	.04
19F391	DD-432	4300*	D	.25	.12	.07	.05
19F335	DD-472	4700*	D	.25	.12	.07	.05
19F336	DD-5022	5000*	D	.25	.12	.07	.05
19F337	DD-502	5000#	E	.28	.13	.07	.05
19F392	DD-562	5600*	D	.25	.12	.07	.05
19F393	DD-682	6800*	E	.30	.14	.08	.06
19F394	DD-752	7500*	E	.30	.14	.08	.06
19F536	DD-822	8200*	E	.30	.14	.08	.06
19F339	DD-103	10000#	F	.37	.17	.09	.07
19F338	DD-1032	10000*	F	.40	.19	.10	.08

HI-VOLTAGE DISC CAPACITORS 3000-6000 VOLTS

Highly efficient for by-pass-coupling in high voltage circuits under conditions of extreme humidity or temperature. Maintain performance at temperatures up to 85°C. Leads #22 tinned copper wire 1½″ min. length. Insul.: Double coating and high temp. vacuum wax impregnation. Tol.± 20% Volt. DD30 series, 3000 VDCW, DD60 series, 6000 VDCW. Sizes: (A) .330″ dia.; (B) .430″ dia.; (C) .630″ dia.; (F) .800″ dia.; (G) .760″ dia.; (H) .660″ dia.; (K). 320″ dia.; (L). 650″ dia.

TYPE DD30—3000 VDCW

Stk. No.	Type	pF	Size	1-99	100-999	1000-9999	10000-Up
19F203	100	10	K				
19F217	101	100	A				
19F219	151	150	A	.25	.13	.08	.07
19F222	221	220	A				
19F230	501	500	A				
19F234	102	1,000	B	.28	.14	.09	.07
19F236	152	1,500	C	.40	.22	.13	.11
19F237	202	2,000	C	.40	.22	.13	.11
19F238	222	2,200	C	.40	.22	.13	.11
19F241	302	3,000	C	.40	.22	.13	.11
19F242	502	5,000	F	.60	.32	.20	.16

TYPE DD60—6000 VDCW

Stk. No.	Type	pF	Size	1-99	100-999	1000-9999	10000-Up
19F473	500	50	L				
19F481	181	180	H				
19F482	201	200	H	.55	.32	.21	.17
19F485	271	270	H				
19F490	471	470	H				
19F493	681	680	H				
19F495	102	1,000	H	.55	.32	.21	.17
19F498	202	2,000	G	.75	.44	.35	.23

CENTRALAB CAPACITOR KIT

- Wide Assortment
- Popular Sizes
- Ready To Use

KIT-60D contains an assortment of the most widely used general purpose ceramic disc capacitors. 600 and 1000 VDCW ratings in 40 different values from 5pf to .05mf. Housed in rugged steel frame cabinet with 15 high impact plastic drawers. Capacitors functionally arranged in clearly labeled drawers by voltage and value. Shipped set up and ready to use.

KIT-60D CONTENTS

Cap.	Qty.	Type	Cap.	Qty.	Type
5pf	5	DD-050	390pf	5	DD-391
10	5	DD-100	470	5	DD-471
15	5	DD-150	500	5	DD-501
20	5	DD-200	680	5	DD-681
22	5	DD-220	820	5	DD-821
25	5	DD-250	.001mf	15	DD-102
33	5	DD-330	.001	10	DD-102G
47	5	DD-470	.0015	5	DD-152
50	5	DD-500	.002	10	DD-202
68	5	DD-680	.0022	5	DD-222
100	10	DD-101	.003	5	DD-302
120	5	DD-121	.0047	5	DD-472
150	5	DD-151	.005	5	DD-502
180	5	DD-181	.005	10	DD-5022
200	10	DD-201	.0068	5	DD-682
220	5	DD-221	.01	5	DD-103
250	5	DD-251	.01	15	DD-1032
270	5	DD-271	.01	5	DD6-103
300	5	DD-301	.02	5	DD-203
330	5	DD-331	.05	5	DD-503

67F5031 NET **59.25**

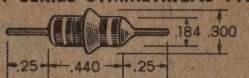
Centralab Capacitors

CENTRALAB
Electronics Division
GLOBE-UNION INC.

PRICING

Key	1-99	100-900	Key	1-99	100-900
A	.38	.24	F	17.00	11.58
B	4.00	2.75	G	15.00	10.03
C	.33	.19	H	4.25	2.92
C-1	.32	.18	K	4.39	3.00
D	3.75	2.59	M	4.75	3.26
E	5.00	3.42			

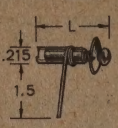
SFT SERIES SYMMETRICAL TYPE



Symmetrical type. Rated 500 VDC working. Tinned wire leads. Mounts in .200" dia. hole. Overall length .940". Ship. Wt. 1½ oz.

Stk. No.	Type	pF	Key
20F1406	SFT-501	500 ±20%	C
20F1407	SFT-102	1000 GMV	C-1

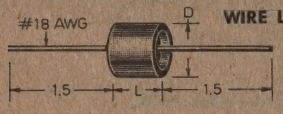
TYPE 829 TUBULAR TRIMMER



Tiny tubular and industrial trimmers for TV and FM applications. Ceramic bodies, .215" in diameter. Length as shown. Mount by means of locknut. Rated 500 VDC working.

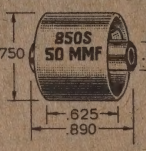
Stk. No.	Type	Length	pF	Key
19F173	829-7	.625	1-7.5	A
19F174	829-10	.625	1.5-10	A

TRANSMITTING CAPACITORS



5000 WVDC. Tol. 10%. NPO temperature coefficients except (*) which are N750.
Type 853—.500" dia. x .437" Lt.
Type 854—.375" dia. x .375" Lt.
Type 855—.250" dia. x .343" Lt.

Stk. No.	Type	pF	Tol.	Key
19F268	855-3Z	3	±10%	D
19F270	854-10Z	10	±10%	B
19F271	855-10N*	10	±10%	D
19F272	853-20Z	20	±10%	H
19F274	853-40N*	40	±10%	H

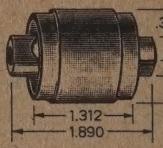


TRANSMITTING CAPACITOR

Threaded Terminals

Type 850. 7500 VWDC except (*) 5000 T.C. N=N750, Z=NPO, (†) X5T, (‡) X5U. Body Size: .625" Lt. x .750" dia.

Stk. No.	Type	pF	Tol.	Key
19F248	850S-25Z	25	±10%	E
19F254	850S-50Z	50	±10%	E
19F250	850S-50N	50	±10%	K
19F251	850S-75N	75	±10%	K
19F252	850S-100N*	100	±10%	K
19F253	858S-500†*	500	±20%	M
19F249	858S-1000‡*	1000	±20%	M



TRANSMITTING CAPACITOR

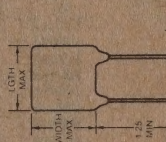
Threaded Terminals

15,000 VDC except (*) which work at 7,500 VDC. Negative 750 temperature coefficients, except (†), which are NPO zero. Tol. 10%. Body size: 1.312" Lt. x 1.187" dia.

Stk. No.	Type	pF	Tol.	Key
19F454	857-25Z	25	±10%	F
19F455	857-50Z	50	±10%	F
19F456	857-100N†	100	±10%	G
19F457	857-200N*	200	±10%	G

CW SERIES MONOLITHIC CAPACITORS

Rugged epoxy coating. Radial leads. Operating Temperature Range: −55°C to +125°C. Dielectric Strength: 250% of rated working voltage. Dissipation factor: 2.5% maximum. 100,000 megohms insulation resistance.



Size Code	Max. Lgth.	Max. Width	Max. Thick.	Lead Spacing	Lead #AWG
15	.150"	.150"	.100"	.100"	26
20	.200"	.200"	.125"	.100"	24
30	.300"	.300"	.150"	.200"	24
40	.400"	.400"	.150"	.200"	24
50	.500"	.500"	.200"	.400"	22

SEMI-STABLE CW SERIES 50 VDC X7R

Stock No.	Cap.	Type	Tol.	Size Code	1-99	100-999	1000-Up
31F1206	150 pf	CW15C151K	±10%	15			
31F1213	180	CW15C181K	±10%	15			
31F1236	220	CW15C221K	±10%	15			
31F1261	270	CW15C271K	±10%	15			
31F1277	330	CW15C331K	±10%	15	.32	.17	.11
31F1255	390	CW15C391K	±10%	15			
31F1275	470	CW15C471K	±10%	15			
31F1264	560	CW15C561K	±10%	15			
31F1278	680	CW15C681K	±10%	15			
31F1227	820	CW15C821K	±10%	15			
31F1272	.001 mf	CW15C102K	±10%	15	.32	.17	.11
31F1258	.001	CW15C102M	±20%	15	.29	.14	.10
31F1234	.0012	CW15C122K	±10%	15	.32	.17	.11
31F1274	.0015	CW15C152K	±10%	15	.32	.17	.11
31F1267	.0018	CW15C182K	±10%	15	.32	.17	.11
31F1270	.0022	CW15C222K	±10%	15			
31F1240	.0027	CW15C272K	±10%	15			
31F1220	.0033	CW15C332K	±10%	15	.32	.17	.11
31F1245	.0039	CW15C392K	±10%	15			
31F1257	.0047	CW15C472K	±10%	15			
31F1271	.0068	CW15C682K	±10%	15	.39	.20	.13
31F1260	.0082	CW15C822K	±10%	15	.39	.20	.13
31F1251	.01	CW15C103K	±10%	15	.39	.20	.13
31F1269	.01	CW15C103M	±20%	15	.32	.17	.11
31F1263	.012	CW15C123K	±10%	15	.42	.21	.14
31F1254	.015	CW15C153K	±10%	15	.42	.21	.14
31F1204	.018	CW20C183K	±10%	20	.51	.26	.21
31F1212	.022	CW20C223K	±10%	20	.51	.26	.21
31F1226	.027	CW20C273K	±10%	20	.64	.33	.26
31F1248	.033	CW20C333K	±10%	20	.64	.33	.26
31F1266	.039	CW20C393K	±10%	20	.64	.33	.26
31F1233	.047	CW20C473K	±10%	20	.64	.33	.26
31F1273	.056	CW20C563K	±10%	20	.64	.33	.26
31F1239	.068	CW20C683K	±10%	20	.74	.37	.28
31F1219	.082	CW20C823K	±10%	20	.74	.37	.28
31F1205	.1	CW30C104K	±10%	30	1.32	.66	.53
31F1276	.1	CW30C104M	±20%	30	1.16	.58	.41
31F1224	.15	CW30C154K	±10%	30	1.58	.79	.62
31F1217	.22	CW30C224K	±10%	30	1.87	.94	.72

SEMI-STABLE CW SERIES 100 VDC X7R

Stock No.	Cap.	Type	Tol.	Size Code	1-99	100-999	1000-Up
31F1203	150 pf	CW15A151K	±10%	15			
31F1211	180	CW15A181K	±10%	15			
31F1238	220	CW15A221K	±10%	15			
31F1253	270	CW15A271K	±10%	15			
31F1247	330	CW15A331K	±10%	15			
31F1259	390	CW15A391K	±10%	15			
31F1232	470	CW15A471K	±10%	15			
31F1243	560	CW15A561K	±10%	15			
31F1268	680	CW15A681K	±10%	15			
31F1262	820	CW15A821K	±10%	15	.32	.17	.11
31F1256	.001 mf	CW15A102K	±10%	15			
31F1265	.0012	CW15A122K	±10%	15			
31F1249	.0015	CW15A152K	±10%	15			
31F1225	.0018	CW15A182K	±10%	15			
31F1218	.0022	CW15A222K	±10%	15			
31F1200	.0027	CW15A272K	±10%	15			
31F1208	.0033	CW15A332K	±10%	15			
31F1222	.0039	CW15A392K	±10%	15			
31F1229	.0047	CW15A472K	±10%	15			
31F1215	.0056	CW15A562K	±10%	15			
31F1201	.0068	CW20A682K	±10%	20	.51	.26	.21
31F1209	.0082	CW20A822K	±10%	20	.51	.26	.21
31F1223	.01	CW20A103K	±10%	20	.51	.26	.21
31F1237	.012	CW20A123K	±10%	20	.54	.27	.22
31F1246	.015	CW20A153K	±10%	20	.54	.27	.22
31F1250	.018	CW20A183K	±10%	20	.54	.27	.22
31F1242	.022	CW20A223K	±10%	20	.54	.27	.22
31F1230	.027	CW20A273K	±10%	20	.64	.33	.21
31F1216	.033	CW20A333K	±10%	20	.64	.33	.21
31F1202	.039	CW30A393K	±10%	30	1.16	.58	.48
31F1210	.047	CW30A473K	±10%	30	1.16	.58	.48
31F1231	.056	CW30A563K	±10%	30	1.42	.71	.56
31F1252	.068	CW30A683K	±10%	30	1.42	.71	.56
31F1207	.082	CW30A823K	±10%	30	1.42	.71	.56
31F1235	.1	CW30A104K	±10%	30	1.42	.71	.56
31F1244	.15	CW40A154K	±10%	40	2.74	1.36	.92
31F1228	.22	CW40A224K	±10%	40	3.22	1.61	1.07
31F1241	.33	CW50A334K	±10%	50	5.34	2.67	2.28
31F1221	.47	CW50A474K	±10%	50	6.31	3.15	2.66
31F1214	.56	CW50A564K	±10%	50	7.18	3.58	2.95

Centralab Monolithic Capacitors

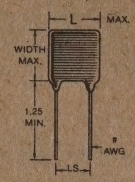
MONO-KAP™ RADIAL LEAD EPOXY COATED

CN Series. Maximum stability over wide range of voltages, frequencies, and environmental conditions. Tolerance: ±10%, except (*) ±0.5 pf. Epoxy coated.

CY Series. High capacitance for general purpose applications. Tolerance: ±20%, except (†) GMV. Epoxy coated. Useful for bypass, coupling, and filtering applications.

SIZE CHART

Size Code	Max. L	Max. Width	Max. Thick	Lead Spacing	Lead #AWG
10	.100″	.100″	.100″	.100″	26
15	.150″	.150″	.100″	.100″	26
20	.200″	.200″	.125″	.100″	24
30	.300″	.300″	.150″	.200″	24
40	.400″	.400″	.150″	.200″	24



ULTRA-STABLE
CN SERIES 100 VDCW COG (NPO)

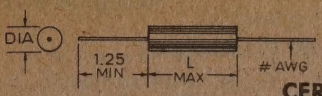
Stk. No.	Type	Cap.	Size Code	1-99	100-900	1000-up
20F1408	CN10A4R7D	4.7pF*	10	.83	.42	.28
20F1409	CN10A6R8D	6.8pF*	10	.83	.42	.28
20F1410	CN15A100K	10pF	15	.35	.19	.12
20F1411	CN15A150K	15pF	15	.35	.19	.12
20F1412	CN15A220K	22pF	15	.35	.19	.12
20F1413	CN15A330K	33pF	15			
20F1414	CN15A470K	47pF	15			
20F1415	CN15A680K	68pF	15	.35	.19	.12
20F1416	CN15A101K	100pF	15			
20F1417	CN15A151K	150pF	15			
20F1418	CN15A221K	220pF	15	.35	.19	.12
20F1419	CN20A331K	330pF	20	.70	.36	.24
20F1420	CN20A471K	470pF	20	.70	.36	.24
20F1421	CN20A681K	680pF	20	.80	.41	.27
20F1422	CN20A102K	.001μF	20	.80	.41	.27
20F1423	CN20A152K	.0015μF	20	.93	.48	.32
20F1424	CN30A222K	.0022μF	30	1.71	.86	.57
20F1425	CN30A332K	.0033μF	30	1.87	.94	.63
20F1426	CN30A472K	.0047μF	30	2.12	1.06	.71
20F1427	CN30A682K	.0068μF	30	2.60	1.31	.87
20F1428	CN40A103K	.01μF	40	4.57	2.28	1.52

GENERAL PURPOSE
CY SERIES 50 VOLT DCW Y5V

20F1429	CY15C471M	470pF	15			
20F1430	CY15C681M	680pF	15			
20F1431	CY15C102M	.001μF	15			
20F1432	CY15C152M	.0015μF	15			
20F1433	CY15C222M	.0022μF	15	.39	.20	.13
20F1434	CY15C332M	.0033μF	15			
20F1435	CY15C472M	.0047μF	15			
20F1436	CY15C682M	.0068μF	15			
20F1437	CY15C103M	.01μF	15			
20F1438	CY15C103P	.01μF†	15	.29	.15	.10
20F1439	CY15C153M	.015μF	15	.39	.20	.13
20F1440	CY15C223M	.022μF	15	.39	.20	.13
20F1441	CY15C333M	.033μF	15	.39	.20	.13
20F1442	CY15C473M	.047μF	15	.41	.22	.14
20F1443	CY15C683M	.068μF	15	.41	.22	.14
20F1444	CY20C104M	.1μF	20	.68	.34	.27
20F1445	CY20C104P	.1μF†	20	.48	.24	.19
20F1446	CY20C154M	.15μF	20	.77	.39	.32
20F1447	CY20C224M	.22μF	20	.77	.39	.32
20F1448	CY20C334M	.33μF	20	.87	.43	.36
20F1449	CY20C474M	.47μF	20	.87	.43	.36
20F1450	CY30C684M	.68μF	30	2.00	1.00	.82
20F1451	CY30C105M	1.0μF	30	2.00	1.00	.82
20F1452	CY30C105P	1.0μF†	30	1.38	.69	.55
20F1453	CY30C155M	1.5μF	30	2.19	1.09	.92
20F1454	CY30C225M	2.2μF	30	2.57	1.29	1.08
20F1455	CY40C335M	3.3μF	40	4.70	2.35	1.88
20F1456	CY40C475M	4.7μF	40	5.73	2.86	2.26

CY SERIES 100 VOLT DCW Y5V

20F1457	CY15A682M	.0068μF	15	.39	.20	.13
20F1458	CY15A103M	.01μF	15	.39	.20	.13
20F1459	CY15A103P	.01μF†	15	.29	.15	.10
20F1460	CY15A153M	.015μF	15	.39	.20	.13
20F1461	CY15A223M	.022μF	15	.39	.20	.13
20F1462	CY15A333M	.033μF	15	.39	.20	.13
20F1463	CY20A473M	.047μF	20	.64	.33	.26
20F1464	CY20A683M	.068μF	20	.68	.34	.27
20F1465	CY20A104M	.1μF	20	.68	.34	.27
20F1466	CY20A104P	.1μF†	20	.48	.24	.19
20F1467	CY20A154M	.15μF	20	.80	.40	.33
20F1468	CY20A224M	.22μF	20	.80	.40	.33
20F1469	CY30A334M	.33μF	30	1.67	.84	.69
20F1470	CY30A474M	.47μF	30	1.67	.84	.69
20F1471	CY30A684M	.68μF	30	2.06	1.03	.86
20F1472	CY30A105M	1.0μF	30	2.06	1.03	.86
20F1473	CY40A155M	1.5μF	40	3.96	1.97	1.48
20F1474	CY40A225M	2.2μF	40	4.57	2.28	1.77



TUBULAR CASE AXIAL LEAD CERAMIC CAPACITORS

C22 Series. Useful for bypass coupling, blocking applications. Transfer molded. Epoxy case. Tolerance: ±10%. Sizes: A—.170″L x .100″ Dia., 26 AWG. B—.260″L x .110″ Dia., 22AWG. C—.410″L x .150″ Dia., 22AWG.

C33 Series. Minimum change over wide range of conditions. Transfer molded. Epoxy case. Tolerance: ±10% except (*) ±0.5 pf. Sizes: D—.250″L x .100″ Dia., 22AWG. E—.400″L x .140″ Dia., 22AWG.

C22 SERIES 100 VOLT DCW X7R

Stk. No.	Type	Cap.	Size Code	1-99	100-999	1000-up
20F1475	C22A100K	10pF	A			
20F1476	C22A120K	12pF	A			
20F1477	C22A150K	15pF	A	1.08	.63	.37
20F1478	C22A180K	18pF	A			
20F1479	C22A220K	22pF	A			
20F1480	C22A270K	27pF	A			
20F1481	C22A330K	33pF	A			
20F1482	C22A390K	39pF	A	1.08	.63	.37
20F1483	C22A470K	47pF	A			
20F1484	C22A560K	56pF	A			
20F1485	C22A680K	68pF	A			
20F1486	C22A820K	82pF	A			
20F1487	C22A101K	100pF	A	1.08	.63	.37
20F1488	C22A121K	120pF	A			
20F1489	C22A151K	150pF	A			
20F1490	C22A181K	180pF	A			
20F1491	C22A221K	220pF	A			
20F1492	C22A271K	270pF	A	1.08	.63	.37
20F1493	C22A331K	330pF	A			
20F1494	C22A391K	390pF	A			
20F1495	C22A471K	470pF	A			
20F1496	C22A561K	560pF	A			
20F1497	C22A681K	680pF	A	1.08	.63	.37
20F1498	C22A821K	820pF	A			
20F1499	C22A102K	.001μF	A			
20F1500	C22A152K	.0015μF	A			
20F1501	C22A222K	.0022μF	A			
20F1502	C22A272K	.0027μF	A	1.08	.63	.37
20F1503	C22A332K	.0033μF	A			
20F1504	C22A392K	.0039μF	A			
20F1505	C22A472K	.0047μF	A			
20F1506	C22A682K	.0068μF	B			
20F1507	C22A822K	.0082μF	B	1.08	.63	.37
20F1508	C22A103K	.01μF	B			
20F1509	C22A153K	.015μF	B	1.60	.93	.54
20F1510	C22A223K	.022μF	B			
20F1511	C22A333K	.033μF	C	2.06	1.20	.69
20F1512	C22A473K	.047μF	C			
20F1513	C22A563K	.056μF	C			
20F1514	C22A683K	.068μF	C			
20F1515	C22A823K	.082μF	C	2.25	1.31	.76
20F1516	C22A104K	.1μF	C			

C33 SERIES 100 VOLT DCW COG (NPO)

20F1517	C33A1R0D	1.0pF*	D			
20F1518	C33A1R8D	1.8pF*	D			
20F1519	C33A2R2D	2.2pF*	D	1.59	1.15	.80
20F1520	C33A3R3D	3.3pF*	D			
20F1521	C33A4R7D	4.7pF*	D			
20F1522	C33A5R6D	5.6pF*	D			
20F1523	C33A6R8D	6.8pF*	D	1.59	1.15	.80
20F1524	C33A8R2D	8.2pF*	D			
20F1525	C33A100K	10pF	D			
20F1526	C33A120K	12pF	D			
20F1527	C33A150K	15pF	D	1.35	.98	.68
20F1528	C33A180K	18pF	D			
20F1529	C33A220K	22pF	D			
20F1530	C33A270K	27pF	D			
20F1531	C33A330K	33pF	D			
20F1532	C33A390K	39pF	D	1.35	.98	.68
20F1533	C33A470K	47pF	D			
20F1534	C33A560K	56pF	D			
20F1535	C33A680K	68pF	D			
20F1536	C33A820K	82pF	D			
20F1537	C33A101K	100pF	D	1.35	.98	.68
20F1538	C33A121K	120pF	D			
20F1539	C33A151K	150pF	D			
20F1540	C33A181K	180pF	D			
20F1541	C33A221K	220pF	D			
20F1542	C33A271K	270pF	D	1.35	.98	.68
20F1543	C33A331K	330pF	D			
20F1544	C33A391K	390pF	D			
20F1545	C33A471K	470pF	D			
20F1546	C33A561K	560pF	E			
20F1547	C33A681K	680pF	E	1.46	1.07	.73
20F1548	C33A821K	820pF	E			
20F1549	C33A102K	.001μF	E			

ERIE Capacitors

GENERAL PURPOSE CERAMICONS

Silver fired ceramic dielectric. 500 DCWV, 1500 VDC test: Tolerance: 10% except (* ±.25%), (** ±.5%), († ±5%), (†† ±20%). Shpg. wt. 1 oz.

SIZE CHART

Type	Diameter	Lead Spacing	Thickness
831	.290	.250	.156
801	.360	.250	.156
811	.593	.375	.156
841	.675	.375	.156
851	.437	.250/.375	.156

Stk. No.	Type	Cap. pF	1-49	50-99	100-249	250-499
19F2683	831-000-COGO-509C	5.0*				
19F2685	831-000-COGO-100D	10.0**				
19F2686	831-000-COGO-120J	12.0†				
19F2687	801-000-COGO-150J	15.0†				
19F2689	801-000-COGO-200J	20.0†				
19F2690	801-000-COGO-220J	22.0†	.20	.15	.13	.10
19F2691	851-000-COGO-270J	27.0†				
19F2692	851-000-COGO-330J	33.0†				
19F2693	851-000-COGO-470J	47.0†				
19F2713	841-000-COGO-101J	100.0†	.28	.21	.18	.14
19F2694	831-000-U2JO-100D	10.0**				
19F2695	831-000-U2JO-120J	12.0†				
19F2696	831-000-U2JO-150J	15.0†				
19F2697	831-000-U2JO-180J	18.0†				
19F2698	831-000-U2JO-200J	20.0†				
19F2699	831-000-U2JO-220J	22.0†				
19F2700	831-000-U2JO-270J	27.0†				
19F2701	831-000-U2JO-330J	33.0†	.20	.15	.13	.10
19F2703	801-000-U2JO-470J	47.0†				
19F2704	801-000-U2JO-500J	50.0†				
19F2705	801-000-U2JO-560J	56.0†				
19F2706	851-000-U2JO-680J	68.0†				
19F2709	851-000-U2JO-101J	100.0†				
19F2718	831-000-X5FO-470K	47.0				
19F2719	831-000-X5FO-560K	56.0				
19F2720	831-000-X5FO-680K	68.0				
19F2721	831-000-X5FO-101K	100.0				
19F2722	831-000-X5FO-151K	150.0				
19F2723	831-000-X5FO-201K	200.0				
19F2724	831-000-X5FO-221K	220.0				
19F2725	831-000-X5FO-271K	270.0	.20	.15	.13	.10
19F2726	831-000-X5FO-331K	330.0				
19F2727	831-000-X5FO-391K	390.0				
19F2728	831-000-X5FO-471K	470.0				
19F2729	831-000-X5FO-501K	500.0				
19F2730	801-000-X5FO-681K	680.0				
19F2731	801-000-X5FO-102K	1,000.0				
19F2732	851-000-X5FO-152K	1,500.0				
19F2733	871-000-X5FO-202K	2,000.0				
19F2734	811-000-X5FO-222K	2,200.0				
19F2735	811-000-X5FO-332K	3,300.0				
19F2736	811-000-X5RO-472K	4,700.0	.20	.15	.13	.10
19F2737	811-000-X5RO-502K	5,000.0				
19F2738	811-000-Z5UO-103M	10,000.0††				
19F2739	841-000-Z5UO-153M	15,000.0††				
19F2740	841-000-Z5UO-203M	20,000.0††				

TRANSCAPS

Use in transistorized, filtering and by-pass applications. .156" thick. All char. Y5F. PF max is 8%. IR (min) ohms, is 1,000,000 for 5655 and 5615. Life, at 85°C. and rated voltage, is 500 hours. All are rated at ±20% tol. Shpg. wt. 1 oz.
Lead spacing .250 except type 5615, 5645 and 5685 which are .325.

12 VOLT

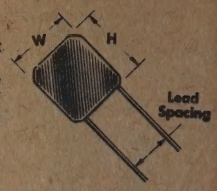
Stk. No.	Type	Dia.	Mfd.	1-49	50-99	100-249	250-499
19F2802	5635-000-Y5F0-503M	.275	.05	.20	.15	.13	.10
19F2803	5655-000-Y5F0-104M	.420	.10	.20	.15	.13	.10
19F2804	5615-000-Y5F0-224M	.550	.22	.22	.17	.14	.11
19F2805	5645-000-Y5F0-334M	.660	.33	.27	.20	.17	.14
19F2806	5685-000-Y5F0-474M	.800	.47	.40	.30	.25	.20

25-VOLT

19F2085	5835-000-Y5U0-103Z	.01	.290	.20	.15	.13	.10
19F2086	5835-000-Y5U0-203Z	.02	.290	.20	.15	.13	.10
19F2087	5855-000-Y5U0-503Z	.05	.437	.20	.15	.13	.10
19F2088	5815-000-Y5U0-104Z	.10	.593	.21	.16	.13	.11
19F2089	5815-000-Y5U0-204Z	.20	.593	.38	.29	.24	.19
19F1707	5865-000-Y5U0-224Z	.22	.895	.43	.32	.27	.22
19F1708	5865-000-Y5U0-474Z	.47	.895	.78	.58	.49	.39

RED CAPS

Encapsulated with JET-SEAL, a hard, bright polymeric coating, formulated to provide mechanical and electrical protection under the most severe environmental conditions. Meet requirements of MIL-C-20 and MIL-C-11015. Tolerance: M ± 20%, D ±15%, K ±10%.



MAX DIM'S

Type	W&H	T	Lead Spacing	Type	W&H	T	Lead Spacing
8101	.100	.100	.100	8131	.300	.150	.200
8111	.150	.100	.100	8141	.400	.150	.200
8121	.200	.125	.100	8151	.500	.200	.400

50 VOLT GENERAL PURPOSE CAPACITORS

Stk. No.	Type	Mfd.	1-49	50-99	100-249	250-499
17F110	8121-050-651-103M	.01	.52	.39	.33	.26
17F111	8121-050-651-153M	.015	.52	.39	.33	.26
17F112	8121-050-651-223M	.022	.52	.39	.33	.26
17F113	8121-050-651-273M	.027	.60	.45	.38	.30
17F114	8121-050-651-333M	.033	.60	.45	.38	.30
17F115	8121-050-651-473M	.047	.64	.48	.40	.32
17F116	8121-050-651-683M	.068	.64	.48	.40	.32
17F117	8121-050-651-104M	.100	.76	.57	.48	.38
17F118	8121-050-651-154M	.15	.92	.69	.58	.46
17F119	8131-050-651-224M	.22	1.04	.78	.65	.52
17F120	8131-050-651-334M	.33	1.32	.99	.83	.66
17F121	8131-050-651-474M	.47	1.52	1.14	.95	.76
17F122	8131-050-651-684M	.68	1.92	1.44	1.20	.96
17F123	8131-050-651-105M	1.00	2.56	1.92	1.60	1.28
17F124	8141-050-651-155M	1.50	3.96	2.97	2.48	1.98
17F125	8141-050-651-225M	2.2	5.12	3.84	3.20	2.56
17F126	8151-050-651-335M	3.3	6.44	4.83	4.03	3.22
17F127	8151-050-651-475M	4.7	9.76	7.32	6.10	4.88

100 VOLT

Stk. No.	Type	Mfd.	1-49	50-99	100-249	250-499
19F3544	8121-100-651-103M	.01	.52	.39	.33	.26
19F3546	8121-100-651-223M	.022	.60	.45	.38	.30
19F3549	8121-100-651-473M	.047	.72	.54	.45	.36
19F3551	8131-100-651-104M	.1	.80	.60	.50	.40
19F3552	8131-100-651-154M	.15	1.00	.75	.63	.50
19F3553	8131-100-651-224M	.22	1.16	.87	.73	.58
19F3555	8131-100-651-334M	.33	1.52	1.14	.95	.76
19F3556	8131-100-651-474M	.47	1.84	1.38	1.15	.92
19F3558	8141-100-651-105M	1.0	3.64	2.73	2.28	1.82
19F3560	8151-100-651-225M	2.2	6.80	5.10	4.25	3.40

100 VOLT ULTRA STABLE CAPACITORS

Stk. No.	Type	pF	1-49	50-99	100-249	250-499
19F3500	8101-100-COHO-479D	4.7	.44	.33	.28	.22
19F3504	8111-100-COGO-220K	22	.44	.33	.28	.22
19F3505	8121-100-COGO-330K	33	.52	.39	.33	.26
19F3506	8121-100-COGO-470K	47	.72	.54	.45	.36
19F3508	8121-100-COGO-101K	100	.72	.54	.45	.36
19F3510	8121-100-COGO-221K	220	.76	.57	.48	.38
19F3511	8121-100-COGO-331K	330	.76	.57	.48	.38
10F3512	8121-100-COGO-471K	470	.80	.60	.50	.40
19F3513	8121-100-COGO-681K	680	.80	.60	.50	.40
19F3514	8121-100-COGO-102K	1000	.96	.72	.60	.48
19F3516	8131-100-COGO-222K	2200	1.36	1.02	.85	.88
19F3517	8131-100-COGO-332K	3300	1.64	1.23	1.03	.82
19F3518	8141-100-COGO-472K	4700	2.72	2.04	1.70	1.36
19F3519	8141-100-COGO-682K	6800	3.16	2.37	1.98	1.58
19F3520	8141-100-COGO-103K	10000	4.16	3.12	2.60	2.08

100 VOLT STABLE

Stk. No.	Type	pF	1-49	50-99	100-249	250-499
19F3522	8101-100-X7RO-221K	220	.44	.33	.28	.22
19F3524	8111-100-X7RO-471K	470	.48	.36	.30	.24
19F3526	8121-100-X7RO-102K	1000	.48	.36	.30	.24
19F3527	8121-100-X7RO-152K	1500	.48	.36	.30	.24
19F3528	8121-100-X7RO-222K	2200	.60	.45	.38	.30
19F3530	8121-100-X7RO-472K	4700	.60	.45	.38	.30
19F3531	8121-100-X7RO-682K	6800	.60	.45	.38	.30
19F3532	8121-100-X7RO-103K	10K	.64	.48	.40	.32
19F3533	8131-100-X7RO-153K	15K	.76	.57	.48	.38
19F3534	8131-100-X7RO-223K	22K	.80	.60	.50	.40
19F3535	8131-100-X7RO-333K	33K	.84	.63	.53	.42
19F3538	8131-100-X7RO-104K	100K	1.20	.90	.75	.60
19F3540	8151-100-S7RO-334K	330K	2.72	2.04	1.70	1.36

Capacitors and Trimmers

ERIE

LOW PROFILE CERAMIC TRIMMER CAPACITORS

.196" in diameter, .080" high. Operating temperature range, -55°C to +125°C. Q Factor @ 1 MHz, 500 Min. (dielectric code A), 200 Min. (dielectric code G).

SURFACE MOUNTING TERMINAL CONFIGURATION

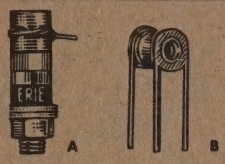
Stk. No.	Type	WVDC 85°	WVDC 125°	Cap. Rng. (pF)	1-49	50-99	100-249	250-499
19F1979	513-010 A 1-5	100	50	1-5				
19F1980	513-010 A 2-10	100	50	2-10				
19F1981	513-010 A 3.5-20	100	50	3.5-20	4.25	3.40	2.55	1.28
19F1982	513-010 A 5-30	100	50	5-30				
19F1983	513-010 G 7-40	25	25	7-40				

THRU-HOLE MOUNTING TERMINAL CONFIGURATION

19F1984	513-011 A 1-5	100	50	1-5				
19F1985	513-011 A 2-10	100	50	2-10				
19F1986	513-011 A 3.5-20	100	50	3.5-20	4.25	3.40	2.55	1.28
19F1987	513-011 A 5-30	100	50	5-30				
19F1988	513-011 G 7-40	25	25	7-40				

GLASS & QUARTZ TRIMMER CAPACITORS

Meets MIL-C-14409. 1000 WVDC from -55°C to 125°C. Life test: 1500 VDC for 250 hrs. @ 125°C. Q at 1 MHz, 500 min.



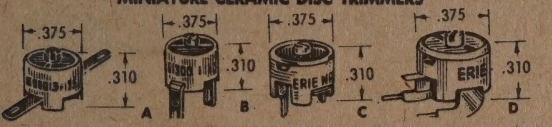
GLASS PANEL MOUNT

Stk. No.	Type	Fig.	Mmf.	1-24	25-49	50-99	100-299
19F1756	562-013	A	.8-8.5	3.40	3.05	2.70	2.25
19F1757	564-013	A	.7-12	3.75	3.40	2.95	2.45
19F1758	566-013	A	.8-18	4.35	3.95	3.40	2.85
19F1759	568-013	A	1-30	4.55	4.15	3.60	3.05

GLASS PRINTED CIRCUIT MOUNT

Stk. No.	Type	Fig.	Mmf.	1-24	25-49	50-99	100-299
19F1760	561-013	B	.8-4.5	2.80	2.60	2.20	1.85
19F1761	563-013	B	.8-8.5	3.00	2.75	2.40	2.00
19F1763	567-013	B	.8-18	3.95	3.60	3.10	2.60
19F1764	569-013	B	.8-30	4.15	3.80	3.30	2.80

MINIATURE CERAMIC DISC TRIMMERS



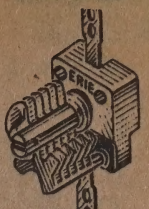
Stk. No.	Type	Fig.	Mmf. Range	1-49	50-99	100-249	250-499
19F2090	538-000A-2-8	A	2-8				
19F2091	538-000A-5.5-18	A	5.5-18				
19F2092	538-000B-2.5-11	A	2.5-11	1.69	1.35	1.13	.68
19F2093	538-000B-7-25	A	7-25				
19F2095	538-000C-8-25	A	8-25				
19F2097	538-000D-9-35	A	9-35				
19F2893	538-000F-15-60	A	15-60	1.98	1.59	1.32	.79
19F2098	538-002A-2-8	B	2-8				
19F2099	538-002A-5.5-18	B	5.5-18				
19F2100	538-002B-2.5-11	B	2.5-11				
19F2101	538-002B-7-25	B	7-25	1.69	1.35	1.13	.68
19F2102	538-002C-3-10	B	3-10				
19F2103	538-002C-8-25	B	8-25				
19F2104	538-002D-3-15	B	3-15				
19F2105	538-002D-9-35	B	9-35				
19F2894	538-002F-15-60	B	15-60	1.98	1.59	1.32	.79
19F1738	538-011A-2-8	C	2-8				
19F1739	538-011A-5.5-18	C	5.5-18				
19F1740	538-011B-2.5-11	C	2.5-11				
19F1741	538-011B-7-25	C	7-25	2.05	1.64	1.37	.82
19F1742	538-011C-3-10	C	3-10				
19F1744	538-011D-3-15	C	3-15				
19F1745	538-011D-9-35	C	9-35				
19F2895	538-011F-15-60	C	15-60	2.34	1.88	1.56	.94
19F2219	538-006A-2-8	D	2-8	1.86	1.49	1.24	.75
19F2220	538-006A-5.5-18	D	5.5-18				

Stk. No.	Type	1-49	50-99	100-249	250-499
19F1994	518-000A 1-3				
19F1995	518-000A 2-5				
19F3446	518-000A 2.5-9				
19F3447	518-000A 3.5-20	4.95	4.25	3.75	3.50
19F1996	518-000A 5-15				
19F3440	518-000A 5-25				
17F130	518-000G 7-40				

AIR TRIMMER CAPACITORS

- **Performance Stability**
- **Sturdy Construction**
- **375 WVDC**

Rotor and stator plates are precision machined from solid brass extrusions. Designed to reduce the probability of accidental breakage of top plate. 375 WVDC over a temperature range of -55 to 125°C.



PC MOUNT

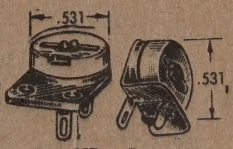
Stk. No.	Type	Cap. (pF)	L Max	1-49	50-99	100-499	500-999
19F1970	540-001	1.2- 4.2	.410	.72	.62	.53	.49
19F1972	542-001	1.4- 9.2	.510	.78	.66	.55	.51
19F1974	544-001	1.7- 14.1	.615	.84	.72	.57	.53
19F1976	546-001	2.0- 19.3	.715	.89	.76	.60	.54
19F1978	548-001	2.4- 24.5	.815	.93	.78	.63	.56

2-HOLE MOUNT

19F1989	540-011	1.2- 4.2	.410	.72	.62	.53	.49
19F1990	542-011	1.4- 9.2	.510	.78	.66	.55	.51
19F1991	544-011	1.7-14.1	.615	.84	.72	.57	.53
19F1992	546-011	2.0-19.3	.715	.89	.76	.60	.54
19F1993	548-011	2.4-24.5	.815	.93	.78	.63	.56

PHENOLIC BASE—TYPE 557

Features .531" dia. ceramic rotor, lapped and silvered on the underside, and a silvered ceramic dielectric stator disc with lapped bearing surface.



Type 557 Type 3192

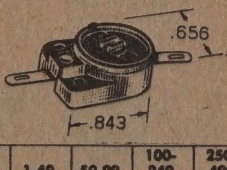
Stk. No.	Type	Cap. (pF)	Temp. Coef.	1-49	50-99	100-249	250-499
19F2971	557-000A-1.5-7	1.5-7	NPO				
19F2972	557-000A-3-12	3-12	NPO	1.09	.91	.73	.43
19F2973	557-000A-5-25	5-25	NPO				
19F2975	557-000B-5-20	5-20	N330				
19F2974	557-000F-10-75	10-75	N1500	1.29	1.08	.86	.51
19F2977	557-000E-8-50	8-50	N750				
19F2978	557-006A-1.5-7	1.5-7	NPO				
19F2979	557-006A-3-12	3-12	NPO				
19F2980	557-006A-5-25	5-25	NPO				
19F2984	557-006E-8-50	8-50	N750				
19F2986	557-013A-3-12	3-12	NPO	1.09	.91	.73	.46
19F2987	557-013A-5-25	5-25	NPO				
19F2990	557-013E-5-30	5-30	N750				
19F2991	557-013E-8-50	8-50	N750				
19F2999	557-091A-1.5-7	1.5-7	NPO	1.24	1.03	.83	.48
19F3001	557-091A-5-25	5-25	NPO				
19F3002	557-091F-10-75	10-75	N1500	1.43	1.20	.96	.55

CERAMIC TRIMMERS—PHENOLIC BASE—TYPE 3192

19F3008	3192-000A-6-25	6-25	NPO	1.37	1.14	.91	.53
19F3011	3192-000E-6-30	6-30	N750				
19F3010	3192-000E-9-50	9-50	N750				

CERAMIC TRIMMER TYPE 503

Provides maximum stability and ease of adjustment. Capacity change constant per degree of rotation. Silver electrodes are fired onto ceramic rotor and base, 500 wkg. volts DC. Size: 503-000: .843"x.656".



Stk. No.	Type	Mmf. Range	1-49	50-99	100-249	250-499
19F520	503-000A-1.5-7	1.5-7				
19F1746	503-000A-3-12	3-12				
19F1747	503-000B-5-20	5-20				
19F522	503-000C-4-30	4-30	1.34	1.05	.89	.67
19F523	503-000C-7-45	7-45				
19F2899	503-000D-4-30	4-30				
19F2900	503-000D-7-45	7-45				
19F1748	503-000D-5-50	5-50				
19F2901	503-000F-11-110	11-110	1.73	1.38	1.16	.83

SUBMINIATURE CERAMIC TRIMMERS

Occupies less than .007 cu. inches of space. Unique base design permits rigid mounting in both printed circuit and point to point wiring applications. Oper. Temp.-55°C to 125°C. WVDC, 100 Torque, .5-3 oz. in.

ERIE Filters and Ceramic Trimmers

SUBMINIATURE EMI FILTER

Min. Attenuation per Mil.-Std. 220A: 50 db from 200 MC to 2000 MC over range from −55°C to 125°C. Working Voltage: 100 VDC.

Stock No.	Type	1-49	50-99	100-249	250-499
19F3061	1250-003	3.68	3.12	2.57	2.39

EMI SUPRESSION FILTERS

Temp. range: −55°C to 125°C. Miniaturized line of filters rated at 100 WVDC to cover the freq. range from 10khz to 10ghz. Filters hermetically sealed.

LOW PASS - 150 VOLT - PI SECTION

Stk. No.	Type	Rdc Ohms	Idc A	1-19	20-49	50-99	100-249
17F141	9001-100-1013	.25	1	18.01	14.60	12.99	12.80
19F680	9001-100-1015	.06	3	17.29	14.01	12.47	12.29
19F681	9001-100-1017	.0015	5	17.29	14.01	12.47	12.29

POWER LINE - 125 VOLT - PI SECTION

17F142	9001-100-1021	.25	1	17.63	14.29	12.71	12.53
19F682	9001-100-1023	.06	3	16.91	13.71	12.19	12.02
19F683	9001-100-1025	.015	5	16.91	13.71	12.19	12.02

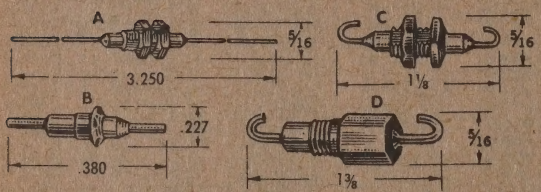
LOW PASS - 80 VOLT L TYPE

17F222	9051-100-0000	.008	10	9.02	7.31	6.50	6.41

FEED THRU - C TYPE - Idc, 15A

Stk. No.	Type	Rdc Ohms	Cap. GMV Mfd.	1-19	20-49	50-99	100-249
19F684	9920-100-6000	.005	.33	8.07	6.54	5.82	5.74
19F685	9920-100-6002	.005	.1	8.07	6.54	5.82	5.74
19F686	9932-100-6004	.005	2.1	22.80	18.48	16.44	16.20

FEED-THRU CERAMICONS



Types 362 and 327 have tie-point terminals; provide point to point wiring. 20% Tol. 500 WVDC. Lock washers available on request. Shpg. wt., 1 oz.

Stk. No.	Type	Fig.	Mmf.	1-49	50-99	100-249	250-499
19F1780	327-005-X5U0-102M	D	1000	1.62	1.22	1.02	.73
19F1781	327-005-X5U0-152M	D	1500	1.62	1.22	1.02	.73
19F1783	357-000-X5U0-102M	C	1000	1.13	.85	.71	.51
19F1784	357-000-X5U0-152M	C	1500	1.13	.85	.71	.51
19F1785	362-000-X5U0-102M	A	1000	1.13	.85	.71	.51
19F1786	362-000-X5U0-152M	A	1500	1.13	.85	.71	.51
19F1787	2404-000-U2M0-500M	B	50	.36	.27	.23	.18
19F1788	2404-000-X5U0-101M	B	100	.36	.27	.23	.18
19F1789	2404-000-X5U0-102P	B	1000	.36	.27	.23	.18
19F1790	2404-014-X5U0-501M	...	500	.40	.30	.25	.20
19F1791	2404-014-X5U0-102P	...	1000	.40	.30	.25	.20
19F2857	2443-000-X5S0-102M	...	1000	1.36	1.02	.85	.62
19F2861	2499-003-X5S0-102M	...	1000	1.50	1.13	.94	.68
19F2862	2499-003-X5S0-152M	...	1500	1.50	1.13	.94	.68

CK 70 Series Mil-C-11015C Feed-Thru Ceramicons. Tolerance: +20%. Body style 327. Size 1⅜H×⅝″.

19F2149	CK70 AW 102M	D	1000	1.89	1.42	1.18	.85
19F2150	CK70 AW 152M	D	1500	1.89	1.42	1.18	.85

LOW PASS, HIGH FREQUENCY FILTERS

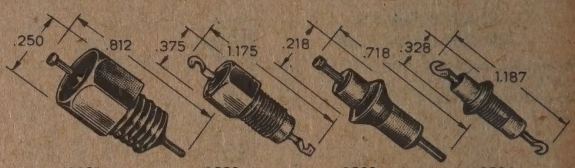
Type 1270. Minimum attenuation 45dB from 200 MHZ to 10 GHZ over temp. range +55°C to +125°C. Capacitance: 1270-009, 1500 pf. 1270-016 and -025 5000, pf *Denotes nut supplied.

Stock No.	Type	Atten.	1-49	50-99	100-249	250-499
19F2455	1270-009*	40 db.				
19F2456	1270-016*	40 db.	2.42	2.05	1.69	1.57
19F2458	1270-025	50 db.				

BROAD BAND EMI FILTERS

Stk. No.	Type	WVDC 85°C	Idc Max.	Cap. pF	1-49	50-99	100-249	250-499
19F687	1214-001	250	10A	1750	1.06	.90	.74	.68
19F688	1221-001	500	10A	4000	2.96	2.51	2.07	1.92
19F689	1280-060	2500	25A	1500	4.50	3.82	3.15	2.92

EMI SUPPRESSION FILTERS



Specifications for 1201 & 1202. Cap: 1000 mmf. at 1KC, .5 to 5 VRMS, 25°C. Working voltage, 200 VDC. Operating temp. range: −55°C to 125°DC. Resistance: 0.01 ohms max. DC and low frequency current 5 amps. max.

Type 1201. Bushing type. Lockwashers and hex nuts supplied. .812L × .250 Dia.

Type 1202. Same as 1201 but size is 1.175L. × .375 Dia. Hex nuts and lockwashers are supplied.

Stk. No.	Type	1-49	50-99	100-249	250-499
19F2110	1201-052	2.64	2.24	1.84	1.71
19F2112	1202-052	2.70	2.29	1.89	1.75

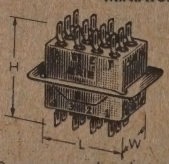
Specifications for 1203 & 1204. Minimum attenuation 50 db from 100 MC to 2000MC over a temp. range of −55 to 125°C. Cap.: 2000 mmf. min. at 1 KC, .5 to 5 VRMS, 25°C. Working voltage: 500 VDC. DC resistant: 0.10 ohms max. DC and low frequency current: 5 amps. max. RF current: 0.25 amps. max.

Type 1203. Miniaturized eyelet type. Size is: .718 L. × .218 Dia.

Type 1204. Eyelet type similar to 1203 but size is: 1.187 L. × .328 Dia.

Stk. No.	Type	1-49	50-99	100-249	250-499
19F2111	1203-050	1.40	1.19	.98	.91
19F2113	1204-050	1.40	1.19	.98	.91

MINIATURE 6 & 12 CHANNEL R.F.I. FILTERS



Minimum attenuation: 45 db from 100-200 Mc, 50 db from 200 Mc to 2000 Mc, over the temp. range of −55°C to +125°C measured in accordance with Mil-Std.-220A. Capacitance: 2500 pf min. at 1Kc, 0.5 to 5 VRMS. 25°C. Working voltage: 350 VDC. Insulation resistance: 20K megohms min. at 100 VDC 25°C (50 ma max. charging current). D.C. resistance: .01 ohms per section. D.C. and low frequency current: 5 amps max. per section.

Type 1212 is 12 channel— **Type 1206** is 6 channel. **Size:** 502— 1.125 × .594″. 552 and 554— .75 × .437″.

Stk. No.	Type	1-49	50-99	100-249	250-499
19F3067	1212-502	21.45	19.80	18.15	17.32
19F3063	1212-554	21.45	19.80	18.15	17.32
19F3065	1206-502	19.50	18.00	16.50	15.75
19F3068	1206-554	19.50	18.00	16.50	15.75

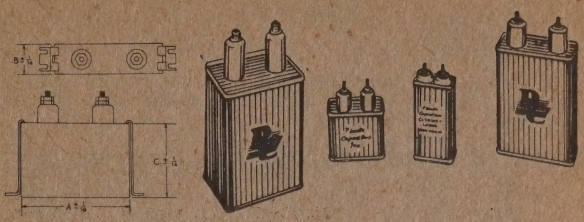
MAKE NEWARK YOUR ONE STOP SOURCE FOR ALL YOUR ELECTRONIC NEEDS.

CALL OR WRITE FOR QUANTITY PRICES.

Plastic Capacitors High Voltage Capacitors

TYPE LK MYLAR PAPER FILTER CAPACITORS

Stk. No.	Type	Cap. mfd.	DC Volts	Size (AxBxC)	1-9	10-24	25-49	50-99
18F2985	LK 20-105	1.0	2000	1¾ x1x3¼	11.27	9.62	7.76	6.87
18F2986	LK 20-205	2.0	2000	2½ x1 3/16 x3½	14.00	12.04	9.65	8.57
18F2987	LK 20-405Y	4.0	2000	3¾ x1¼ x3¾	19.88	17.11	13.70	12.13
18F2988	LK 20-106Y	10.0	2000	3¾ x2¼ x4½	35.85	31.08	24.89	22.04
18F2989	LK 20-126Z	12.0	2000	3¾ x3 3/16 x4	45.85	39.33	31.65	28.00
18F2990	LK 50-104	0.1	5000	1¾ x1x2⅛	14.11	11.71	9.63	8.71
18F2991	LK 50-254	0.25	5000	1¾ x1x3	15.60	13.00	10.72	9.75
18F2992	LK 50-504	0.5	5000	1¾ x1x4¾	18.19	15.12	12.44	11.29
18F2993	LK 50-105	1.0	5000	2½ x1 3/16 x5	24.13	20.25	16.63	15.10
18F2994	LK 50-405	4.0	5000	3¾ x2¼ x6¼	57.70	48.32	38.59	35.03
18F2995	LK100-104	0.1	10KV	3¾ x1¾ x3¼	31.92	28.22	21.18	19.91
18F2996	LK100-254	0.25	10KV	3¾ x1¾ x3¾	37.23	33.08	24.75	22.85
18F2997	LK100-504	0.5	10KV	3¾ x1¾ x5¾	46.59	41.29	31.07	28.49
18F2998	LK100-105	1.0	10KV	3¾ x2¼ x7¼	65.95	58.69	43.95	40.32
18F2999	LK100-205	2.0	10KV	4 9/16 x3¾ x6¾	118.49	105.87	79.32	72.69



Type LK capacitors offer unusually good electrical characteristics with very small size. They are specifically designed for filter, by-pass, and coupling applications in the low audio frequency range.

TYPE "OF" HIGH VOLTAGE GLASS CAPACITORS

Stk. No.	Type OF	Cap. mfd.	DC Volts	Size	1-9	10-24	25-49	50-99
19F1293	50-502	.005	5000	1 5/8 x 19/32"	6.88	6.75	5.96	5.65
19F1294	50-254	.25	5000	3x1 5/8"	13.26	13.26	11.73	11.04
19F1295	50-504	.50	5000	6x1 5/8"	15.28	15.28	13.47	12.75
19F1296	80-502*	.005	8000	1¾ x¾"	6.87	6.87	6.03	5.68
19F1297	80-103	.01	8000	2¼ x¾"	7.60	7.34	6.51	6.14
19F1298	80-104	.10	8000	3 5/8 x1 5/8"	13.99	12.03	11.23	10.26
19F712	100-102*	.001	10KV	1 5/8 x 19/32"	6.83	6.83	5.95	5.74
19F713	100-502	.005	10KV	1¾ x 13/16"	8.30	7.59	6.87	6.45
19F714	100-103	.01	10KV	2¼ x 29/32"	9.15	8.38	7.59	7.12
19F715	100-203	.02	10KV	2¾ x1¼"	12.08	11.02	9.96	9.37
19F1299	150-103	.01	15KV	3¾ x1⅛"	14.68	13.41	12.17	11.36
19F716	200-102	.001	20KV	3½ x¾"	14.03	12.77	11.52	10.54
19F717	200-202	.002	20KV	3½ x 13/16"	14.55	13.22	11.96	10.89
19F718	200-502	.005	20KV	3½ x1⅛"	15.61	14.21	12.85	11.70
19F719	200-103	.01	20KV	4½ x1⅛"	18.58	16.88	15.17	13.94
19F720	300-501*	.0005	30KV	4 9/16 x 19/32"	14.14	12.84	11.62	10.69
19F722	300-202	.002	30KV	5x 29/32"	22.55	20.65	18.65	16.92
19F723	300-502	.005	30KV	5x1⅜"	27.74	25.16	22.20	20.83
19F724	600-501	.0005	60KV	10x¾"	25.05	22.97	20.86	19.32
19F725	600-102	.001	60KV	10x 29/32"	30.33	27.74	24.71	23.35
19F726	600-202	.002	60KV	10x1⅜"	32.57	29.82	27.15	25.10

Plastic film dielectric. Used for high voltage power filter. Mount in any position. Temperature range—55°C to +85°C. Tolerance ±10%. ⅜x8-32 screw terminals except * marked have tinned copper pigtails. Heavy wall, hard glass case.

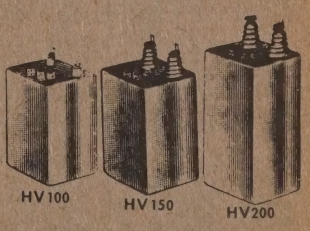
Stk. No.	Type OF	Cap. mfd.	DC Volts	Size	1-9	10-24	25-49	50-99
19F700	20-103	.01	2000	1 3/16 x 19/32"	5.97	5.73	5.45	5.09
19F701	20-503	.05	2000	1¾ x¾"	6.25	5.99	5.70	5.32
19F702	20-104	.10	2000	2¼ x¾"	6.33	6.07	5.78	5.39
19F703	20-254	.25	2000	2¾ x 29/32"	7.40	7.09	6.75	6.29
19F704	30-103*	.01	3000	1 9/16 x 19/32"	6.04	5.79	5.51	5.14
19F705	30-203	.02	3000	1¾ x¾"	6.25	5.99	5.70	5.32
19F706	30-503	.05	3000	2¼ x¾"	6.33	6.07	5.78	5.39
19F707	30-104	.10	3000	1¾ x1⅛"	7.98	7.65	7.28	6.78
19F1290	30-254	.25	3000	2x1⅜"	9.11	8.74	8.32	7.76
19F1291	30-504	.50	3000	2¾ x1⅝"	10.16	9.74	9.27	8.64
19F708	50-103	.01	5000	1¾ x¾"	7.12	6.99	6.17	5.84
19F709	50-203	.02	5000	2¼ x¾"	7.24	7.24	6.40	6.03
19F710	50-503	.05	5000	2¼ x 29/32"	7.87	7.87	6.88	6.51
19F711	50-104	.10	5000	2¼ x1⅜"	10.56	10.56	9.31	8.75
19F1992	50-102*	.001	5000	1 3/16 x 19/32"	6.83	6.71	5.93	5.61

HIGH VOLTAGE D.C. POWER PACKS

Stk. No.	Type	DC KV	MA	Sign	Wt. Lbs.	NET
19F3673	HV10-103M	0-1	10	3¾ x2¼ x3⅜	2	93.50
19F3675	HV20-152M	0-2	1.5	3¾ x1¾ x3⅜	1	90.37
19F1285	HV20-502M	0-2	5	3¾ x2¼ x3⅜	2½	112.98
19F3677	HV25-103M	0-2.5	10	3¾ x2¼ x3¾	3	115.31
19F3676	HV50-152M	0-5	1.5	3¾ x2¼ x3⅜	2	94.27
19F1286	HV50-502M	0-5	5	3¾ x2¼ x3¾	3¼	115.20
19F3678	HV50-103M	0-5	10	3¾ x4 3/16 x5⅞	11	148.03
19F3679	HV100-152M	0-10	1.5	3¾ x3 1/16 x4½	4	124.65
19F1287	HV100-502M	0-10	5	3¾ x4 3/16 x5⅞	8⅛	158.17
19F3680	HV100-103M	0-10	10	3¾ x4 3/16 x8	12	202.56
19F3681	HV150-152M	0-15	1.5	3¾ x3 1/16 x5½	5	165.95
19F3682	HV150-502M	0-15	5	3¾ x4 3/16 x6⅞	11	178.41
19F3684	HV300-502M	0-30	5	4 11/16 x6x8½	22	303.85
19F3686	HV500-502M	0-50	5	5⅝ x7⅜ x12⅛	40	380.19
19F3687	HV750-152M	0-75	1.5	5⅝ x7⅜ x12⅛	45	666.90
19F1288	HV200-152M	0-20	1.5	3¾ x4 9/16 x5⅞	9	168.69
19F1289	HV200-502M	0-20	5	3¾ x4 9/16 x8	12	211.92

- **Long-life Silicon Rectifiers Provide Instant Operation**
- **Output from Zero to Rated Voltage by Adjusting Input**
- **Mount in Any Position**

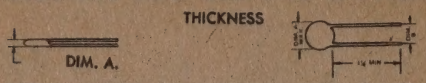
Hermetically sealed, oil filled hot-tinned or lead coated plate steel container with enamel coating. 118 volt 60 Hz input. Output operation from zero to rated voltage by adjusting input. Long life rectifiers requiring no warm-up for rectifier filaments. May be mounted in any position. Max. ambient 85°C. Supplied with footed brackets. Positive output only.



MAKE NEWARK ELECTRONICS YOUR ONE STOP SOURCE FOR INDUSTRIAL ELECTRONICS EQUIPMENT

Arco Disc Ceramic/Miniature Aluminum Capacitors

LOW VOLTAGE MINIATURE DISC CERAMIC CAPACITORS



Type TCD designed for low voltage transistor circuitry. All units coated with "Durez" coating. Tinned #22 annealed wire. .156" thick unless otherwise indicated.

SIZE CHART

Code	Dim. A	Dim. B	Code	Dim. A	Dim. B	Code	Dim. A	Dim. B
A	.290"	.250"	G	.276"	.250"	P	.395"	.250"
B	.385"	.250"	H	.315"	.250"	Q	.475"	.250"
C	.590"	.375"	J	.355"	.375"	R	.530"	.250"
D	.690"	.375"	K	.473"	.375"	S	.590"	.375"
E	.394"	.250"	L*	.721"	.375"	T	.750"	.375"
F	.474"	.250"	M	.315"	.250"	(*) .171" Thickness		

25 VDCW +80%, −20% TOL. Z5V

Stk. No.	Type	Mfd.	Size	1-99	100-999	1000-9999
67F800	TCA-223Z	.022	E	.18	.07	.05
67F801	TCA-333Z	.033	E	.23	.09	.06
67F802	TCA-503Z	.05	.....	.25	.09	.07
67F803	TCA-683Z	.068	.....	.32	.10	.07
67F804	TCA-104Z	.1	.....	.36	.12	.08

50 VDCW ±20% TOL. Z5Y

Stk. No.	Type	Mfd.	Size	1-99	100-999	1000-9999
67F300	TCD-103M	.010	E	.21	.07	.06
67F301	TCD-153M	.015	F	.21	.07	.06
67F302	TCD-223M	.022	F	.21	.08	.06
67F303	TCD-333M	.033	F	.23	.09	.07
67F304	TCD-473M	.047	C	.32	.11	.09
67F305	TCD-503M	.050	C	.35	.12	.09

50 VDCW +80% −20% TOL. Z5V

Stk. No.	Type	Mfd.	Size	1-99	100-999	1000-9999
67F306	TCD-502Z	.005	G	.14	.05	.04
67F307	TCD-103Z	.010	H	.14	.05	.04
67F308	TCD-203Z	.020	J	.14	.06	.04
67F311	TCD-503Z	.050	K	.23	.08	.06
67F313	TCD-104Z	.100	L	.48	.16	.11

100 VDCW ±20% TOL. Z5U

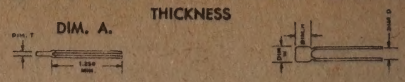
Stk. No.	Type	Mfd.	Size	1-99	100-999	1000-9999
67F314	TCP-R005	.005	M	.14	.08	.04
67F315	TCP-R01	.01	P	.16	.06	.05
67F319	TCP-R05	.05	T	.44	.14	.10

GENERAL PURPOSE DISC CAPACITORS

Ceramic disc capacitors with phenolic coating and high temperature wax impregnation. Tol: (*), ±.5pf; (†), GMV, (‡), ±20%. All others ±10%. 1000 VDCW.

Stk. No.	Type	Pf	Size	1-24	25-99	100-Up
67F320	CCD-3R3	3.3*	A	.15	.08	.05
67F321	CCD-050	5*	A	.13	.07	.04
67F322	CCD-6R8	6.8*	A	.15	.08	.05
67F323	CCD-080	8*	A	.13	.07	.04
67F324	CCD-100	10	A	.13	.07	.04
67F325	CCD-180	18	A	.13	.07	.04
67F327	CCD-220	22	A	.13	.07	.04
67F328	CCD-270	27	A	.13	.07	.04
67F329	CCD-300	30	A	.13	.07	.04
67F330	CCD-330	33	A	.13	.07	.04
67F332	CCD-390	39	A	.13	.07	.04
67F333	CCD-470	47	A	.13	.07	.04
67F334	CCD-500	50	A	.13	.07	.04
67F335	CCD-510	51	A	.13	.07	.04
67F336	CCD-560	56	A	.13	.07	.04
67F338	CCD-680	68	A	.13	.07	.04
67F339	CCD-750	75	A	.13	.07	.04
67F340	CCD-820	82	A	.13	.07	.04
67F341	CCD-101	100	A	.13	.07	.04
67F343	CCD-121	120	A	.13	.07	.04
67F344	CCD-151	150*	A	.13	.07	.04
67F346	CCD-201	200	A	.13	.07	.04
67F347	CCD-221	220	A	.13	.07	.04
67F350	CCD-271	270	A	.13	.07	.04
67F351	CCD-301	300	A	.13	.07	.04
67F352	CCD-331	330	A	.13	.07	.04
67F355	CCD-391	390	A	.13	.06	.04
67F356	CCD-401	400	A	.13	.06	.04
67F357	CCD-471	470	A	.13	.06	.04
67F360	CCD-561	560	A	.13	.06	.04
67F361	CCD-681	680	A	.13	.06	.04
67F363	CCD-751	750	A	.13	.06	.04
67F365	CCD-821	820‡	A	.13	.06	.04
67F367	CCD-102	1000	B	.13	.06	.04
67F368	CCD-102G	1000‡	A	.13	.06	.04
67F370	CCD-152	1500‡	B	.15	.07	.04
67F373	CCD-202G	2000†	B	.13	.06	.04
67F377	CCD-302G	3000†	B	.13	.06	.04
67F378	CCD-332G	3300†	C	.16	.08	.06
67F380	CCD-472	4700‡	C	.16	.08	.06
67F381	CCD-502	5000	C	.16	.08	.06
67F383	CCD-682G	6800†	C	.16	.08	.06
67F385	CCD-103	10000‡	D	.17	.11	.09

GENERAL PURPOSE LORCAP CAPACITORS



Type MCG. Extremely high volumetric efficiency. Suited for numerous commercial applications that require units of high quality, miniature size and high stability.
Type MCA. High quality NPO dielectric material radial lead miniature units for applications such as timing or coupling circuits.
Type MCY. 16% stable TC monolithic capacitors. Offer high stability and miniature size for a wide variety of commercial applications.

SIZE CHART

Code	Dim. A	Dim. B	Thk.
A	.100	.100	.100
B	.150	.100	.100
C	.200	.100	.125
D	.300	.200	.150
E	.500	.400	.200

50 VDCW ±20% TOL. TYPE MCG

Stk. No.	Type	Mfd.	Size	1-99	100-499	500-2499
67F805	MCG-L-103	.010	C	.30	.26	.17
67F806	MCG-L-153	.015	C	.36	.32	.21
67F807	MCG-L-223	.022	C	.36	.32	.21
67F808	MCG-L-273	.027	C	.36	.32	.21
67F809	MCG-L-333	.033	C	.36	.32	.21
67F810	MCG-L-473	.047	C	.36	.32	.21
67F811	MCG-L-683	.068	C	.40	.35	.23
67F812	MCG-L-104	.10	C	.40	.35	.23
67F813	MCG-L-154	.15	D	.50	.43	.29
67F814	MCG-L-224	.22	D	.63	.55	.36
67F815	MCG-L-274	.27	D	.73	.63	.42
67F816	MCG-L-334	.33	D	.83	.72	.48
67F817	MCG-L-474	.47	D	.93	.80	.54
67F818	MCG-L-684	.68	D	1.21	1.05	.70
67F819	MCG-L-105	1.0	D	1.47	1.28	.85
67F820	MCG-L-155	1.5	E	1.91	1.66	1.11
67F821	MCG-L-225	2.2	E	3.12	2.71	1.81
67F822	MCG-L-335	3.3	E	4.77	4.15	2.77
67F823	MCG-L-475	4.7	E	6.42	5.59	3.72

100 VDCW ±20% TYPE MCG

Stk. No.	Type	Mfd.	Size	1-99	100-499	500-2499
67F824	MCG-C-103	.010	C	.33	.29	.19
67F825	MCG-C-153	.015	C	.40	.35	.23
67F826	MCG-C-223	.022	C	.40	.35	.23
67F827	MCG-C-273	.027	C	.40	.35	.23
67F828	MCG-C-333	.033	C	.40	.35	.23
67F829	MCG-C-473	.047	C	.40	.35	.23
67F830	MCG-C-683	.068	C	.44	.38	.26
67F831	MCG-C-104	.10	C	.44	.38	.26
67F832	MCG-C-154	.15	D	.55	.48	.32
67F833	MCG-C-224	.22	D	.70	.61	.40
67F834	MCG-C-274	.27	D	.81	.70	.47
67F835	MCG-C-334	.33	D	.92	.80	.53
67F836	MCG-C-474	.47	D	1.03	.89	.60

100 VDCW ±10% TYPE MCA

Stk. No.	Type	Cap.	Size	1-99	100-499	500-2499
67F837	MCA-C-4R7	4.7 pf	A	.26	.22	.15
67F838	MCA-C-6R8	6.8 pf.	A	.26	.22	.15
67F839	MCA-C-100	10 pf	A	.26	.22	.15
67F840	MCA-C-220	22 pf	B	.26	.22	.15
67F841	MCA-C-101	100 pf	C	.37	.32	.21
67F842	MCA-C-221	220 pf	C	.48	.41	.28
67F843	MCA-C-471	470 pf	C	.51	.45	.30
67F844	MCA-C-102	1000 pf	C	.55	.48	.32
67F845	MCA-C-332	3300 pf	D	1.25	1.09	.72
67F846	MCA-C-472	4700 pf	D	1.62	1.40	.94
67F847	MCA-C-103	.010 mfd	D	2.57	2.23	1.49
67F848	MCA-C-333	.033 mfd	E	5.32	4.63	3.09
67F849	MCA-C-473	.047 mfd	E	6.61	5.74	3.83

100 VDCW (*) 50 WVDC ±10% TYPE MCY/MCL

Stk. No.	Type	Cap.	Size	1-99	100-499	500-2499
67F850	MCY-C-471	470 pf	B	.26	.23	.15
67F851	MCY-C-102	1000 pf	B	.26	.23	.15
67F852	MCY-C-152	1500 pf	C	.35	.30	.20
67F853	MCY-C-332	3300 pf	C	.35	.30	.20
67F854	MCY-C-472	4700 pf	C	.35	.30	.20
67F855	MCY-C-103	.010 mfd	C	.46	.40	.27
67F856	MCY-C-223	.022 mfd	D	.71	.61	.40
67F857	MCY-C-333	.033 mfd	D	.71	.61	.40
67F858	MCY-C-104	.10 mfd	D	1.33	1.14	.77
67F859	MCY-L-154*	.15 mfd	D	1.33	1.14	.77
67F860	MCY-L-224*	.22 mfd	D	1.33	1.14	.77
67F861	MCY-L-334*	.33 mfd	D	2.22	1.59	.96
67F862	MCY-L-474*	.47 mfd	D	2.47	1.76	1.37

Capacitors

Arco

DIPPED-MICA CAPACITORS

ilvered mica with plastic coating. Combines stability, dielectric strength, "Q", dielectric constant, chemical
ertness, moisture and puncture resistance. Oper. Temp. -55 to 150°C. Tolerance: ±5% except (*) ±0.5
F. DM5 series is stamped with cap. values in pF followed by a letter indicating tol: (J) ±5%; (A) ±1 pF;
0) ±0.5 pF. All meet or exceed MIL-C-S specifications. 500 volts except (†) 100 V and (**) 300 V.

SIZE CHART (Marked with MIL and Commercial Type Nos.)

M5	.270x.190x.110 to .270x.250x.190
M10/CMO4	.360x.330x.190 to .400x.390x.230
M15/CMO5	.450x.360x.170 to .530x.430x.250
M19/CMO6	.640x.500x.190 to .700x.570x.340

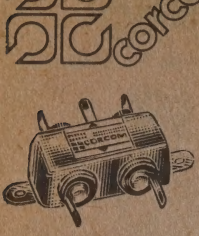
Stk. No.	Type	pF.	1-490	500-990	1000-up
14F1262	DM5-010D	1*	.21	.19	.15
14F1263	DM5-020D	2*	.21	.19	.15
14F1264	DM-5030D	3*	.21	.19	.15
14F1265	DM-5040D	4*	.21	.19	.15
14F1266	DM5-050D	5*	.21	.19	.15
14F1267	DM5-060D	6	.22	.20	.15
14F1268	DM5-070D	7	.22	.20	.15
14F1269	DM5-080D	8	.22	.20	.15
14F1270	DM5-100J	10**	.25	.23	.19
14F1271	DM5-120J	12**	.23	.21	.17
14F1272	DM5-150J	15**	.23	.21	.17
14F1273	DM5-180J	18**	.23	.21	.17
14F1274	DM5-200J	20**	.15	.14	.11
14F1275	DM5-220J	22**	.17	.15	.12
14F1276	DM5-240J	24**	.17	.15	.12
14F1277	DM5-270J	27**	.17	.15	.12
14F1278	DM5-300J	30**	.17	.15	.12
14F1279	DM5-330J	33**	.18	.15	.12
14F1280	DM5-360J	36**	.19	.17	.13
14F1281	DM5-390J	39**	.19	.17	.13
14F1282	DM5-430J	43**	.19	.17	.13
14F1283	DM5-470J	47**	.19	.17	.14
14F1284	DM5-500J	50**	.19	.17	.14
14F1285	DM5-510J	51**	.20	.18	.14
14F1286	DM5-560J	56**	.21	.19	.15
14F1287	DM5-620J	62**	.22	.20	.15
14F1288	DM5-680J	68**	.23	.21	.17
14F1289	DM5-750J	75**	.23	.21	.17
14F1291	DM5-910J	91**	.28	.25	.20
14F1292	DM5-101J	100**	.29	.26	.21
14F1294	DM5-121J	120**	.23	.30	.24
14F1295	DM5-131J	130**	.28	.25	.20
14F1296	DM5-151J	150**	.31	.28	.22
14F1297	DM5-161J	160**	.32	.29	.23
14F1298	DM5-181J	180**	.35	.32	.25

Stk. No.	Type	pF	10-90	100-490	500-990	1000-Up
14F1151	DM10-020D	2*	.19	.16	.13	.11
14F1152	DM10-030D	3*	.19	.16	.13	.11
14F1153	DM10-050D	5*	.19	.16	.13	.11
14F1154	DM10-100J	10	.19	.16	.13	.11
14F1155	DM10-120J	12	.19	.16	.13	.11
14F1156	DM10-150J	15	.19	.16	.13	.11
14F1157	DM10-180J	18	.19	.16	.13	.11
14F1158	DM10-200J	20	.15	.12	.10	.09
14F1159	DM10-220J	22	.15	.12	.10	.09
14F1160	DM10-240J	24	.15	.12	.10	.09
14F1161	DM10-270J	27	.15	.12	.10	.09
14F1162	DM10-300J	30	.15	.12	.10	.09
14F1163	DM10-330J	33	.15	.12	.10	.09
14F1164	DM10-360J	36	.15	.12	.10	.09
14F1166	DM10-430J	43	.17	.14	.12	.10
14F1167	DM10-470J	47	.17	.14	.12	.10
14F1168	DM10-500J	50	.17	.14	.12	.10
14F1169	DM10-510J	51	.17	.14	.12	.10
14F1170	DM10-560J	56	.17	.14	.12	.10
14F1171	DM10-620J	62	.17	.14	.12	.10
14F1172	DM10-680J	68	.17	.14	.12	.10
14F1173	DM10-750J	75	.17	.14	.12	.10
14F1174	DM10-820J	82	.17	.14	.12	.10
14F1176	DM10-101J	100	.18	.15	.13	.11
14F1177	DM10-111J	110	.18	.15	.13	.11
14F1178	DM10-121J	120	.18	.15	.13	.11
14F1179	DM10-131J	130	.18	.15	.13	.11
14F1180	DM10-151J	150	.18	.15	.13	.11
14F1182	DM10-181J	180	.20	.17	.14	.12
14F1183	DM10-201J	200	.23	.20	.16	.14
14F1184	DM10-221J	220	.24	.20	.17	.14
14F1185	DM10-241J	240	.26	.22	.18	.15
14F1186	DM10-251J	250	.27	.23	.19	.16
14F1187	DM10-271J	270**	.25	.21	.18	.15
14F1188	DM10-301J	300**	.28	.23	.19	.16
14F1189	DM10-331J	330†	.26	.22	.18	.15
14F1190	DM10-361J	360†	.28	.23	.19	.16
14F1200	DM10-391J	390†	.30	.25	.21	.17

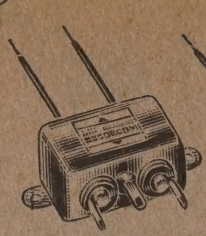
Stk. No.	Type	pF	10-90	100-490	500-990	1000-Up
14F549	DM15-010D	1*	.14	.13	.12	.11
14F550	DM15-020D	2*	.14	.13	.12	.11
14F551	DM15-030D	3*	.14	.13	.12	.11
14F552	DM15-050D	5*	.14	.13	.12	.11
14F553	DM15-100J	10	.14	.13	.12	.11
14F554	DM15-120J	12	.13	.12	.11	.10
14F555	DM15-150J	15	.13	.12	.11	.10
14F556	DM15-180J	18	.13	.12	.11	.10
14F557	DM15-200J	20	.12	.11	.10	.09
14F558	DM15-220J	22	.12	.11	.10	.09
14F559	DM15-240J	24	.12	.11	.10	.09
14F560	DM15-270J	27	.12	.11	.10	.09
14F561	DM15-300J	30	.12	.11	.10	.09
14F562	DM15-330J	33	.12	.11	.10	.09
14F563	DM15-360J	36	.12	.11	.10	.09
14F564	DM15-390J	39	.12	.11	.10	.09
14F565	DM15-430J	43	.12	.11	.10	.09
14F566	DM15-470J	47	.12	.11	.10	.09
14F567	DM15-500J	50	.12	.11	.10	.09
14F568	DM15-510J	51	.12	.11	.10	.09
14F569	DM15-560J	56	.12	.11	.10	.09
14F570	DM15-620J	62	.12	.11	.10	.09
14F571	DM15-680J	68	.12	.11	.10	.09
14F572	DM15-750J	75	.12	.11	.10	.09
14F573	DM15-820J	82	.12	.11	.10	.09
14F574	DM15-910J	91	.12	.11	.10	.09
14F575	DM15-101J	100	.12	.11	.10	.09
14F576	DM15-111J	110	.12	.11	.10	.09
14F577	DM15-121J	120	.12	.11	.10	.09
14F578	DM15-131J	130	.13	.12	.11	.10
14F579	DM15-151J	150	.13	.12	.11	.10
14F580	DM15-161J	160	.13	.12	.11	.10
14F581	DM15-181J	180	.13	.12	.11	.11
14F582	DM15-201J	200	.13	.12	.11	.11
14F583	DM15-221J	220	.14	.13	.12	.12
14F584	DM15-241J	240	.15	.14	.13	.12
14F585	DM15-251J	250	.15	.14	.13	.13
14F586	DM15-271J	270	.15	.14	.13	.13
14F587	DM15-301J	300	.16	.15	.14	.14
14F588	DM15-331J	330	.18	.16	.15	.15
14F589	DM15-361J	360	.18	.17	.16	.16
14F590	DM15-391J	390	.19	.17	.16	.16
14F591	DM15-431J	430	.20	.18	.17	.17
14F592	DM15-471J	470	.21	.19	.18	.17
14F593	DM15-501J	500	.21	.19	.18	.18
14F594	DM15-511J	510	.22	.20	.19	.19
14F595	DM15-561J**	560	.22	.20	.19	.19
14F596	DM15-621J**	620	.24	.21	.20	.20
14F597	DM15-681J**	680	.26	.23	.22	.22
14F598	DM15-751J**	750	.28	.25	.23	.23
14F599	DM15-821J**	820	.30	.27	.26	.25
14F1116	DM15-911J†	910	.26	.23	.22	.22
14F1117	DM15-102J†	1000	.28	.25	.24	.24

Stk. No.	Type	pF	1-490	500-900	1000-Up
14F458	DM19-221J	220	.14	.12	.11
14F460	DM19-251J	250	.14	.12	.11
14F461	DM19-271J	270	.16	.14	.13
14F463	DM19-331J	330	.16	.14	.13
14F464	DM19-361J	360	.17	.15	.14
14F465	DM19-391J	390	.17	.15	.14
14F467	DM19-471J	470	.19	.17	.15
14F468	DM19-501J	500	.19	.17	.15
14F470	DM19-561J	560	.18	.16	.15
14F472	DM19-681J	680	.21	.19	.17
14F474	DM19-821J	820	.24	.21	.20
14F477	DM19-112J	1100	.28	.25	.23
14F478	DM19-122J	1200	.29	.26	.24
14F479	DM19-132J	1300	.32	.28	.26
14F480	DM19-152J	1500	.35	.31	.30
14F481	DM19-162J	1600	.35	.31	.30
14F482	DM19-182J	1800	.35	.33	.32
14F483	DM19-202J	2000	.41	.36	.34
14F484	DM19-222J	2200	.45	.40	.37
14F1201	DM19-242J	2400	.46	.41	.39
14F1202	DM19-252J	2500	.48	.43	.41
14F1203	DM19-272J	2700	.52	.46	.44
14F1204	DM19-302J	3000	.57	.51	.47
14F1205	DM19-332J	3300	.61	.54	.51
14F1206	DM19-362J	3600	.65	.58	.55
14F1207	DM19-392J	3900	.70	.62	.57
14F1208	DM19-432J	4300	.77	.68	.62
14F1209	DM19-472J	4700	.82	.73	.66
14F1210	DM19-502J	5000	.87	.77	.72
14F1211	DM19-512J	5100	.89	.79	.73

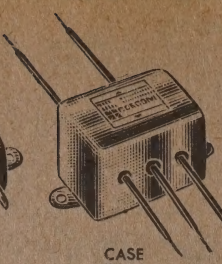
RFI Power Line Filters



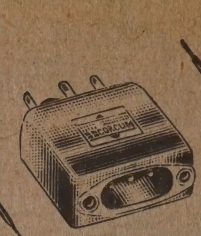
CASE STYLE B1 & K1



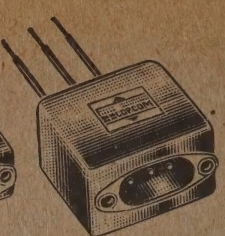
CASE STYLE B2 & K2



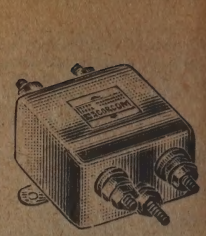
CASE STYLE B3 & K3



CASE STYLE B4 & K4



CASE STYLE B5 & K5



CASE STYLE B6 & K6

SERIES B FILTERS

Series B general purpose filters effectively provide RFI control of line to ground noise in a small size at low cost. These general purpose filters are available in a broad selection of current ratings and termination styles. All are UL recognized. Last two numbers of type are also the case style numbers.

1 TO 30 AMPS; 115/250 VOLTS, 50-60 HZ AC

Stock No.	Type	Size LxWxH Inches	Max. Line Amps	EACH 1-24	25-49	50-99	100-499
15F2400	1B1	2.50 x 2.25 x .65	1	7.07	6.07	5.39	4.72
15F2401	1B2	2.50 x 1.56 x .65	1	7.22	5.89	5.23	4.58
15F2402	1B3	2.50 x .94 x .65	1	7.36	6.32	5.61	4.91
15F2403	1B4	2.00 x 2.60 x .75	1	8.17	6.64	5.91	5.17
15F2404	1B5	2.00 x 1.85 x .75	1	8.28	7.11	6.31	5.52
15F2405	2B1	2.50 x 2.25 x .65	2	6.44	5.53	4.91	4.29
15F2406	2B2	2.50 x 1.56 x .65	2	6.50	5.58	4.96	4.34
15F2407	2B3	2.50 x .94 x .65	2	6.55	5.34	4.74	4.16
15F2408	2B4	2.00 x 2.50 x .75	2	7.38	6.34	5.63	4.92
15F2409	2B5	2.00 x 1.85 x .75	2	7.49	6.11	5.42	4.74
15F2410	3B1	2.50 x 2.60 x .75	3	7.38	6.34	5.63	4.92
15F2411	3B2	2.50 x 1.94 x .75	3	7.49	6.11	5.42	4.74
15F2412	3B3	2.50 x 1.31 x .75	3	7.75	6.65	5.91	5.17
15F2413	3B4	2.00 x 2.75 x .75	3	8.43	6.86	6.11	5.34
15F2414	3B5	2.00 x 2.06 x .75	3	8.58	7.37	6.55	5.72
15F2415	5B1	2.50 x 2.50 x .75	5	6.55	5.62	4.99	4.37
15F2416	5B2	2.50 x 1.94 x .75	5	6.77	5.51	4.90	4.29
15F2417	5B3	2.50 x 1.31 x .75	5	6.96	5.98	5.31	4.64
15F2418	5B4	2.00 x 2.75 x .75	5	7.64	6.56	5.83	5.09
15F2519	5B5	2.00 x 2.06 x .75	5	7.75	6.33	5.62	4.92
15F2420	10B1	2.50 x 2.60 x 1.13	10	7.23	6.20	5.51	4.82
15F2421	10B2	2.50 x 1.94 x 1.13	10	7.38	6.34	5.63	4.92
15F2422	10B3	2.50 x 1.31 x 1.13	10	7.49	6.43	5.71	4.99
15F2423	10B4	2.00 x 2.75 x 1.13	10	8.28	7.11	6.31	5.52
15F2424	10B5	2.00 x 2.16 x 1.13	10	8.43	6.86	6.11	5.34
15F2425	10B6	2.50 x 2.57 x 1.13	10	8.65	7.43	6.60	5.77
15F2426	20B1	2.78 x 3.35 x 1.13	20	11.89	10.21	9.07	7.92
15F2427	20B6	2.78 x 3.38 x 1.13	20	13.36	11.47	10.19	8.91
15F2428	30B6	4.12 x 5.13 x 1.50	30	23.80	19.65	17.52	15.35

SERIES K FILTERS WITH LINE-TO-LINE CAPACITORS

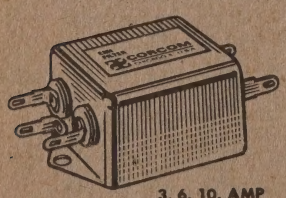
Similar to the B series. The K series EMI filters are particularly suited where pulsed, continuous and/ or intermittent RFI interference is present. They should be used where line to line interference protection is required. Recognized by UL. Case style no. is last 2 numbers of Type.

1 TO 30 AMPS; 115/250 VOLTS, 50-60 HZ AC

Stock No.	Type	Size LxWxH Inches	Max Line Amps	EACH 1-24	25-49	50-99	100-499
15F2429	1K1	2.78 x 3.13 x .875	1	8.28	6.67	6.03	5.43
15F2430	1K2	2.78 x 2.47 x .875	1	8.38	6.45	5.85	5.26
15F2431	1K3	2.78 x 1.81 x .875	1	8.51	6.55	5.94	5.34
15F2432	1K4	2.00 x 2.75 x .875	1	9.19	7.14	6.47	5.80
15F2433	1K5	2.00 x 2.06 x .875	1	9.29	7.24	6.56	5.87
15F2434	2K1	2.78 x 3.13 x .875	2	7.70	6.21	5.61	5.05
15F2435	2K2	2.78 x 2.47 x .875	2	7.77	5.90	5.37	4.83
15F2436	2K3	2.78 x 1.81 x .875	2	7.83	6.31	5.70	5.13
15F2437	2K4	2.00 x 2.75 x .875	2	8.50	6.55	5.94	5.34
15F2438	2K5	2.00 x 2.05 x .875	2	8.61	6.94	6.27	5.64
15F2439	3K1	2.78 x 3.13 x 1.13	3	8.50	6.86	6.19	5.57
15F2440	3K2	2.78 x 2.47 x 1.13	3	8.61	6.64	6.03	5.41
15F2441	3K3	2.78 x 1.81 x 1.13	3	8.84	7.12	6.43	5.79
15F2442	3K4	2.00 x 2.75 x 1.13	3	9.41	7.34	6.64	5.95
15F2443	3K5	2.00 x 2.06 x 1.13	3	9.52	7.44	6.73	6.03
15F2444	5K1	2.78 x 3.13 x 1.13	5	7.83	6.31	5.70	5.13
15F2445	5K2	2.78 x 2.47 x 1.13	5	7.99	6.09	5.54	4.98
15F2446	5K3	2.78 x 1.81 x 1.13	5	8.16	6.57	5.94	5.35
15F2447	5K4	2.00 x 2.75 x 1.13	5	8.73	7.04	6.36	5.72
15F2448	5K5	2.00 x 2.06 x 1.13	5	8.84	6.84	6.20	5.57
15F2449	10K1	2.78 x 3.38 x 1.13	10	8.38	6.76	6.10	5.49
15F2450	10K2	2.78 x 2.72 x 1.13	10	8.51	6.86	6.19	5.57
15F2451	10K3	2.78 x 2.06 x 1.13	10	8.61	6.64	6.03	5.41
15F2452	10K6	2.78 x 3.25 x 1.13	10	9.58	7.72	6.97	6.28
15F2453	20K1	3.32 x 3.38 x 1.50	20	12.73	10.57	9.50	8.42
15F2454	20K6	3.32 x 3.38 x 1.50	20	14.47	12.38	11.11	9.84
15F2455	30K6	4.12 x 5.13 x 1.50	30	25.30	21.68	19.45	17.17

THESE FILTERS ARE RECOGNIZED UNDER THE COMPONENTS PROGRAM OF UNDERWRITERS LABORATORIES, INC.

SERIES S, V and W FILTERS



3, 6, 10, AMP

20 AMP

The S, V and W series combine line-to-ground interference rejection filters with additional circuitry designed to reduce low freq. line-to-line noise and add a balanced N=3 ("PI") line-to-line filter with high rejection at low freq. to the N=2 ("L") and N=3 ("T") sections to eliminate line-to-ground noise. Particularly effective when applied in equipment using switching type power supplies, SCR and TTL circuits.

APPLICATION DATA

Corcom Filter Series	Line-to-Ground Z	Line-to-Line Z	For use when equip. impedance @ high freq. is:
S	N=2	N=3	High
V	N=3	N=3	Low
W	N=4	N=3	High

Stk. No.	Type	Max. Line Amps	Size LxWxH	1-24	25-49	50-99	100-499
15F2388	3S1	3	3.13 x 1.74 x 1.13	12.83	9.54	8.48	7.42
15F2389	6S1	6	3.13 x 1.75 x 1.13	11.99	8.91	7.92	6.93
15F2390	10S1	10	3.13 x 1.75 x 1.13	12.71	9.45	8.40	7.35
15F3391	20S1	20	5.01 x 3.31 x 1.50	28.68	21.33	18.96	16.59

Stk. No.	Type	Max. Line Amps.	Size LxWxH	1-24	25-49	50-99	100-499
15F2392	3V1	3	3.13 x 1.75 x 1.13	14.04	10.44	9.28	8.12
15F2393	6V1	6	3.13 x 1.75 x 1.13	13.20	9.81	8.72	7.63
15F2394	10V1	10	3.13 x 1.75 x 1.13	13.92	10.35	9.20	8.05
15F2395	20V1	20	5.01 x 3.31 x 1.50	29.89	22.23	19.76	17.29

Stk. No.	Type	Max. Line Amps	Size LxWxH	1-24	25-49	50-99	100-499
15F2396	3W1	3	3.13 x 1.75 x 1.13	15.25	11.34	10.08	8.82
15F2397	6W1	6	3.13 x 1.75 x 1.13	14.25	10.71	9.52	8.33
15F2398	10W1	10	3.13 x 1.75 x 1.13	15.13	11.25	10.00	8.75
15F2399	20W1	20	5.01 x 1.75 x 1.50	31.10	23.13	20.56	17.99

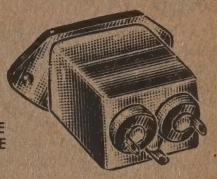
RFI Power Line Filters

SERIES EF INTERNATIONAL FILTERS

The EF International series of RFI power line filters incorporates the special IEC (International Electrotechnical Commission) power line connector. This connector has 4mm minimum pin spacing and complies with all current and proposed requirements for industrial and test equipment in the European market where a detachable power cord is part of the equipment design. The EF series features extremely low leakage current; meets IEC, BSI, VDE, CSA and ASA requirements for data processing. These international series filters are recognized by Underwriters Laboratories, Inc.

1 TO 6 AMPS; 115-250 VOLTS, 50-60 HZ AC

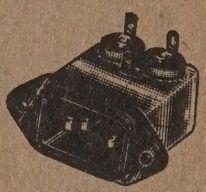
Stock No.	Type	Case Style	Size LxWxH Inches	Max. Line Current	EACH 1-24	25-49	50-99	100-499
15F2456	1EF1	E1	1.97 x 1.97 x .80	1 amp	9.79	7.92	6.99	6.05
15F2457	3EF1	E1	1.97 x 1.97 x .80	3 amp	9.24	7.48	6.59	5.71
15F2458	6EF1	E1	1.97 x 1.97 x .80	6 amp	8.69	7.03	6.20	5.37
15F2459	1EF2	E2	1.97 x 1.55 x 1.31	1 amp	9.79	7.92	6.99	6.05
15F2460	3EF2	E2	1.97 x 1.55 x 1.31	3 amp	9.24	7.48	6.59	5.71
15F2461	6EF2	E2	1.97 x 1.55 x 1.31	6 amp	8.69	7.03	6.20	5.37



CASE STYLE E1

SERIES R FILTERS

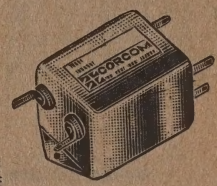
The R series dual T section RFI power line filters provide premium performance at moderate cost. They are well suited for low impedance loads where noisy RFI environments are present. At frequencies as low as 150 KHz the R series has an insertion loss as high as 45 DB. They control pulsed, continuous and/or intermittent interference insuring protection of your equipment from power line noise in addition to protecting the line from equipment noise. The R series is an ideal replacement for Pi type filters while incorporating the "value added" concept. Pi filters have used large capacitors to eliminate low frequency RFI, resulting in high line to ground leakage current. The R series dual T type provides extremely low leakage current without deterioration of insertion loss characteristics.



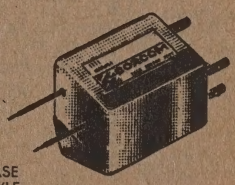
CASE STYLE E2

TWO "T" SECTIONS—1 TO 20 AMPS; 115/250 VOLTS, 50-60 HZ AC

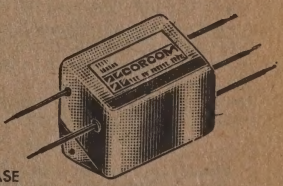
Stock No.	Type	Case Style	Size LxWxH Inches	Max. Line Current	EACH 1-24	25-49	50-99	100-499
15F2462	1R1	R1	3.38 x 1.75 x 1.13	1 amp	13.10	11.18	9.93	8.73
15F2463	1R2	R2	3.06 x 1.75 x 1.13	1 amp	13.25	10.78	9.58	8.38
15F2464	1R3	R3	2.75 x 1.75 x 1.13	1 amp	13.38	11.43	10.14	8.92
15F2465	2R1	R1	3.38 x 1.75 x 1.13	2 amp	12.44	10.62	9.43	8.29
15F2466	2R2	R2	3.06 x 1.75 x 1.13	2 amp	12.53	10.20	9.06	7.93
15F2467	2R3	R3	2.75 x 1.75 x 1.13	2 amp	12.57	10.24	9.10	7.98
15F2468	3R1	R1	3.88 x 2.00 x 1.13	3 amp	13.38	11.43	10.14	8.92
15F2469	3R2	R2	3.56 x 2.00 x 1.13	3 amp	13.51	11.00	9.78	8.56
15F2470	3R3	R3	3.32 x 2.00 x 1.13	3 amp	13.78	11.22	9.97	8.72
15F2471	5R1	R1	3.88 x 2.00 x 1.13	5 amp	12.57	10.73	9.53	8.38
15F2472	5R2	R2	3.56 x 2.00 x 1.13	5 amp	12.79	10.41	9.25	8.10
15F2473	5R3	R3	3.32 x 2.00 x 1.13	5 amp	12.96	10.56	9.39	8.22
15F2474	10R1	R1	3.88 x 2.00 x 1.50	10 amp	13.25	11.31	10.04	8.83
15F2475	10R2	R2	3.56 x 2.00 x 1.50	10 amp	13.38	10.89	9.68	8.47
15F2476	10R3	R3	3.32 x 2.00 x 1.50	10 amp	13.51	11.54	10.24	9.01
15F2477	10R6	R6	3.80 x 2.00 x 1.50	10 amp	14.65	12.51	11.11	9.77
15F2478	20R1	R1	3.88 x 2.00 x 1.50	20 amp	27.64	22.50	20.00	17.50
15F2479	20R6	R6	5.13 x 4.12 x 1.50	20 amp	29.04	24.89	22.09	19.43



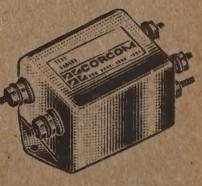
CASE STYLE R1



CASE STYLE R2

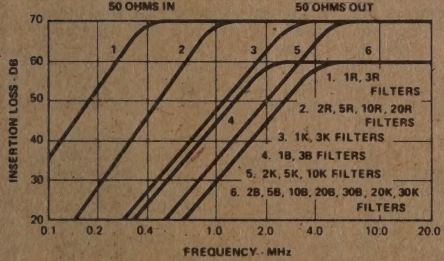


CASE STYLE R3

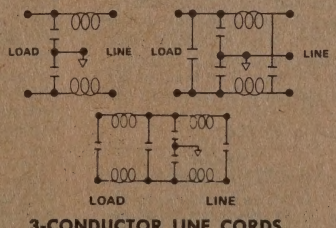


CASE STYLE R6

TYPICAL INSERTION LOSS VS FREQUENCY
TEST PER MIL STD. 220



FILTER ELECTRICAL SCHEMATICS



Specifications	B, K, & R Series	EF Series
Rated Voltage	115/250 VAC	115/250 VAC
Maximum leakage current, each line to ground @ 115/250 VAC 60 Hz	0.5 MA	0.25 MA
Capacitance line to ground	10,000 pF	5,000 pfd
Operating Frequency	50-400 Hz	50-400 Hz
High Pot Test	2,100 VDC	2,100 VDC

3-CONDUCTOR LINE CORDS

Type 80-1255. Mates with "B" and "K" filters.

15F2480. 1-49 ..... Each 2.86

50-Up ..... Each 2.29

Type 80-1245. Mates with EF International filters.

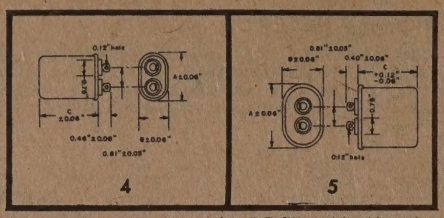
15F2481. 1-49 ..... Each 3.43

50-Up ..... Each 2.75

THESE FILTERS ARE RECOGNIZED UNDER THE COMPONENTS PROGRAM OF UNDERWRITERS LABORATORIES INC.

GENERAL ELECTRIC AC/DC Paper-Oil Capacitors

SERIES 23F GENERAL PURPOSE DC CAPACITORS

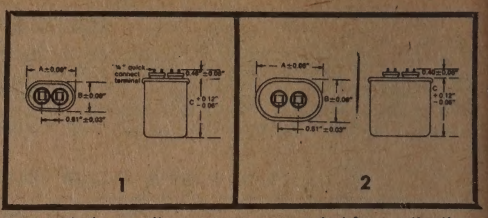


General purpose capacitors, designed for DC filter, blocking, bypassing, arc suppression in power supplies and other DC voltage circuit functions. Solder eyelet terminals are standard on 400V to 2000V ratings and screw terminals on 2500V and up. Temperature range −40 to +85°C with proper derating. Voltage ratings are @ 40°C. Capacitance tolerance ±10%. Can also be used for AC voltage applications. Miniature rectangular case has solder-dip finish.

Stock No.	Type	Cap. (μF)	DC Volts	Size (in.) *	Ht.	Fig.	Net Each 1-9	10-24	25-49	50-99
47F2500	23F1201	4.0	400	A	2.32	4	7.24	4.53	3.62	2.53
47F2501	23F1203	6.0	400	A	2.82	4	8.92	5.58	4.46	3.12
47F2502	23F1204	8.0	400	A	3.82	4	10.72	6.70	5.36	3.75
47F2503	23F1205	10.0	400	A	4.18	4	12.48	7.80	6.24	4.37
47F2504	23F1208	20.0	400	V	4.50	5	23.44	14.65	11.72	8.20
47F2505	23F1212	3.0	600	A	2.32	4	6.88	4.30	3.44	2.41
47F2506	23F1213	4.0	600	A	2.56	4	7.72	4.83	3.86	2.70
47F2507	23F1214	5.0	600	A	3.06	4	8.48	5.30	4.24	2.97
47F2508	23F1215	6.0	600	A	3.82	4	9.64	6.03	4.82	3.37
47F2509	23F1216	8.0	600	A	4.68	4	11.20	7.00	5.60	3.92
47F2510	23F1217	10.0	600	V	3.50	5	14.76	9.23	7.38	5.17
47F2511	23F1219	15.0	600	V	4.50	5	18.76	11.73	9.38	6.57
47F2512	23F1221	25.0	600	V	7.25	5	27.96	17.48	13.98	9.79
47F2513	23F1222	30.0	600	W	6.25	5	32.96	20.60	16.48	11.54
47F2514	23F1223	35.0	600	W	7.25	5	37.28	23.30	18.64	13.05
47F2515	23F1224	1.0	1000	A	1.68	4	5.32	3.33	2.66	1.86
47F2516	23F1225	2.0	1000	A	2.32	4	6.04	3.78	3.02	2.11
47F2517	23F1226	3.0	1000	A	3.06	4	7.00	4.38	3.50	2.45

*Base Size (in.): A, 2.16 x 1.31; B, 1.91; W, 3.66 x 1.97.

SERIES 26F ECONOL$_{TM}$ GENERAL PURPOSE AC CAPACITORS

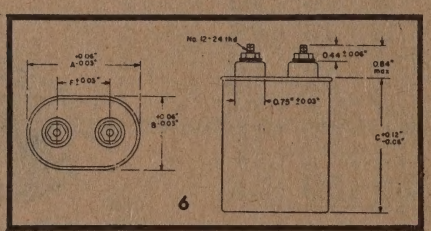


Econol impregnated capacitors are recommended for applications in areas where the use of polychlorinated biphenyls is undesirable or prohibited. Do not possess the nonflammable characteristic of Pyranol®; but the flash point, 218°C, is higher than of Pyranol, 170°C. Ratings are comparable with 45F Series equivalent ratings except in cases where 26F is a case size higher. Typical applications include motor run and power supplies.

Stock No.	Type	Cap. (μF)	AC Volts	Size (in.) *	Ht.	Fig.	Net Each 1-9	10-24	25-49	50-99
47F2518	26F1023	2.0	440	A	2.06	1	4.84	3.03	2.42	1.69
47F2519	26F1048	8.0	660	V	4.75	2	12.84	8.03	6.42	4.49
47F2520	26F1049	10.0	660	V	5.75	2	16.68	10.43	8.34	5.84
47F2521	26F1050	18.0	660	W	7.25	2	29.52	18.45	14.76	10.33
47F2522	26F1054	1.0	660	A	2.06	1	4.96	3.10	2.48	1.74
47F2523	26F1055	1.5	660	A	2.06	1	5.04	3.15	2.52	1.76
47F2524	26F1056	2.0	660	A	2.32	1	5.28	3.30	2.64	1.85
47F2525	26F1059	5.0	660	B	3.88	2	9.76	6.10	4.88	3.42
47F2526	26F1060	6.0	660	B	4.25	2	10.88	6.80	5.44	3.81
47F2527	26F1063	15.0	660	W	6.25	2	26.28	16.43	13.14	9.20
47F2528	26F1104	20.0	330	B	5.75	2	15.76	9.85	7.88	5.52
47F2529	26F1106	25.0	330	B	6.75	2	18.96	11.85	9.48	6.64
47F2530	26F1108	30.0	330	V	6.25	2	22.20	13.88	11.10	7.77
47F2531	26F1110	40.0	330	W	6.25	2	28.64	17.90	14.32	10.02
47F2532	26F1113	3.0	370	A	2.06	1	5.00	3.13	2.50	1.75
47F2533	26F1121	12.5	370	V	3.12	2	12.36	7.73	6.18	4.33
47F2534	26F1125	20.0	370	B	6.25	2	16.88	10.55	8.44	5.91
47F2535	26F1127	25.0	370	V	5.75	2	19.72	12.33	9.86	6.90

*Base Size (in.): A, 2.16 x 1.31; B, 1.91; W, 3.66 x 1.97.

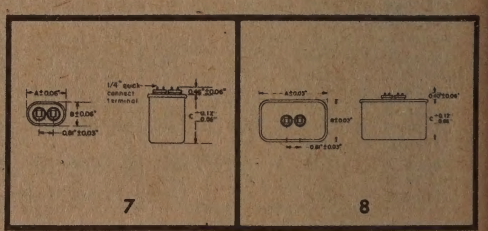
SERIES 28F SCR COMMUTATION CAPACITORS



Designed with extended-foil construction and heavy-duty parts to give the low inductance and minimum equivalent series resistance needed for SCR applications: high repetition rates and large peak currents which demand construction superior to that of standard DC and AC general purpose capacitors. All capacitors are painted gray to increase the emissivity of the case and to decrease the dielectric temperature rise.

Stock No.	Type	Cap. (μF)	DC Volts	Size (in.) *	Ht.	Fig.	Net Each 1-9	10-24	25-49	50-99
47F2536	28F1131FC	25.0	250	B	2.12	6	28.79	18.05	14.47	10.17
47F2537	28F1133FC	100.0	250	W	3.12	6	60.11	37.63	30.13	21.14
47F2538	28F5101FC	3.0	200	A	2.06	6	12.79	8.05	6.47	4.57
47F2539	28F5103FC	10.0	200	A	3.82	6	16.67	10.48	8.41	5.93
47F2540	28F5105FC	20.0	200	B	4.50	6	22.31	14.00	11.23	7.91
47F2541	28F5106FC	30.0	200	V	5.25	6	28.43	17.83	14.29	10.05
47F2542	28F5110FC	2.0	400	A	2.06	6	12.23	7.70	6.19	4.38
47F2543	28F5112FC	5.0	400	A	3.06	6	15.51	9.75	7.83	5.53
47F2544	28F5113FC	10.0	400	B	4.50	6	21.63	13.58	10.89	7.67
47F2545	28F5120FC	2.0	600	A	2.32	6	12.59	7.93	6.37	4.50
47F2305	28F5122FC	5.0	600	A	3.82	6	16.55	10.40	8.35	5.89
47F2306	28F5123FC	10.0	600	V	4.25	6	21.95	13.78	11.05	7.78
47F2546	28F5131FC	1.0	1000	A	2.06	6	11.71	7.38	5.93	4.20
47F2547	28F5132FC	2.0	1000	A	3.06	6	13.11	8.25	6.63	4.69
47F2548	28F5134FC	5.0	1000	B	4.25	6	18.59	11.68	9.37	6.60
47F2549	28F5141FC	0.5	1500	A	2.06	6	11.39	7.18	5.77	4.08
47F2550	28F5142FC	1.0	1500	A	3.06	6	13.11	8.25	6.63	4.69

SERIES 45F GENERAL PURPOSE AC CAPACITORS



Supersede entire G.E. Series 49F. Feature Pyranol® II, patented liquid impregnant that multiplies capacitor life and greatly increases reliability. By neutralizing the products of degradation that act on a capacitor's dielectric system, Pyranol II eliminates accelerated aging, provides up to five times the life expectancy of other units, and cuts early failures by a ratio of approximately 35:1. Generally used with AC motors and transformers in a variety of applications.

Stock No.	Type	Cap. (μF)	DC Volts	Size (in.) *	Ht.	Fig.	Net Each 1-9	10-24	25-49	50-99
47F2551	45F168	6.0	330	A	2.56	7	5.16	3.23	2.58	1.81
47F2552	47F2288	10.0	330	A	3.82	7	7.20	4.50	3.60	2.52
47F2553	45F171	20.0	330	V	4.25	8	13.36	8.35	6.68	4.68
47F2554	45F173	30.0	330	V	6.25	8	18.80	11.75	9.40	6.58
47F2555	45F270	2.0	370	A	2.06	7	3.92	2.45	1.96	1.37
47F2556	47F2289	3.0	370	A	2.06	7	4.20	2.63	2.10	1.47
47F2557	47F2290	4.0	370	A	2.06	7	4.72	2.95	2.36	1.65
47F2558	45F273	5.0	370	A	2.56	7	5.16	3.23	2.58	1.81
47F2559	47F2293	7.5	370	A	3.44	7	6.44	4.03	3.22	2.25
47F2560	47F2294	10.0	370	A	4.18	7	7.68	4.80	3.84	2.69
47F2561	47F2295	15.0	370	V	3.50	7	10.60	6.63	5.30	3.71
47F2562	45F336	5.0	440	A	3.44	7	5.68	3.55	2.84	1.99
47F2563	45F338	10.0	440	V	3.50	7	10.92	6.83	5.46	3.82
47F2564	45F354	7.5	440	A	4.68	7	8.12	5.08	4.06	2.84
47F2565	45F360	2.0	440	A	2.06	7	4.44	2.78	2.22	1.55
47F2566	47F2298	1.0	660	A	2.06	7	4.32	2.70	2.16	1.51
47F2567	47F2299	2.0	660	A	2.32	7	4.48	2.80	2.24	1.57

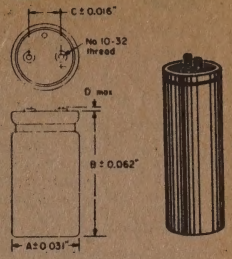
Computer Grade Capacitors General Electric

Case Code	Dim. In. A	B	C	Case Code	Dim. In. A	B	C	Case Code	Dim. In. A	B	C
BA	1.385	2.140	0.500	DE	1.760	4.140	0.750	GE	3.010	4.140	1.250
BC	1.385	3.140	0.500	EE	2.010	4.140	0.859	GH	3.010	5.640	1.250
BE	1.385	4.140	0.500	FE	2.510	4.140	1.125	GN	3.010	8.640	1.250

ALUMINUM HIGH-PERFORMANCE

Stk. No.	Type	WV DC	Cap. µF	Case Code	ESR Ohms	* A	1-9	10-24	25-49	50-99
47F2232	86F111M	10	12,000	BC	.075	8.3	5.01	3.89	2.89	2.23
47F2233	86F113M	10	29,000	DE	.037	15.3	7.41	5.76	4.28	3.29
47F2234	86F114M	10	39,000	EE	.035	16.8	8.82	6.86	5.10	3.92
47F2235	86F115M	10	66,000	FE	.021	24.3	12.61	9.80	7.29	5.60
47F2236	86F116M	10	100,000	GE	.020	27.3	17.41	13.53	10.06	7.73
47F2237	86F120M	15	9,200	BC	.081	8.0	4.91	3.82	2.84	2.18
47F2238	86F121M	15	13,800	BE	.054	11.3	5.72	4.45	3.30	2.55
47F2239	86F122M	15	22,000	DE	.041	14.6	7.21	5.60	4.16	3.21
47F2240	86F123M	15	31,000	EE	.036	16.6	8.82	6.86	5.10	3.92
47F2241	86F124M	15	51,000	FE	.022	23.8	12.42	9.64	7.18	5.52
47F2242	86F125M	15	76,000	GE	.020	27.3	16.91	13.13	9.77	7.51
47F2243	86F126M	15	110,000	GH	.016	30.0	23.03	17.89	13.31	10.23
47F2244	86F128M	20	3,600	BA	.16	4.7	4.19	3.26	2.43	1.86
47F2245	86F131M	20	17,500	DE	.042	14.4	7.88	6.13	4.55	3.50
47F2246	86F138M	25	5,800	BC	.090	7.6	5.04	3.92	2.91	2.24
47F2247	86F139M	25	8,700	BE	.060	10.7	5.93	4.60	3.43	2.63
47F2248	86F140M	25	14,000	DE	.044	14.1	7.54	5.86	4.36	3.35
47F2249	86F142M	25	32,000	FE	.024	22.8	13.02	10.12	7.52	5.79
47F2250	86F145M	25	115,000	GN	.012	30.0	38.25	29.70	22.10	16.98
47F2251	86F147M	30	5,200	BC	.092	7.5	5.11	3.97	2.95	2.27
47F2252	86F150M	30	17,000	EE	.040	15.8	9.31	7.23	5.38	4.13
47F2253	86F153M	30	64,000	GH	.017	30.0	26.03	20.22	15.04	11.56
47F2254	86F156M	40	4,000	BC	.097	7.3	5.49	4.26	3.17	2.44
47F2255	86F157M	40	6,000	BE	.065	10.3	6.29	4.89	3.64	2.80
47F2256	86F158M	40	9,400	DE	.046	13.8	7.71	5.99	4.46	3.43
47F2257	86F159M	40	12,900	EE	.040	15.8	9.20	7.14	5.38	4.09
47F2258	86F160M	40	21,500	FE	.038	18.1	12.78	9.93	7.39	5.69
47F2259	86F161M	40	32,000	GE	.022	26.0	17.18	13.34	9.93	7.63
47F2260	86F168M	50	9,300	EE	.047	14.5	9.23	7.18	5.34	4.10
47F2261	86F173M	75	950	BA	.25	3.7	4.47	3.47	2.59	1.99
47F2262	86F174M	75	1,900	BC	.13	5.4	5.38	4.18	3.11	2.39
47F2263	86F175M	75	2,800	BE	.089	8.8	6.19	4.81	3.57	2.76
47F2264	86F176M	75	4,500	DE	.057	12.4	7.82	6.07	4.52	3.47
47F2265	86F178M	75	10,400	FE	.045	16.6	13.33	10.35	7.70	5.92
47F2266	86F182M	100	470	BA	.51	2.6	4.13	3.21	2.39	1.83
47F2267	86F184M	100	1,400	BE	.17	6.3	5.93	4.60	3.43	2.63
47F2268	86F189M	100	11,600	GH	.029	26.5	25.26	19.62	14.59	11.22
47F2269	86F191M	150	300	BA	.78	2.1	4.24	3.29	2.45	1.88
47F2270	86F196M	150	3,300	FE	.085	9.5	12.72	9.87	7.34	5.65
47F2271	86F199M	150	11,900	GN	.026	30.0	37.06	29.82	21.41	16.46
47F2272	86F200M	200	220	BA	.88	2.0	4.88	3.78	2.82	2.17
47F2273	86F207M	200	5,400	GH	.055	19.2	28.50	22.14	16.47	12.66
47F2274	86F230M	350	1,900	GE	.11	11.6	23.64	18.36	13.65	10.50
47F2275	86F231M	350	2,900	GH	.078	16.2	33.95	26.36	19.61	15.08
47F2276	86F247M	450	1,900	GH	.11	13.6	40.58	31.50	23.44	18.02
47F2277	86F511M	10	18,000	BC	.053	9.7	5.85	4.55	3.39	2.60
47F2278	86F520M	15	15,000	BC	.058	9.3	5.96	4.62	3.44	2.65
47F2279	86F531M	20	27,000	DE	.044	14.2	10.39	8.07	6.00	4.61
47F2280	86F538M	25	9,000	BC	.076	8.4	6.02	4.68	3.48	2.68
47F2281	86F547M	30	8,000	BC	.081	7.9	6.09	4.73	3.52	2.70
47F2282	86F548M	30	12,000	BE	.066	10.4	7.51	5.83	4.34	3.33
47F2283	86F564M	50	2,400	BA	.146	4.8	4.83	3.76	2.80	2.15
47F2284	86F565M	50	4,900	BC	.103	7.1	6.43	4.99	3.71	2.86
47F2285	86F566M	50	7,300	BE	.085	9.1	7.98	6.20	4.61	3.54
47F2286	86F573M	75	1,400	BA	.193	4.2	4.91	3.82	2.84	2.18
47F2287	86F583M	100	1,700	BC	.175	5.5	6.46	5.02	3.73	2.87

Compared to older designs, can provide up to 70% more capacitance and 100% higher ripple current ratings for a given case size. Polymeric sleeve. In table, equivalent series resistance and maximum RMS ripple current (*) given at 120 Herz, 25°C. Proportionally good ripple ratings at higher temperatures. Developed to satisfy needs for highest possible microfarad values at voltages up to 100 volts. Ambient temperatures −40°C to +85°C. In dimension illustration, dimension D, .210" minimum.



HIGH-CAPACITY COMPUTER GRADE

Stk. No.	Type	VDC	Cap. µF	Case Code	ESR Ohms	* A	1-9	10-24	25-49	50-99
47F2568	86F106M	5	100,000	FE	.021	23.1	13.63	10.59	7.88	6.05
47F2569	86F107M	5	150,000	GE	.019	25.7	18.77	14.58	10.84	8.34
47F2570	86F108M	5	230,000	GH	.015	30.0	27.02	20.98	15.61	12.01
47F2571	86F109M	5	370,000	GN	.011	30.0	41.43	32.17	23.93	18.40
47F2572	86F127M	15	180,000	GN	.012	30.0	35.64	27.67	20.58	15.83
47F2573	86F129M	20	7,200	BC	.085	8.3	5.14	3.99	2.98	2.28
47F2574	86F130M	20	10,800	BE	.057	11.4	6.09	4.73	3.52	2.70
47F2575	86F132M	20	23,900	EE	.037	16.2	9.57	7.44	5.53	4.26
47F2576	86F133M	20	40,000	FE	.023	22.1	13.83	10.75	8.00	6.15
47F2577	86F134M	20	60,000	GE	.021	24.5	19.10	14.84	11.04	8.49
47F2578	86F135M	20	90,000	GH	.016	30.0	27.05	21.00	15.63	12.02
47F2579	86F136M	20	145,000	GN	.012	30.0	41.60	32.29	24.03	18.47
47F2580	86F144M	25	72,000	GH	.016	30.0	25.16	19.53	14.54	11.18
47F2581	86F169M	50	15,600	FE	.041	16.5	13.26	10.29	7.66	5.90
47F2582	86F170M	50	23,200	GE	.025	22.4	18.10	14.05	10.45	8.04
47F2583	86F171M	50	34,800	GH	.019	29.4	25.50	19.80	14.73	11.32
47F2584	86F172M	50	56,000	GN	.013	30.0	38.99	30.28	22.53	17.32
47F2585	86F221M	300	1,500	FE	.13	2.9	16.44	12.76	9.50	7.30
47F2586	86F512M	10	27,000	BE	.044	13.0	7.13	5.55	4.12	3.18
47F2587	86F513M	10	43,000	DE	.034	16.2	9.37	7.28	5.41	4.16
47F2588	86F514M	10	59,000	EE	.029	18.3	11.64	9.03	6.72	5.17
47F2589	86F515M	10	100,000	FE	.023	22.1	17.41	13.53	10.06	7.73
47F2590	86F516M	10	150,000	GE	.018	26.4	24.48	19.01	14.15	10.87
47F2591	86F517M	10	225,000	GH	.015	30.0	35.06	27.23	20.26	15.58
47F2592	86F518M	10	370,000	GN	.012	30.0	55.52	43.11	32.07	24.66
47F2593	86F521M	15	23,000	BE	.047	12.6	7.38	5.73	4.26	3.28
47F2594	86F522M	15	36,000	DE	.038	15.4	9.74	7.56	5.63	4.33
47F2595	86F523M	15	50,000	EE	.032	17.4	12.25	9.51	7.07	5.44
47F2596	86F524M	15	83,000	FE	.025	21.2	18.19	14.13	10.52	8.08
47F2597	86F525M	15	120,000	GE	.021	24.5	24.86	19.30	14.36	11.04
47F2598	86F526M	15	185,000	GH	.016	30.0	36.52	28.35	21.10	16.22
47F2599	86F527M	15	300,000	GN	.013	30.0	57.21	44.42	33.05	25.41
47F2600	86F532M	20	38,000	EE	.037	16.2	13.29	10.33	7.68	5.91
47F2601	86F533M	20	64,000	FE	.028	20.0	20.15	15.65	11.65	8.95
47F2602	86F534M	20	95,000	GE	.023	23.4	28.38	22.03	16.40	12.60
47F2603	86F535M	20	140,000	GH	.019	29.4	40.27	31.27	23.26	17.89
47F2604	86F536M	20	230,000	GN	.015	30.0	64.04	49.72	37.00	28.44
47F2605	86F539M	25	13,500	BE	.062	11.0	7.38	5.73	4.26	3.28
47F2606	86F540M	25	22,000	DE	.048	13.7	9.98	7.75	5.77	4.44
47F2607	86F541M	25	30,000	EE	.042	15.2	12.42	9.64	7.18	5.52
47F2608	86F549M	30	19,000	DE	.052	13.1	10.01	7.77	5.79	4.45
47F2609	86F550M	30	26,000	EE	.045	14.7	12.51	9.72	7.23	5.56
47F2610	86F551M	30	44,000	FE	.034	18.2	18.94	14.70	10.95	8.42
47F2611	86F560M	40	32,000	FE	.040	16.7	17.18	13.34	9.93	7.63

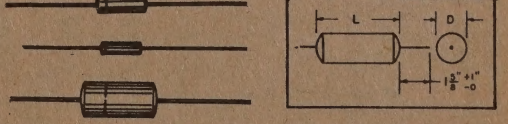
100 VDC

Stk. No.	Type	Cap. µF	Dia. x L. Inches	1-24	25-49	50-99	100-499
47F2213	61F10AA103	.010	.185x .450	.32	.24	.18	.14
47F2214	61F15AA153	.015	.188x .750	.32	.24	.18	.14
47F2215	61F15AA223	.022	.188x .750	.32	.24	.18	.14
47F2216	61F17AA333	.033	.219x .750	.33	.24	.19	.14
47F2217	61F19AA473	.047	.250x .750	.33	.25	.19	.15
47F2218	61F22AA683	.068	.265x .875	.35	.26	.20	.15
47F2219	61F24AA104	.10	.328x .875	.37	.27	.21	.16
47F2220	61F51AA105	1.00	.610x .159	.96	.70	.55	.42

200 VDC

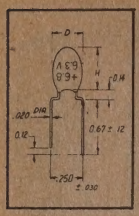
47F2221	61F10BA102	.011	.185x .450	.32	.24	.18	.14
47F2222	61F10BA152	.0015	.185x .450	.32	.24	.18	.14
47F2223	61F10BA222	.0022	.185x .450	.32	.24	.18	.14
47F2224	61F10BA472	.0047	.185x .450	.32	.24	.18	.14
47F2225	61F15BA103	.010	.188x .750	.32	.24	.18	.14
47F2226	61F19BA223	.022	.250x .750	.32	.24	.18	.14
47F2227	61F22BA333	.033	.265x .875	.33	.24	.19	.14
47F2228	61F23BA473	.047	.281x .875	.34	.25	.19	.15
47F2229	61F29BA104	.10	.375x1.09	.38	.28	.22	.17
47F2230	61F34BA154	.15	.436x1.09	.42	.31	.24	.18
47F2231	61F38BA224	.22	.436x1.25	.47	.34	.27	.20

TYPE 61F LECTROFILM®-B TUBULAR COMPUTER-GRADE CAPACITORS



Designed for computers, electronic instruments, communications equipment requiring reliability and long life. Temp. range −55°C to +125°C with proper voltage derating. Ratings 100 and 200 VDC at 85°C. Insulation resistance at 25°C 10,000 megohm-microfarads not to exceed 100,000 megohms, and at 85°C 1000 megohm-microfarads not to exceed 10,000 megohms. Dissipation factor less than 1%. ±10% tolerance.

TYPE TA-DIPPED SOLID TANTALUM CAPACITORS



Type TA epoxy-dipped solid tantalum capacitors are intended for industrial and commercial applications in moderate environments. They provide the recognized advantages inherent to solid tantalum pentoxide/manganese dioxide systems in an economical, non-metal case, radial lead configuration for printed circuit board mounting. The dipped epoxy case is highly resistant to moisture and mechanical damage.

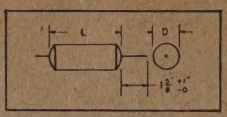
Suitable for continuous operation at 85° C, with voltage ratings from 3 WVDC through 35 WVDC. Capacitance tolerance 10%. Units are marked with capacitance, voltage, and polarity.

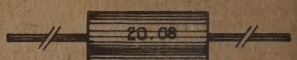
OUTLINE DIMENSIONS

Case size	Diameter D (Maximum) M. (mm)	Height H (Maximum) M. (mm)
1	0.177 (4.5)	0.276 (7.0)
2	0.197 (5.0)	0.295 (7.5)
3	0.217 (5.5)	0.315 (8.0)
4	0.217 (5.5)	0.335 (8.5)
5	0.217 (5.5)	0.354 (9.0)
6	0.256 (6.5)	0.374 (9.5)
7	0.276 (7.0)	0.394 (10.0)

Stock No.	Type	Cap. (μF)	Case Size	EACH 1-24	25-49	50-99	100-499
3 Volts D-C Working, 4 Volts D-C Surge							
48F245	TA01A106KB	10	1	.70	.53	.35	.28
48F246	TA02A156KB	15	2	.70	.53	.35	.28
48F247	TA03A226KB	22	3				
48F248	TA04A336KB	33	4	.80	.60	.40	.32
48F249	TA05A476KB	47	5				
48F250	TA06A686KB	68	6				
48F251	TA07A107KB	100	7	.81	.61	.41	.33
6.3 Volts D-C Working, 8 Volts D-C Surge							
48F252	TA02B685KB	6.8	2	.70	.53	.35	.28
48F253	TA03B106KB	10	3				
48F254	TA04B156KB	15	4	.80	.60	.40	.32
48F255	TA05B226KB	22	5				
48F256	TA06B336KB	33	6				
48F257	TA07B476KB	47	7	.81	.61	.41	.33
10 Volts D-C Working, 13 Volts D-C Surge							
48F258	TA02D475KB	4.7	2	.70	.53	.35	.28
48F259	TA03D685KB	6.8	3				
48F260	TA04D106KB	10	4	.80	.60	.40	.32
48F261	TA05D156KB	15	5				
48F262	TA06D226KB	22	6				
48F263	TA07D336KB	33	7	.81	.61	.41	.33
16 Volts D-C Working, 20 Volts D-C Surge							
48F264	TA02E335KB	3.3	2	.70	.53	.35	.28
48F265	TA03E475KB	4.7	3				
48F266	TA04E685KB	6.8	4	.80	.60	.40	.32
48F267	TA05E106KB	10	5				
48F268	TA06E156KB	15	6				
48F269	TA07E226KB	22	7	.81	.61	.41	.33
20 Volts D-C Working, 26 Volts D-C Surge							
48F270	TA02F225KB	2.2	2	.70	.53	.35	.28
48F271	TA03F335KB	3.3	3				
48F272	TA04F475KB	4.7	4	.80	.60	.40	.32
48F273	TA05F685KB	6.8	5				
48F274	TA06F106KB	10	6				
48F275	TA07F156KB	15	7	.81	.61	.41	.33
25 Volts D-C Working, 32 Volts D-C Surge							
48F276	TA01G155KB	1.5	1	.70	.53	.35	.28
48F277	TA02G225KB	2.2	2	.70	.53	.35	.28
48F278	TA03G335KB	3.3	3	.80	.60	.40	.32
48F279	TA04G475KB	4.7	4	.80	.60	.40	.32
48F280	TA05G685KB	6.8	5	.80	.60	.40	.32
48F281	TA06G106KB	10	6	.81	.61	.41	.33
35 Volts D-C Working, 46 Volts D-C Surge							
48F282	TA01H154KB	0.15	1				
48F283	TA01H224KB	0.22	1				
48F284	TA01H334KB	0.33	1	.70	.53	.35	.28
48F285	TA01H474KB	0.47	1				
48F286	TA01H684KB	0.68	1				
48F287	TA01H105KB	1.0	1				
48F288	TA02H155KB	1.5	2				
48F289	TA03H225KB	2.2	3	.80	.60	.40	.32
48F290	TA04H335KB	3.3	4				
48F291	TA05H475KB	4.7	5				
48F292	TA06H685KB	6.8	6	.81	.61	.41	.33
48F293	TA07H106KB	10.0	7	1.60	1.20	.80	.64

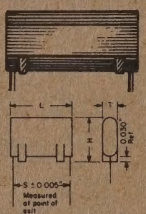
TYPE AE LECTROFILM-B TUBULAR CAPACITORS





For use where small size and high reliability at moderate cost is required. Special construction provides minimum size with excellent resistance to humidity, vibration and shock. Suffix indicates tolerance: J=±5%; K=±10%. Ratings at 85°C.

Stk. No.	Type	VDC	Cap. μF	Dim., Inches D x L	1-24	25-49	50-99	100-499
47F2308	AE12R222J	80	.0022	.153x.406	.56	.41	.32	.25
47F2309	AE12R332K	80	.0033	.153x.406	.42	.31	.24	.18
47F2310	AE12R472K	80	.0047	.153x.406	.42	.31	.24	.18
47F2311	AE13R103K	80	.010	.185x.450	.42	.31	.24	.18
47F2312	AE15R153K	80	.015	.185x.530	.45	.33	.26	.20
47F2313	AE15R223K	80	.022	.185x.530	.46	.34	.26	.20
47F2314	AE17R473K	80	.047	.229x.594	.50	.37	.29	.22
47F2315	AE17R104K	80	.10	.315x.594	.58	.42	.33	.25
47F2316	AE12C102J	200	.0010	.153x.406	.47	.35	.27	.21
47F2317	AE12C102K	200	.0010	.153x.406	.35	.26	.20	.15
47F2318	AE12C152J	200	.0015	.153x.406	.47	.35	.27	.21
47F2319	AE12C152K	200	.0015	.153x.406	.35	.26	.20	.15
47F2320	AE12C222K	200	.0022	.185x.406	.35	.26	.20	.15
47F2321	AE12C332K	200	.0033	.185x.450	.35	.26	.20	.15
47F2322	AE13C472J	200	.0047	.185x.450	.47	.35	.27	.21
47F2323	AE13C472K	200	.0047	.185x.450	.35	.26	.20	.15
47F2324	AE13C103J	200	.010	.185x.450	.47	.35	.27	.21
47F2325	AE13C103K	200	.010	.185x.450	.35	.26	.20	.15
47F2328	AE17C223J	200	.022	.229x.594	.52	.39	.30	.23
47F2329	AE17C223K	200	.022	.229x.594	.39	.29	.22	.17
47F2330	AE17C473J	200	.047	.315x.594	.58	.43	.33	.26
47F2331	AE17C473K	200	.047	.315x.594	.43	.32	.25	.19
47F2332	AE22C104J	200	.10	.328x.719	.69	.51	.40	.30
47F2333	AE22C104K	200	.10	.328x.719	.52	.38	.30	.23



TYPE 75F FILM CAPACITORS

"Black Hawk" film capacitor features rugged epoxy molded case with mounting feet and radial leads for PC board mount. Voltage ratings at 85°C. Tolerance ±10%.

Stk. No.	Type	VDC	Cap. μF	Dim., In. H x L	1-24	25-49	50-99	100-499
47F2334	75F1R5A102	50	.0010	.471x .500				
47F2335	75F1R5A222	50	.0022	.471x .500				
47F2336	75F1R5A472	50	.0047	.471x .500				
47F2337	75F1R5A103	50	.010	.471x .500	.30	.22	.17	.13
47F2338	75F1R5A223	50	.022	.471x .500				
47F2339	75F1R5A333	50	.033	.471x .500				
47F2340	75F1R5A473	50	.047	.471x .500				
47F2341	75F1R5A563	50	.056	.471x .500				
47F2342	75F3R5A683	50	.068	.475x .800				
47F2343	75F3R5A104	50	.10	.475x .800	.38	.28	.22	.17
47F2344	75F3R5A154	50	.15	.475x .800				
47F2345	75F4R5A224	50	.22	.531x .800	.54	.39	.31	.23
47F2346	75F4R5A334	50	.33	.531x .800	.54	.39	.31	.23
47F2347	75F6R5A474	50	.47	.569x1.130	.76	.56	.43	.33
47F2348	75F6R5A684	50	.68	.569x1.130	.76	.56	.43	.33
47F2349	75F7R5A105	50	1.00	.732x1.130	1.20	.88	.68	.52
47F2350	75F1R1A102	100	.001	.471x .500				
47F2351	75F1R1A103	100	.010	.471x .500	.30	.22	.17	.13
47F2352	75F1R1A223	100	.022	.471x .500				
47F2353	75F3R1A473	100	.047	.475x .800	.35	.26	.20	.15
47F2354	75F3R1A104	100	.10	.475x .800				
47F2355	75F1R2A102	200	.0010	.471x .500				
47F2356	75F1R2A222	200	.0022	.471x .500				
47F2357	75F1R2A472	200	.0047	.471x .500	.30	.22	.17	.13
47F2358	75F1R2A103	200	.010	.471x .500				
47F2359	75F1R2A223	200	.022	.471x .500				
47F2360	75F3R2A473	200	.047	.475x .800				
47F2361	75F3R2A683	200	.068	.475x .800	.35	.26	.20	.15
47F2362	75F3R2A104	200	.10	.475x .800				
47F2363	75F6R2A224	200	.22	.569x1.130	.55	.40	.31	.24
47F2364	75F6R2A334	200	.33	.569x1.130	.55	.40	.31	.24
47F2365	75F7R2A474	200	.47	.732x1.130	.77	.57	.44	.34

EASY INDEX TO SWITCHES

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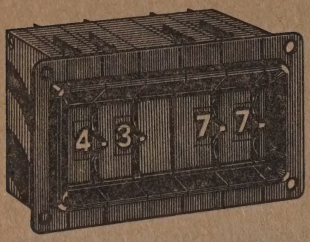
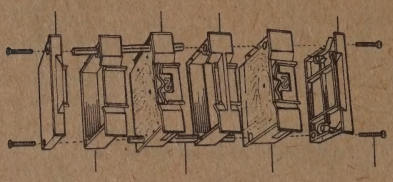
IMLEC Thumbwheel and High Density Switches





For industrial uses where adverse conditions are not usually encountered. More functions in smaller panel space than old wafer switches. Current: 0.5 amp per switch. Volt; 200 V, max. power of 24 watts w/12 watt energized output. Res; 1000 megohms. Contact res. 0.10 ohm. Life; 1,000,000 detent operations.

MINIATURE SWITCH — REAR MOUNT

Miniature switches used where panel space restrictions are a problem. Edge operated and have white characters on a black background. Miniature switch face is .960" high; single switch occupies 0.500" width and extends 1.52" from rear of panel. Av. shpg. wt., ½ oz.

Stock No.	Type	Description	1-24	25-99
39F3295	MR-12	10 pos. decimal	3.10	2.95
39F3297	MR-21	10 pos. BCD	2.95	2.81
39F3298	MR-21A	10 pos. BCD extended board.	3.45	3.28
39F3299	MR-22	10 pos. BCD plus complements.	4.55	4.33
39F3300	MR-22A	10 pos. BCD plus complements & extended board.	5.25	4.99
39F3303	MR-EP	End Plates (pair)	.65	.62
39F3302	MR-BB	Blank body	.55	.53
39F3301	MR-DP	Divider plate	.55	.53

SUBMINIATURE SWITCH — FRONT MOUNT

Slim thumbwheel used for high panel packing. White characters on blk. background. 1¼" high x .312" wide x 1¾" dp. Shpg. wt., ½ oz.

Stock No.	Type	Description	1-24	25-99
39F3304	MF-12	10 pos. decimal	3.25	3.09
39F3305	MF-21	10 pos. BCD	2.70	2.57
39F3306	MF-21A	10 pos. BCD extended board.	3.15	3.00
39F3307	MF-22	10 pos. BCD plus complements.	4.45	4.23
39F3308	MF-22A	10 pos. BCD plus complements, ext. board.	5.30	5.04
39F3311	MF-EP	End Plates (pair)	.90	.86
39F3310	MF-BB	Blank body	.45	.43
39F3309	MF-DP	Divider Plate	1.45	1.38

INTERMEDIATE SWITCH — REAR MOUNT

Module mounts from rear. End plates have mounting screw holes pre-drilled. Large white numerals on black background. Face height 1.350" (panel cutout approx. 1.355"). Width is .500" and extends 2.080" from rear. Wt., 1 oz.

Stock No.	Type	Description	1-24	25-99
39F3268	IR-12	10 pos. decimal	4.70	4.47
39F3270	IR-21	10 pos. BCD	3.40	3.23
39F3271	IR-21A	10 pos. BCD extended board	4.10	3.90
39F3272	IR-22	10 pos. BCD plus complements	6.75	6.42
39F3273	IR-22A	10 pos. BCD plus complements & extended board	7.95	7.56
39F3276	IR-EP	End plates (pair)	.75	.72
39F3275	IR-BB	Blank body	.75	.72
39F3323	IR-DP	Divider plate	.55	.53
39F3257	IR-HB	Half body	.55	.53

INTERMEDIATE SWITCH — FRONT MOUNT

Mounts from front of panel with clips requiring no mounting hardware. Large white numerals on black background. Face height (including flange) is 2.125", requires panel cutout 1.925" high. Switch is .500" wide and extends 1.824" from front of panel. Wt. 1 oz.

Stock No.	Type	Description	1-24	25-99
39F3259	IF-12	10 pos. decimal	4.70	4.47
39F3261	IF-21	10 pos. BCD	3.40	3.23
39F3262	IF-21A	10 pos. BCD extended board	4.10	3.90
39F3263	IF-22	10 pos. BCD plus complements	6.75	6.42
39F3264	IF-22A	10 pos. BCD plus complements & extended board	7.95	7.56
39F3267	IF-EP	End plates (pair)	1.35	1.29
39F3313	IF-BB	Blank body	.75	.72
39F3312	IF-DP	Divider plate	.55	.53
39F3258	IF-HB	Half body	.55	.53

ASSEMBLY HARDWARE FOR MF TYPE

Each package contains two threaded rods cut to correct length and two nuts for quick assembly. *Indicates number of switch modules that can be assembled.

Stock No.	Mfr's. Type	*	Stock No.	Mfr's. Type	*	Stock No.	Mfr's. Type	*
39F3314	MFH-1	1	39F3317	MFH-4	4	39F3320	MFH-7	7
39F3315	MFH-2	2	39F3318	MFH-5	5	39F3321	MFH-8	8
39F3316	MFH-3	3	39F3319	MFH-6	6	39F3322	MFH-9	9

1-24	25-49	100-249	250-499
1.25	1.19	1.13	1.06

ASSEMBLY HARDWARE FOR MR, IF AND IR TYPES

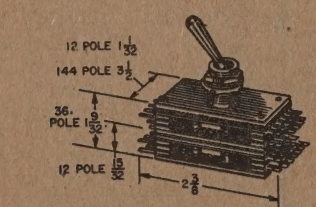
Package contains two hollow threaded rods cut to correct length and four screws. *In table indicates number of modules that can be assembled.

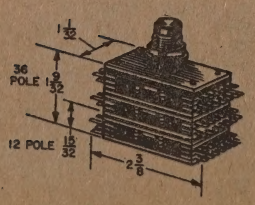
Stock No.	Mfr's. Type	*	Stock No.	Mfr's. Type	*	Stock No.	Mfr's. Type	*
39F3277	IH-1	1	39F3280	IH-4	4	39F3283	IH-7	7
39F3278	IH-2	2	39F3281	IH-5	5	39F3284	IH-8	8
39F3279	IH-3	3	39F3282	IH-6	6	39F3285	IH-9	9

1-24	25-99	100-249	250-499
.75	.72	.68	.64

T-Bar SWITCHES FOR MULTIPOLE, HI-DENSITY SWITCHING

Designed especially for general purpose and 10 level man. switching. Capability of switching up to 72 circuits at one time. Toggle and pushbutton switches mate with snap-on, crimp type T-Bar connectors. (See Index under T-Bar relays.)





SWITCH SPECIFICATIONS

Contacts: Series 800—general purpose gold plated; Series 900—low-level bifurcated gold plated. Contact Rating: Series 800—5 amps max., resistive to 150 watts; Series 900—1 amp max. resistive to 50 watts. Life Expectancy: Series 800—50,000 cycles; Series 900—50,000 cycles at 20 CPM. Contact Resistance: 20 milliohms typical. Ambient Temp.: —55°C to +85°C. Terminals: Mate with T-Bar Connectors. Dielectric Strength: 1000 VRMS @ 60 cycles/sec. Insulation: 5000 megohms min.

SERIES 803 PUSHBUTTON SWITCHES

Button travel, .07". Switches from 4 to 36 circuits. Electrically same as 802.

Stk. No.	Type	Action	1-24	25-49	50-74
59F732	803- 4C	4PDT	9.00	8.55	8.15
59F733	803- 8C	8PDT	12.00	11.40	10.85
59F734	803-12C	12PDT	13.55	12.85	12.25
59F737	803-24C	24PDT	28.90	27.45	26.10
59F740	803-36C	36PDT	40.90	38.85	36.95

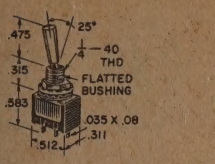
SERIES 802/902 TOGGLE SWITCHES

All types are double throw (Form C). Switch from 8 to 72 circuits simultaneously. For lo-level applications (less than 1 amp), specify the new 902 bifurcated series. For general purpose, hi-current applications, use 802 series. The 8, 12, 24 and 36 pole units are single stacks. The 48 and 72 pole units are double stacks.

Stock No.	Type No.	Pole Units	1-24	25-49	50-74
59F728	802- 8C	8	17.30	16.45	15.60
59F726	802-12C	12	19.10	18.15	17.25
59F729	802-24C	24	37.30	35.45	33.70
59F731	802-36C	36	52.10	49.50	47.05
59F744	802-48C	48	72.80	69.15	65.75
59F746	802-72C	72	109.65	104.15	99.00
23F1160	902- 8C	8	17.30	16.45	15.60
23F1161	902-12C	12	19.10	18.15	17.25
23F1162	902-24C	24	37.30	35.45	33.70
23F1163	902-36C	36	52.10	49.50	47.05
23F1164	902-48C	48	72.80	69.15	65.75
23F1165	902-72C	72	109.65	104.15	99.00

Cutler-Hammer Miniature Toggle Switches

SUB-MINIATURE STANDARD



SPDT DPDT

"Cricket" sub-miniature toggle switches and watertight switches both have the same basic specs. as switches at right. Circuit ON-ON-ON allows SP3T and DP3T with only a single external jumper. (*)Momentary.

SPDT

Stock No.	Type	Circuit	1-24	25-99	100-499	500-999
57F3600	SF21SBW191	ON-OFF-ON	2.07	1.39	1.24	1.04
57F3601	SF21SCW191	ON-ON	1.76	1.18	1.06	.88
57F3602	SF21SFW191	ON-OFF-ON*	2.07	1.39	1.24	1.04
57F3603	SF21SGW191	ON-ON*	2.07	1.39	1.24	1.04
57F3604	SF21SHW191	*ON-OFF-ON*	2.07	1.39	1.24	1.04
29F2529	SF22STW191	ON-ON-ON	3.03	2.03	1.82	1.52

DPDT

Stock No.	Type	Circuit	1-24	25-99	100-499	500-999
57F3605	SF22SBW191	ON-OFF-ON	2.73	1.83	1.64	1.37
57F3606	SF22SCW191	ON-ON	2.29	1.53	1.37	1.15
57F3607	SF22SFW191	ON-OFF-ON*	2.73	1.83	1.64	1.37
57F3608	SF22SGW191	ON-ON*	2.73	1.83	1.64	1.37
57F3609	SF22SHW191	*ON-OFF-ON*	2.73	1.83	1.64	1.37

3PDT

Stock No.	Type	Circuit	1-24	25-99	100-499	500-999
57F3610	SF23SBW191	ON-OFF-ON	4.16	2.79	2.50	2.08
57F3611	SF23SCW191	ON-ON	3.91	2.62	2.35	1.96
57F3612	SF23SFW191	ON-OFF-ON*	4.16	2.79	2.50	2.08
57F3613	SF23SGW191	ON-ON*	4.16	2.79	2.50	2.08
57F3614	SF23SHW191	*ON-OFF-ON*	4.16	2.79	2.50	2.08
29F2530	SF24STW191	ON-ON-ON	6.14	4.11	3.68	3.07

4PDT

Stock No.	Type	Circuit	1-24	25-99	100-499	500-999
57F3615	SF24SBW191	ON-OFF-ON	5.39	3.61	3.23	2.70
57F3616	SF24SCW191	ON-ON	4.90	3.28	2.94	2.45
57F3617	SF24SFW191	ON-OFF-ON*	5.39	3.61	3.23	2.70
57F3618	SF24SGW191	ON-ON*	5.39	3.61	3.23	2.70
57F3619	SF24SHW191	*ON-OFF-ON*	5.39	3.61	3.23	2.70

SUB-MINIATURE WATERTIGHT

SPDT

Stock No.	Type	Circuit	1-24	25-99	100-499	500-999
57F3628	SF21WBW191	ON-OFF-ON	2.55	1.71	1.53	1.28
57F3629	SF21WCW191	ON-ON	2.10	1.41	1.26	1.05

DPDT

Stock No.	Type	Circuit	1-24	25-99	100-499	500-999
57F3620	SF22WBW191	ON-OFF-ON	3.25	2.18	1.95	1.63
57F3630	SF22WCW191	ON-ON	2.65	1.78	1.59	1.33

3PDT

Stock No.	Type	Circuit	1-24	25-99	100-499	500-999
29F2549	SF23WBW191	ON-OFF-ON	4.75	3.18	2.85	2.38
29F2550	SF23WCW191	ON-ON	4.35	2.92	2.61	2.18

4PDT

Stock No.	Type	Circuit	1-24	25-99	100-499	500-999
57F3632	SF24WBW191	ON-OFF-ON	5.95	3.99	3.57	2.98
57F3633	SF24WCW191	ON-ON	5.35	3.59	3.21	2.68

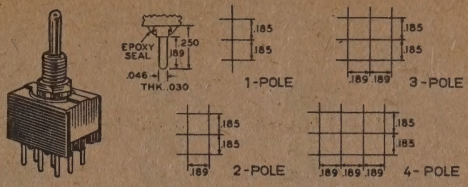
DECORATIVE LEVER CAPS

**Round †Flat

These plastic lever caps just slip onto the plain handle of a sub-miniature switch.
(**) Round top cap. (†) Flat top cap.

Stk. No.	Type	Color	1-24	25-99	100-499	500-999
29F2212	SW49AA1**	White	.04	.03	.03	.02
29F2213	SW49AA2**	Red				
29F2214	SW49AA3**	Black				
29F2215	SW49AA4**	Blue				
29F2216	SW49AA5**	Yellow				
29F2217	SW49AA6**	Green				
67F1661	SW49AA31†	White	.04	.03	.03	.02
67F1662	SW49AA32†	Red				
67F1663	SW49AA33†	Black				
67F1664	SW49AA34†	Blue				

SUB-MINIATURE PRINTED CIRCUIT



"Cricket" printed circuit switches are similar to switches at left but they have terminals made for a printed circuit board instead of solder terminals. The contacts are silver plated and rated for 6 Amps at 125 VAC and 28 VDC. Slow-make slow-break contacts. Molded high insulation resin base resists soldering temperatures and humidity to help prevent arcing. (*)—Momentary.

SPDT

Stock No.	Type	Circuit	1-24	25-99	100-499	500-999
29F2531	SF21SBW691	ON-OFF-ON	2.17	1.45	1.30	1.09
29F2532	SF21SCW691	ON-ON	1.86	1.25	1.12	.93
29F2533	SF21SFW691	ON-OFF-ON*	2.17	1.45	1.30	1.09
29F2534	SF21SGW691	ON-ON*	2.17	1.45	1.30	1.09
29F2535	SF21SHW691	*ON-OFF-ON*	2.17	1.45	1.30	1.09
29F2541	SF22STW691	ON-ON-ON	3.23	2.16	1.94	1.62

DPDT

Stock No.	Type	Circuit	1-24	25-99	100-499	500-999
29F2536	SF22SBW691	ON-OFF-ON	2.93	1.96	1.76	1.47
29F2537	SF22SCW691	ON-ON	2.49	1.67	1.49	1.25
29F2538	SF22SFW691	ON-OFF-ON*	2.93	1.96	1.76	1.47
29F2539	SF22SGW691	ON-ON*	2.93	1.96	1.76	1.47
29F2540	SF22SHW691	*ON-OFF-ON*	2.93	1.96	1.76	1.47

3PDT

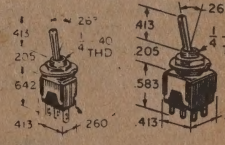
Stock No.	Type	Circuit	1-24	25-99	100-499	500-999
29F2542	SF23SBW691	ON-OFF-ON	4.46	2.99	2.68	2.23
29F2543	SF23SCW691	ON-ON	4.21	2.82	2.53	2.11
29F2544	SF23SGW691	ON-ON*	4.46	2.99	2.68	2.23
29F2545	SF23SHW691	*ON-OFF-ON*	4.46	2.99	2.68	2.23
29F2548	SF24STW691	ON-ON-ON	6.54	4.38	3.92	3.27

4PDT

Stock No.	Type	Circuit	1-24	25-99	100-499	500-999
29F2546	SF24SBW691	ON-OFF-ON	6.91	4.63	4.15	3.46
29F2547	SF24SCW691	ON-ON	5.30	3.55	3.18	2.65

ULTRA MINIATURE TOGGLE SWITCHES

3-amp contact rating at 125 VAC and 28 VDC. ¼" cadmium plated brass bushing designed for one hole mounting. Silver contacts with an initial resistance of only 0.010 ohms maximum. Polyestal case is partially jacketed in steel. Solder lug terminals.
(*)—Momentary



Stock No.	Type	No. of Poles	Circuit	1-24	25-99	100-499	500-999
67F1681	SF11SBT191	1	On-Off-On	1.88	1.26	1.13	.94
67F1682	SF11SCT191	1	On-On	1.60	1.07	.96	.80
67F1683	SF11SFT191	1	On-Off-On*	1.88	1.26	1.13	.94
67F1684	SF11SGT191	1	On-On*	1.88	1.26	1.13	.94
67F1685	SF11SHT191	1	On*-Off-On*	1.88	1.26	1.13	.94
67F1686	SF12SBT191	2	On-Off-On	2.48	1.66	1.49	1.24
67F1687	SF12SCT191	2	On-On	2.08	1.39	1.25	1.04
67F1688	SF12SFT191	2	On-Off-On*	2.48	1.66	1.49	1.24
67F1689	SF12SGT191	2	On-On	2.48	1.66	1.49	1.24
67F1690	SF12SHT191	2	On*-Off-On*	2.48	1.66	1.49	1.24

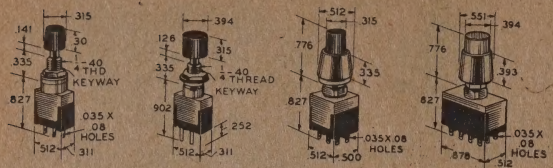
MOUNTING PARTS AND ACCESSORIES

All parts are for one hole mounting switches, threaded for ¼-40 bushing. All are circular in shape unless noted. Locking ring has a tab for a keyway. ‡Sold in packages of 100 only.

Stock No.	Type	Description	PK 100 NET‡
29F2551	SW15AA2	Hex Facenut and Locknut	6.00
29F2552	SW15AA3	Knurled Capnut	15.00
29F2553	SW15AA4	Knurled Facenut	18.00
29F2554	15-994	Panel Dress Nut (Blind Thread)	24.00
29F2555	SW15AA13	Panel Dress Nut (B. T. with Flats)	18.00
29F2556	SW15AA14	Decorative Dress Nut with Flats	18.00
29F2557	SW16AA4	Internal Tooth Lockwasher	4.00
29F2558	SW29AA1	Locking Ring	5.00
29F2559	SW32AA1	Water Seal "O" Ring	19.00
29F2560	SW1LN5030	Waterproof Boot	131.00

Cutler-Hammer Miniature Switches

SUB-MINIATURE LEVER-LOCK SWITCHES

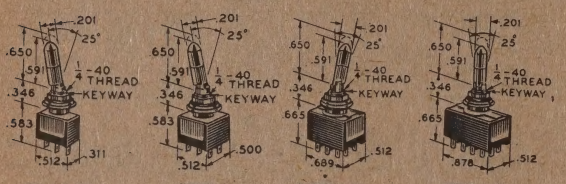


1 Pole 2 Pole 3 Pole 4 Pole

These "Cricket" switches feature a self locking lever mechanism designed to aid in preventing accidental operation. In order to move the switch, the spring loaded lever must be pulled away from the bushing. Silver contacts are rated for 6 Amps at 125 VAC and 28 VDC. Mounting hardware included. Suffix -7 in type number indicate Silver lever, available in (-2) Red, (-3) Black, (-4) Blue, (-5)Gold, (-6) Green on special order.

Stock No.	Type	Circuit	No. Poles	1-24	25-99	100-499	500-999
67F1740	SF21LBW181-7	ON-OFF-ON	1	3.30	2.21	1.98	1.65
67F1746	SF21LCW171-7	ON-ON	1	3.00	2.01	1.80	1.50
67F1752	SF22LBW181-7	ON-OFF-ON	2	4.05	2.71	2.43	2.03
67F1758	SF22LCW171-7	ON-ON	2	3.50	2.35	2.10	1.75
67F1764	SF23LBW181-7	ON-OFF-ON	3	5.50	3.69	3.30	2.75
67F1770	SF23LCW171-7	ON-ON	3	5.20	3.48	3.12	2.60
67F1776	SF24LBW181-7	ON-OFF-ON	4	6.90	4.62	4.14	3.45
67F1782	SF24LCW171-7	ON-ON	4	6.25	4.19	3.75	3.13

SUB-MINIATURE PUSHBUTTON SWITCHES



Standard 5PDT SPDT DPDT with ptional Bezel 4PDT with Optional Bezel

"Cricket" series sub-miniature pushbutton switches in three styles: standard and watertight solder lug, printed circuit mount. Silver contacts rated for 6 Amps at 125 VAC and 28 VDC. Pre-travel approx. .105", over-travel approx. .030". Hardware included. Caps for the switch must be ordered separately—listed separately on this page.

STANDARD SOLDER LUG

Stock No.	Type	No. Poles	Operation	1-24	25-99	100-499	500-999
57F3634	SA41SDW1	1	Momentary	2.32	1.55	1.39	1.16
57F3635	SA41SEW1	1	Push-Push	2.32	1.55	1.39	1.16
57F3636	SA42SDW1	2	Momentary	3.22	2.16	1.93	1.61
57F3637	SA42SEW1	2	Push-Push	3.22	2.16	1.93	1.61
57F3638	SA44SDW1	4	Momentary	5.35	3.59	3.21	2.68
57F3639	SA44SEW1	4	Push-Push	5.35	3.59	3.21	2.68

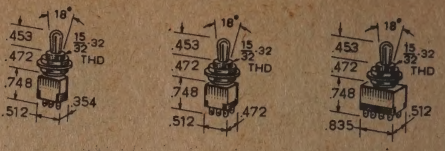
WATERTIGHT SOLDER LUG

Stock No.	Type	No. Poles	Operation	1-24	25-99	100-499	500-999
57F3644	SA41WDW1	1	Momentary	2.62	1.76	1.57	1.31
57F3645	SA41WEW1	1	Push-Push	2.62	1.76	1.57	1.31
57F3646	SA42WDW1	2	Momentary	3.50	2.35	2.10	1.75
57F3647	SA42WEW1	2	Push-Push	3.50	2.35	2.10	1.75
57F3648	SA44WDW1	4	Momentary	5.85	3.92	3.51	2.93
57F3649	SA44WEW1	4	Push-Push	5.85	3.92	3.51	2.93

PRINTED CIRCUIT TERMINALS

Stock No.	Type	No. of Poles	Operation	1-24	25-99	100-499	500-999
67F1783	SA41SDW6	1	Momentary	2.42	1.62	1.45	1.21
67F1784	SA41SEW6	1	Push-Push	2.42	1.62	1.45	1.21
67F1785	SA42SDW6	2	Momentary	3.40	2.28	2.04	1.70
67F1786	SA42SEW6	2	Push-Push	3.42	2.29	2.05	1.71
67F1787	SA44SDW6	4	Momentary	5.75	3.85	3.45	2.88
67F1788	SA44SEW6	4	Push-Push	5.75	3.85	3.45	2.88

MINIATURE LARGE LEVER SWITCHES



1 Pole 2 Pole 4 Pole

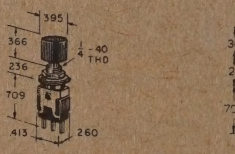
Behind-the-panel space saving feature of Standard Miniature Toggle with front-of-panel appearance of regular size switches. .453 inch high lever and 15/32 inch bushing diameter. Mounting hardware, consisting of hexagon locknut and hexagon facenut, furnished unassembled.

Stock No.	Type	No. of Poles	Circuit	1-24	25-99	100-499	500-999
29F2258	SF1GBX191	1	ON-OFF-ON	2.75	1.84	1.65	1.38
29F2259	SF1GCY191	1	ON-ON	2.15	1.44	1.29	1.08
29F2260	SF2GBX191	2	ON-OFF-ON	3.35	2.25	2.01	1.68
29F2261	SF2GCY191	2	ON-ON	2.75	1.84	1.65	1.38
29F2262	SF3GBX191	3	ON-OFF-ON	4.98	3.34	2.99	2.49
29F2263	SF3GCY191	3	ON-ON	4.45	2.99	2.67	2.23
29F2264	SF4GBX191	4	ON-OFF-ON	6.15	4.12	3.69	3.08
29F2265	SF4GCY191	4	ON-ON	5.55	3.72	3.33	2.78

DECORATIVE LEVER CAP

Stk. No.	Type	Color	1-24	25-99	100-499	500-999
67F1665	SW49AA11	White	.06	.04	.04	.03
67F1666	SW49AA12	Red				
67F1667	SW49AA13	Black				
67F1668	SW49AA14	Blue				
67F1669	SW49AA15	Yellow				
67F1670	SW49AA16	Green				

ULTRA-MINIATURE PUSHBUTTON SWITCHES



Solder 1 Pole Solder 2 Pole

Rectangular base. ¼" cadmium plated brass bushing designed for one hole mounting. Rated 3 Amps @ 125 VAC and 28 VDC. Polyestal case partially jacketed in steel. Solder lug terminals. **Cap must be ordered separately, .315" or .395" diameter. See Below.**

Stock No.	Type	No. of Poles	Circuit	1-24	25-99	100-499	500-999
67F1705	SA31SDT1	1	Momentary	2.32	1.55	1.39	1.16
67F1706	SA31SET1	1	Push-Push	2.32	1.55	1.39	1.16
67F1707	SA32SDT1	2	Momentary	3.22	2.16	1.93	1.61
67F1708	SA32SET1	2	Pusn-Push	3.22	2.16	1.93	1.61

SLIP-ON BUTTONS

Large Small

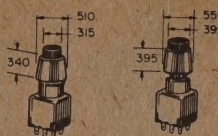
Slip-on caps for use with "Cricket" series pushbutton switches. These caps must be ordered separately from the switch.

Stock No.	Type	Size D x H	Color	EACH 1-24	25-99	100-499	500-999
57F3650	SW53AA147		White	.10	.07	.06	.05
57F3651	SW53AA148	.300"	Red	.10	.07	.06	.05
57F3652	SW53AA149	X	Black	.10	.07	.06	.05
57F3653	SW53AA150	.315"	Blue	.10	.07	.06	.05
57F3654	SW53AA151		Yellow	.10	.07	.06	.05
57F3655	SW53AA152		Green	.10	.07	.06	.05
57F3656	SW53AA153		White	.10	.07	.06	.05
57F3657	SW53AA154	.315"	Red	.10	.07	.06	.05
57F3658	SW53AA155	X	Black	.10	.07	.06	.05
57F3659	SW53AA156	.394"	Blue	.10	.07	.06	.05
57F3660	SW53AA157		Yellow	.10	.07	.06	.05
57F3661	SW53AA158		Green	.10	.07	.06	.05

Cutler-Hammer Miniature Pushbutton and SHALLCROSS Rotaries

PUSHBUTTON DECORATIVE BEZELS

Decorative mounting bezel for ¼ inch bushing switches. Bright nickel plated. Bezels slip over pushbuttons providing an attractive front-of-panel appearance. Also serve as button shroud. SW2AA10 .335" high, .512" outside diameter. SW2AA37. .393" high, .551" outside diameter.

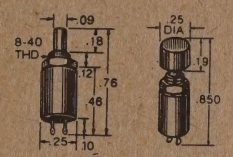


Switch with SW2AA10 — Switch with SW2AA37

Stock No.	Type	Button Diameter	1-24	25-99	100-499	500-999
67F1699	SW2AA10	.315"	.35	.24	.21	.18
67F1700	SW2AA37	.394"	.50	.34	.30	.25

ULTRA-ULTRA-MINIATURE PUSHBUTTON SWITCHES

Round base. Rated .750 Amps, 125 VAC with normally open contacts; .50 Amps, 125 VAC with normally closed contacts. Gold plated contacts. Nickel plated brass case. Thermosetting plastic base. Molded nylon operator button and button cap. Terminal to terminal and terminal to case voltage breakdown rating of 1000 VAC.



Stock No.	Type	Button Color	Normal Circuit	1-24	25-99	100-499	500-999
41F574	SA1RV20	Red	NO	1.15	.78	.69	.58
41F575	SA1BV20	Black	NO	1.15	.78	.69	.58
41F576	SA1RW20	Red	NC	1.15	.78	.69	.58
41F577	SA1BW20	Black	NC	1.15	.78	.69	.58

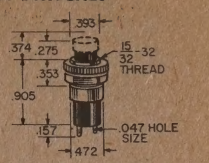
OPTIONAL SLIP-ON CAPS

These optional caps slip onto the ultra-ultra-miniature switches listed above. Round cap instead of the button type shaft on the switch.

Stock No.	Type	Button Color	1-24	25-99	100-499	500-999
41F578	SW53AA1	Red	.13	.09	.08	.07
41F579	SW53AA2	Black	.13	.09	.08	.07
41F580	SW53AA3	Dark Blue	.13	.09	.08	.07
67F1709	SW53AA4	Light Blue	.13	.09	.08	.07
41F581	SW53AA5	Dark Green	.13	.09	.08	.07
67F1710	SW53AA6	Light Green	.13	.09	.08	.07
67F1711	SW53AA7	Pink	.13	.09	.08	.07
67F1712	SW53AA8	Grey	.13	.09	.08	.07
41F582	SW53AA9	White	.13	.09	.08	.07
41F583	SW53AA10	Yellow	.13	.09	.08	.07

ROUND BASE PUSHBUTTON SWITCHES

These miniature switches feature low operating force, less than 2 lbs. Contact rated for 3 Amps at 125 VAC and 28 VDC. 15/32" dia. bushing with .328" round black operating button, optional cap below. Mounting hardware includes hexagon facenut and knurled facenut. Solder lug terminals.



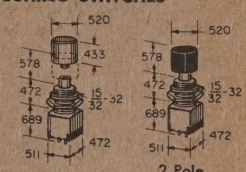
Stock No.	Type	Operation	1-24	25-99	100-499	500-999
67F1789	SA25SAT1	N.O. Momentary	1.35	.91	.81	.68
67F1790	SA25SBT1	N.C. Momentary	1.35	.91	.81	.68
67F1791	SA25SCT1	Push On-Push Off	1.65	1.11	.99	.83

ACCESSORY ROUND BASE CAPS

Stock No.	Type	Color	1-24	25-99	100-499	500-999
67F1792	SW53AA31	White	.09	.06	.06	.05
67F1793	SW53AA32	Red				
67F1794	SW53AA33	Black				
67F1795	SW53AA34	Blue				
67F1796	SW53AA35	Yellow				
67F1797	SW53AA36	Green				
67F1798	SW53AA37	Amber				
67F1799	SW53AA38	Gray				

MINIATURE LARGE BUSHING SWITCHES

Same as Standard line except 15/32" bushing diameter and .520" diameter plastic operator caps. Combine behind-the-panel space saving features of Standard line with front-of-panel appearance of regular full size switch. Mounting hardware furnished unassembled. **Screw on caps must be ordered below, .520" diameter.**



2 Pole

Stock No.	Type	No. of Poles	Circuit	1-24	25-99	100-499	500-999
67F1695	SA21GDX1	1	Momentary	2.60	1.75	1.56	1.30
67F1696	SA21GEX1	1	Push-Push	2.60	1.75	1.56	1.30
67F1697	SA22GDX1	2	Momentary	3.50	2.35	2.10	1.75
67F1698	SA22GEX1	2	Push-Push	3.50	2.35	2.10	1.75

SCREW-ON CAPS

Stock No.	Type	Color	1-24	25-99	100-499	500-999
67F1726	SW53AA81	White	.15	.10	.09	.08
67F1727	SW53AA82	Red				
67F1728	SW53AA83	Black				
67F1729	SW53AA84	Blue				
67F1730	SW53AA85	Yellow				
67F1731	SW53AA86	Green				
67F1732	SW53AA87	Amber				
67F1733	SW53AA88	Gray				

SHALLCROSS ROTARY SWITCHES

SERIES 1-1 INCH WAFER

SHORTING TYPE

Stock No.	Type	No. of Positions	Total Poles	No. of Decks	1-9	10-24	25-49	50-99
23F1007	1J04A6-2	2-6	2	2	10.36	8.81	7.77	6.74

NON-SHORTING TYPE

23F1015	1J54A6-1	2-6	1	1	7.73	6.57	5.80	5.03
23F1016	1J54A6-2	2-6	2	2	10.36	8.81	7.77	6.74

SERIES 2-1¾ INCH DECK

SHORTING TYPE

23F1027	2E00A24-1	2-24	1	1	17.95	15.26	13.46	11.67

NON-SHORTING TYPE

23F1052	2J68A3-2	2-3	8	2	30.39	25.83	22.79	19.75
23F1048	2J56A6-1	2-6	2	1	18.33	15.58	13.75	11.92
23F1049	2J56A6-2	2-6	4	2	26.80	22.78	20.10	17.42
23F1050	2J56A6-3	2-6	6	3	35.39	30.08	26.54	23.00
23F1045	2J50A12-1	2-12	1	1	17.95	15.26	13.46	11.67
23F1046	2J50A12-2	2-12	2	2	25.64	21.79	19.23	16.67
23F1036	2H50A16-1	2-16	1	1	17.95	15.26	13.46	11.67
23F1037	2H50A16-2	2-16	2	2	25.64	21.79	19.23	16.67
23F1038	2H50A16-3	2-16	3	3	35.00	29.75	26.25	22.75

SERIES 4-2½ INCH DECK

NON-SHORTING TYPE

23F1063	4E50A24-1	2-24	1	1	27.57	23.44	20.68	17.92
23F1064	4E50A24-2	2-24	2	2	39.37	33.47	29.53	25.59
23F1065	4E50A24-3	2-24	3	3	51.03	43.38	38.27	33.17

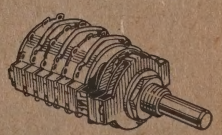
Shallcross precision rotary switches have solid silver alloy contacts, built to MIL-S-3786 specs. All switches have 5/16" diameter bushing, 1" long shaft and fully adjustable stops. Indexing angle: 12 pos. 30°; 16 pos. 22.5°; 24 pos. 15°. Temp. range: −65 to +125°C. Minimum breakdown voltage is 800V-60 Hz, between contacts. Initial contact resistance is .0025 ohm.

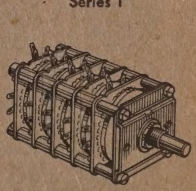
Electrical Ratings

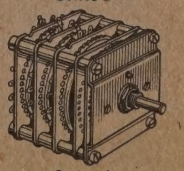
Series 1: Enclosed contacts 25°C, 25000 cycles. Resistive load: 115 VAC-350 mA; 28 VDC-1 A. Inductive load; 28 VDC-100 mA.

Series 2: 30 VDC-1 A, 50000 cycles; 30 VDC-4 A, 10000 cycles; 120 VAC-2 A, 250 10000 cycles; 250 VAC-100 mA, 50000 cycles.

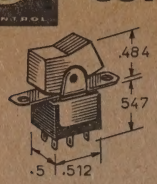
Series 4: 30 VDC-1 A, 50000 cycles; 30 VDC-4 A, 5000 cycles; 120 VAC-250 mA, 50000 cycles; 120 VAC-2 A, 5000 cycles.


Series 1

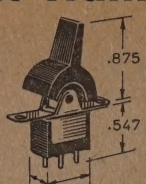

Series 2


Series 4

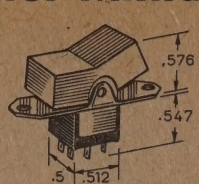
Cutler Hammer Miniature Rockette® Switches



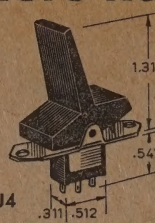
J1



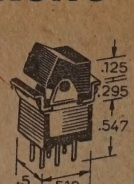
J2



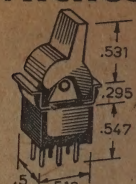
J3



J4



J50



J60

"CRICKET" SUB-MINIATURE ROCKETTE® SWITCHES

These compact sub-miniature "Cricket" rocker switches are offered with flat frames for sub panel mounting or as a snap-in mounting type. Both, the paddle and low profile, rocker operated switches employ a slow make—slow break contact mechanism similar to that featured in the standard size Rockette® line. Two sizes of low profile and two sizes of paddle rockers are offered in the flat frame series. The snap-in series has a low profile and a paddle rocker (Style J50 and J60). The rockers come in three standard colors, white, red and black. All switches utilize solder lug terminals. The contacts are rated for 6 Amperes at 125 VAC and 28 VDC.

SPDT (ON-OFF-ON)

Stock No.	Type	Rocker Style	Rocker Color	1-24	25-99	100-499	500-999
29F2300	SC21JBW159-1	J1	White	2.40	1.61	1.44	1.20
29F2301	SC21JBW159-2	J1	Red	2.40	1.61	1.44	1.20
29F2302	SC21JBW159-3	J1	Black	2.40	1.61	1.44	1.20
29F2303	SC21JBW152-1	J2	White	2.40	1.61	1.44	1.20
29F2304	SC21JBW152-2	J2	Red	2.40	1.61	1.44	1.20
29F2305	SC21JBW152-3	J2	Black	2.40	1.61	1.44	1.20
29F2306	SC21EBW153-1	J3	White	2.40	1.61	1.44	1.20
29F2307	SC21EBW153-2	J3	Red	2.40	1.61	1.44	1.20
29F2308	SC21EBW153-3	J3	Black	2.40	1.61	1.44	1.20
29F2309	SC21EBW154-1	J4	White	2.40	1.61	1.44	1.20
29F2310	SC21EBW154-2	J4	Red	2.40	1.61	1.44	1.20
29F2311	SC21EBW154-3	J4	Black	2.40	1.61	1.44	1.20
29F2312	SC21ABW159-1	J50	White	2.40	1.61	1.44	1.20
29F2313	SC21ABW159-2	J50	Red	2.40	1.61	1.44	1.20
29F2314	SC21ABW159-3	J50	Black	2.40	1.61	1.44	1.20
29F2315	SC21ABW152-1	J60	White	2.40	1.61	1.44	1.20
29F2316	SC21ABW152-2	J60	Red	2.40	1.61	1.44	1.20
29F2317	SC21ABW152-3	J60	Black	2.40	1.61	1.44	1.20

DPDT (ON-OFF-ON)

Stock No.	Type	Rocker Style	Rocker Color	1-24	25-99	100-499	500-999
29F2336	SC22JBW159-1	J1	White	3.05	2.05	1.83	1.53
29F2337	SC22JBW159-2	J1	Red	3.05	2.05	1.83	1.53
29F2338	SC22JBW159-3	J1	Black	3.05	2.05	1.83	1.53
29F2339	SC22JBW152-1	J2	White	3.05	2.05	1.83	1.53
29F2340	SC22JBW152-2	J2	Red	3.05	2.05	1.83	1.53
29F2341	SC22JBW152-3	J2	Black	3.05	2.05	1.83	1.53
29F2342	SC22EBW153-1	J3	White	3.05	2.05	1.83	1.53
29F2343	SC22EBW153-2	J3	Red	3.05	2.05	1.83	1.53
29F2344	SC22EBW153-3	J3	Black	3.05	2.05	1.83	1.53
29F2345	SC22EBW154-1	J4	White	3.05	2.05	1.83	1.53
29F2346	SC22EBW154-2	J4	Red	3.05	2.05	1.83	1.53
29F2347	SC22EBW154-3	J4	Black	3.05	2.05	1.83	1.53
29F2348	SC22ABW159-1	J50	White	3.05	2.05	1.83	1.53
29F2349	SC22ABW159-2	J50	Red	3.05	2.05	1.83	1.53
29F2350	SC22ABW159-3	J50	Black	3.05	2.05	1.83	1.53
29F2351	SC22ABW152-1	J60	White	3.05	2.05	1.83	1.53
29F2352	SC22ABW152-2	J60	Red	3.05	2.05	1.83	1.53
29F2353	SC22ABW152-3	J60	Black	3.05	2.05	1.83	1.53

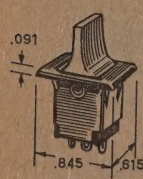
SPDT (ON-ON)

29F2318	SC21JCW159-1	J1	White	2.10	1.41	1.26	1.05
29F2319	SC21JCW159-2	J1	Red	2.10	1.41	1.26	1.05
29F2320	SC21JCW159-3	J1	Black	2.10	1.41	1.26	1.05
29F2321	SC21JCW152-1	J2	White	2.10	1.41	1.26	1.05
29F2322	SC21JCW152-2	J2	Red	2.10	1.41	1.26	1.05
29F2323	SC21JCW152-3	J2	Black	2.10	1.41	1.26	1.05
29F2324	SC21ECW153-1	J3	White	2.10	1.41	1.26	1.05
29F2325	SC21ECW153-2	J3	Red	2.10	1.41	1.26	1.05
29F2326	SC21ECW153-3	J3	Black	2.10	1.41	1.26	1.05
29F2327	SC21ECW154-1	J4	White	2.10	1.41	1.26	1.05
29F2328	SC21ECW154-2	J4	Red	2.10	1.41	1.26	1.05
29F2329	SC21ECW154-3	J4	Black	2.10	1.41	1.26	1.05
29F2330	SC21ACW159-1	J50	White	2.10	1.41	1.26	1.05
29F2331	SC21ACW159-2	J50	Red	2.10	1.41	1.26	1.05
29F2332	SC21ACW159-3	J50	Black	2.10	1.41	1.26	1.05
29F2333	SC21ACW152-1	J60	White	2.10	1.41	1.26	1.05
29F2334	SC21ACW152-2	J60	Red	2.10	1.41	1.26	1.05
29F2335	SC21ACW152-2	J60	Black	2.10	1.41	1.26	1.05

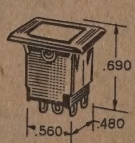
DPDT (ON-ON)

29F2354	SC22JCW159-1	J1	White	2.70	1.81	1.62	1.35
29F2355	SC22JCW159-2	J1	Red	2.70	1.81	1.62	1.35
29F2356	SC22JCW159-3	J1	Black	2.70	1.81	1.62	1.35
29F2357	SC22JCW152-1	J2	White	2.70	1.81	1.62	1.35
29F2358	SC22JCW152-2	J2	Red	2.70	1.81	1.62	1.35
29F2359	SC22JCW152-3	J2	Black	2.70	1.81	1.62	1.35
29F2360	SC22ECW153-1	J3	White	2.70	1.81	1.62	1.35
29F2361	SCSSECW153-2	J3	Red	2.70	1.81	1.62	1.35
29F2362	SC22ECW153-3	J3	White	2.70	1.81	1.62	1.35
29F2363	SC22ECW154-1	J4	White	2.70	1.81	1.62	1.35
29F2364	SC22ECW154-2	J4	Red	2.70	1.81	1.62	1.35
29F2365	SC22ECW154-3	J4	Black	2.70	1.81	1.62	1.35
29F2366	SC22ACW159-1	J50	White	2.70	1.81	1.62	1.35
29F2367	SC22ACW159-2	J50	Red	2.70	1.81	1.62	1.35
29F2368	SC22ACW159-3	J50	Black	2.70	1.81	1.62	1.35
29F2369	SC22ACW152-1	J60	White	2.70	1.81	1.62	1.35
29F2370	SC22ACW152-2	J60	Red	2.70	1.81	1.62	1.35
29F2371	SC22ACW152-3	J60	Black	2.70	1.81	1.62	1.35

MINIATURE SNAP-IN ROCKETTE® PADDLE OR ROCKER SWITCHES

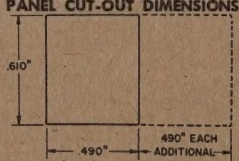


PADDLE



ROCKER

PANEL CUT-OUT DIMENSIONS



Recommended Panel Thickness .040-.120". Spacing Does Not Include Bezel.

Ultra compact snap-in mounted paddle operated switches employ slow-make, slow-break contact with substantial current carrying capability. Designed for AC and low voltage DC (up to 28V) circuits. Rated 5A at 125VAC or 28 VDC. Mounts in .040-.120" thick panel with bezel. All switches have solder lug type terminals. Decorative nylon bezels snap over metal mounting ears of switch. Available in four colors. Factory assembled. Basic switch, paddle color, and bezel color may all be intermixed to satisfy your particular requirements. Price listed is for complete unit.

Combine Three Codes (Ten Alpha Numeric Digits) for Complete Stock Number

BASIC SWITCH

Circuit	NO. of Poles	Code
On-Off-On	1	SC3BX1
On-On	1	SC3CX1
On-Off-On*	1	SC3FX1
On-On*	1	SC3GX1
On-Off-On	1	SC3HX1
On-Off-On	2	SC4BX1
On-On	2	SC4CX1
On-Off-On*	2	SC4FX1
On-On*	2	SC4GX1
On-Off-On	2	SC4HX1

+

Color	Paddle Code	Rocker Code
White	81	91
Red	82	92
	OR	
Black	85	95
Gray	88	98

+

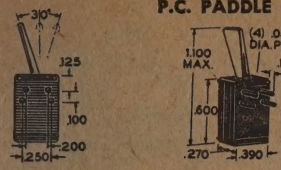
Bezel Color	Bezel Code
White	—91
Red	—92
Black	—96
Gray	—95

PRICING TABLE

Basic Switch	1-24	25-99	100-499	500-999
SC3BX1	2.30	1.55	1.38	1.15
SC3CX1	2.10	1.41	1.26	1.05
SC3FX1	2.30	1.55	1.38	1.15
SC3GX1	2.30	1.55	1.38	1.15
SC3HX1	2.30	1.55	1.38	1.15
SC4BX1	2.92	1.96	1.76	1.46
SC4CX1	2.50	1.68	1.50	1.25
SC4FX1	2.92	1.96	1.76	1.46
SC4GX1	2.92	1.96	1.76	1.46
SC4HX1	2.92	1.96	1.76	1.46

Cutler-Hammer Miniature PC Switches

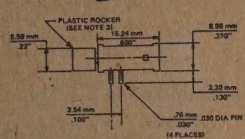
P.C. PADDLE SWITCH

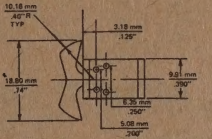


Unusually compact, ideal for sub-chassis/interlock circuits and front panel applications where space is a premium. Two circuit, single pole design, gold plated contacts are rated for 1 Amp at 12 VDC; .5 Amp at 28 VDC and 125 VAC. Contact resistance is .025 ohms max. Temp. range −20°C to ±70°C. 1000V rms dielectric. Red paddles with black molded plastic switch bases. (*) Momentary contact.

Stock No.	Type	Circuit A-B-C	1-24	25-99	100-499	500-999
29F2500	SF6TBX392	ON-OFF-ON	1.04	.94	.86	.78
29F2501	SF6TCX392	ON-NONE-ON				
29F2502	SF6TFX392	ON-OFF-ON*				
29F2503	SF6TAX392	*ON-OFF-ON				
29F2504	SF6THX392	*ON-OFF-ON*				
29F2505	SF6TGX392	ON-NONE-ON*				
29F2506	SF6TEX392	*ON-NONE-ON*				

P.C. ROCKER SWITCHES

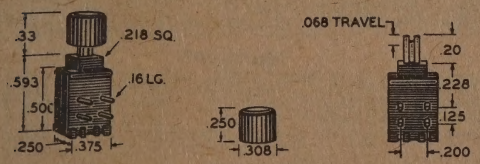




Same as above switches but with a rocker instead of a paddle. (*) Momentary Contact.

Stock No.	Type	Circuit A-B-C	1-24	25-99	100-499	500-999
29F2372	SC6TBX392	ON-OFF-ON	1.04	.94	.86	.78
29F2373	SC6TCX392	ON-NONE-ON				
29F2374	SC6TFX392	ON-OFF-ON*				
29F2375	SC6TAX392	*NO-OFF-ON				
29F2376	SC6THX392	*ON-OFF-ON*				
29F2377	SC6TGX392	ON-NONE-ON*				
29F2378	SC6TEX392	*ON-NONE-ON				

P.C. PUSHBUTTON SWITCH

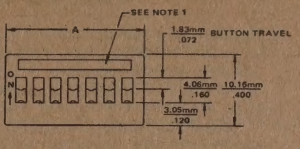


These sub-miniature pushbutton switches mount to printed circuit boards without hardware. Same basic switch type as above, but a pushbutton instead of a rocker or paddle.

Stock No.	Type	Description	1-24	25-99	100-499	500-999
29F2507	SA27TDX39-2	Momentary-Red	1.61	1.48	1.37	1.27
29F2508	SA27TDX39-3	Momentary-Black				
29F2509	SA27TEX39-2	Push & Turn-Red				
29F2510	SA27TEX39-3	Push & Turn-Black				

Make NEWARK Your One Stop Source For All Your Electronic Components And Accessories

PC/DIP SWITCHES

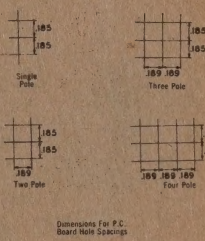


These are multi-station SPST slide switches in a low profile (.3" max) DIP package. Gold plated nickel contacts are rated for 100 mA at 5 VDC and 25 mA at 25 VDC. Positive detent gives tactile response. .10 ohm max. resistance and 10,000 operations from 0°C to 70°C. White nylon button in a med. green glass filled polyester base. 500 VAC dielectric. UL recognized.

Stock No.	Type	No. of Stations	Dim. A In.	Dim. A mm	1-9	10-24	25-49	50-99
29F2379	SE2AV591-2	2	.280	7.11	2.05	1.87	1.72	1.54
29F2380	SE2AV591-3	3	.380	9.65	2.20	2.02	1.85	1.65
29F2381	SE2AV591-4	4	.480	12.19	2.35	2.16	1.97	1.76
29F2382	SE2AV591-5	5	.580	14.73	2.50	2.30	2.10	1.86
29F2383	SE2AV591-6	6	.680	17.27	2.65	2.44	2.23	1.99
29F2384	SE2AV591-7	7	.780	19.81	2.75	2.53	2.31	2.06
29F2385	SE2AV591-8	8	.880	22.35	2.90	2.67	2.44	2.18
29F2386	SE2AV591-9	9	.980	24.89	3.05	2.81	2.56	2.29
29F2387	SE2AV591-10	10	1.080	27.43	3.15	2.90	2.65	2.36

P.C. TOGGLE SWITCHES

"Cricket" series printed circuit mount subminiature toggle switches. Silver contacts are rated for 6 Amps at 125 VAC and 28 VDC. Molded high insulation resin base resists soldering temperatures, humidity and arc tracking. Optional slip-on color caps available. (*) Momentary contact.



SPDT

Stock No.	Type	Circuit	1-24	25-99	100-499	500-999
29F2531	SF21SBW691	ON-OFF-ON	2.17	1.46	1.31	1.09
29F2532	SF21SCW691	ON-ON	1.86	1.25	1.12	.93
29F2533	SF21SFW691	ON-OFF-ON*	2.17	1.46	1.31	1.09
29F2534	SF21SGW691	ON-ON*	2.17	1.46	1.31	1.09
29F2535	SF21SHW691	*ON-OFF-ON*	2.17	1.46	1.31	1.09
29F2541	SF22STW691	ON-ON-ON	3.23	2.17	1.94	1.62

DPDT

Stock No.	Type	Circuit	1-24	25-99	100-499	500-999
29F2536	SF22SBW691	ON-OFF-ON	2.93	1.97	1.76	1.47
29F2537	SF22SCW691	ON-ON	2.49	1.67	1.50	1.25
29F2538	SF22SFW691	ON-OFF-ON*	2.93	1.97	1.76	1.47
29F2539	SF22SGW691	ON-ON*	2.93	1.97	1.76	1.47
29F2540	SF22SHW691	*ON-OFF-ON*	2.93	1.97	1.76	1.47

3PDT

Stock No.	Type	Circuit	1-24	25-99	100-499	500-999
29F2542	SF23SBW691	ON-OFF-ON	4.46	2.99	2.68	2.23
29F2543	SF23SCW691	ON-ON	4.21	2.83	2.53	2.11
29F2544	SF23SGW691	ON-ON*	4.46	2.99	2.68	2.23
29F2545	SF23SHW691	*ON-OFF-ON*	4.46	2.99	2.68	2.23
29F2548	SF24STW691	ON-ON-ON	6.54	4.39	3.93	3.27

4PDT

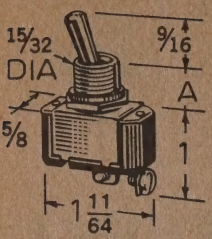
Stock No.	Type	Circuit	1-24	25-99	100-499	500-999
29F2546	SF24SBW691	ON-OFF-ON	6.91	4.63	4.15	3.46
29F2547	SF24SCW691	ON-ON	5.30	3.56	3.18	2.65

Cutler-Hammer AC Switches

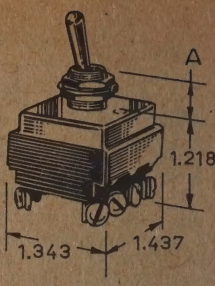
A.C. SWITCHES

6 AMP 125 VOLT—3 AMP 250 VOLT

General purpose light duty AC switches for power appliances. Employ slow make—slow break rocker type contact mechanism. Combination phenolic-metallic housing. All are one hole mount type. One hexagon locknut and one knurled facenut furnished unassembled. Terminals in rear of base facilitate wiring and reduce possibility of electrical creepage. Visible metals parts are bright nickel plated. UL and CSA approved. ¼" spade terminals. Movable contact actuated by compression spring which provides positive contact pressure in closed position and firmly positions contactor in open position.



SINGLE POLE



DOUBLE POLE

SPST (ON-OFF)

Stock No.	Type	Bushing Length	Terminals	1-24	25-49	50-99	100-499
41F531	7580K5	1 1/32"	Screw	1.06	.98	.81	.73
23F341	7580K4	1 5/32"	Screw	1.06	.98	.81	.73
41F532	7580K7	1 1/32"	Solder	.91	.84	.70	.63
23F342	7580K6	1 5/32"	Solder	.91	.84	.70	.63

SPDT (ON-ON)

23F345	7582K4	1 5/32"	Screw	1.21	1.11	.93	.84
41F473	7582K7	1 1/32"	Solder	.99	.91	.76	.68
23F346	7582K6	1 5/32"	Solder	.99	.91	.76	.68

SPDT (ON-OFF-ON)

23F343	7581K4	1 5/32"	Screw	1.21	1.11	.93	.84
41F538	7581K7	1 1/32"	Solder	.99	.91	.76	.68
23F344	7581K6	1 5/32"	Solder	.99	.91	.76	.68

DPST (ON-OFF)

Stock No.	Type	Bushing Length	Terminals	1-24	25-49	50-99	100-499
22F347	7590K4	1 5/32"	Screw	1.64	1.51	1.26	1.13
41F545	7590K7	1 1/32"	Solder	1.34	1.23	1.03	.93
23F348	7590K6	1 5/32"	Solder	1.34	1.23	1.03	.93

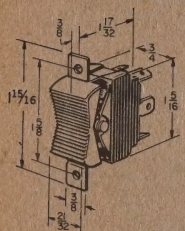
DPDT (ON-ON)

23F357	7592K4	1 5/32"	Screw	1.94	1.79	1.49	1.35
41F550	7592K7	1 1/32"	Solder	1.50	1.38	1.15	1.04
23F358	7592K6	1 5/32"	Solder	1.50	1.38	1.15	1.04

DPDT (ON-OFF-ON)

23F349	7591K4	1 5/32"	Screw	1.94	1.79	1.49	1.35
23F374	7591K7	1 1/32"	Solder	1.50	1.38	1.15	1.04
23F356	7591K6	1 5/32"	Solder	1.50	1.38	1.15	1.04
41F488	7597K6**	1 5/32"	Solder	2.18	2.01	1.67	1.51

ROCKETTE® SWITCHES



The contact mechanism is of the Slow-Make Slow-Break design engineered specifically for use on AC circuits and low voltage DC circuits. The contacts are rated for 15 Amps at 125 VAC and 28 VDC; 10 Amps at 250 VAC; maximum ¾ horsepower at 250 VAC. White nylon rocker on a mounting frame of heavy gauge steel, plated for resistance to corrosion. Terminals are .250" wide spade lugs.

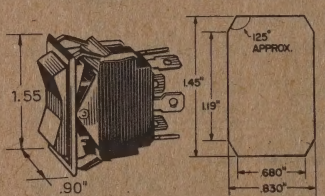
ONE POLE

Stock No.	Type	Circuit	1-24	25-49	50-99	100-499
23F434	8144K20A1M52	ON-OFF-ON	1.17	1.08	.90	.81
23F399	8144K21A1M52	ON-OFF	1.04	.96	.80	.72
41F566	8144K22A1M52	ON-ON	1.17	1.08	.90	.81
41F567	8146K20A1M52	*ON-OFF-ON*	1.38	1.27	1.06	.95

TWO POLE

Stock No.	Type	Circuit	1-24	25-49	50-99	100-499
23F438	8142K20E6M52	ON-OFF-ON	1.95	1.80	1.50	1.35
23F436	8142K21E6M52	ON-OFF	1.51	1.39	1.16	1.04
41F568	8142K22E6M52	ON-ON	1.84	1.70	1.41	1.27
67F1610	8148K20E6M52	*ON-OFF-ON*	2.14	1.98	1.65	1.49

ROCKETTE® SNAP-IN MOUNTING BEZEL



Rockette® switches with snap-in metal bezels. Switch description at left. Bezels are made of hardened spring-steel for durability and structural strength. Corrosion-resistant bright nickel-plated finish. Recommended panel thickness: .040 to .140 inches.

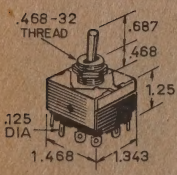
ONE POLE

Stock No.	Type	Circuit	1-24	25-49	50-99	100-499
57F3662	8144K20X1M52	ON-OFF-ON	1.51	1.40	1.16	1.05
57F3663	8144K21X1M52	ON-OFF	1.38	1.28	1.06	.96
57F3664	8144K22X1M52	ON-ON	1.51	1.40	1.16	1.05
57F3669	8146K20X1M52	*ON-OFF-ON*	1.72	1.59	1.32	1.19

TWO POLE

57F3665	8142K20X6M52	ON-OFF-ON	2.29	2.12	1.76	1.59
57F3666	8142K21X6M52	ON-OFF	1.94	1.79	1.49	1.35
57F3667	8142K22X6M52	ON-OFF	2.29	2.12	1.76	1.59
57F3668	8148K20X6M52	*ON-OFF-ON*	2.62	2.42	2.01	1.81

HESITATION SWITCH



Three position center off, hesitation, positive stop, or positive off switches; restrict operation from one "on" position to the other "on" position without a stop in the center position. Use with reversing motors; prevent damage by high currents from reversing. A mechanical interlock in switch prohibits toggle action through center position until pressure is momentarily relieved from lever. Bushing Diameter: 15/32".

Stock No.	Type	Action	1-24	25-49	50-99	100-499
23F1152	7992K10	DPDT	6.95	6.42	5.35	4.82
23F1154	7991K10	3PDT	8.77	8.09	6.74	6.07
23F1156	7990K10	4PDT	11.80	10.89	9.08	8.17

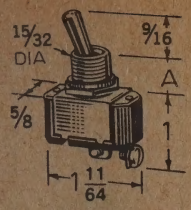
HARDWARE FOR MOUNTING SWITCHES

For use with 15/32" diameter bushings:
30-5632-4. ON-OFF vertical plate, keyway by OFF. Burnished nickel finish.
30-5632-13. ON-OFF horizontal plate, keyway by OFF (left side). Burnished nickel finish.
30-5632-16. HI-LOW. Same as 30-5632-4.
29-761. Locking ring.
16-886. Internal tooth lockwasher.

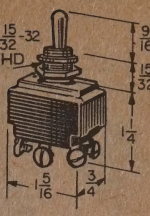
Stk. No.	Type	1-24	25-49	50-99	100-499
23F248	30-5632-4	.10	.09	.08	.07
23F516	30-5632-13	.10	.09	.08	.07
23F517	30-5632-16	.10	.09	.08	.07
23F518	29-761	.07	.06	.05	.05
23F519	16-886	.06	.06	.05	.05

Cutler-Hammer AC Switches

15 AMP 125 VOLT—10 AMP 250 VOLT ¾ HP



General purpose AC switches for power appliances. Slow make—slow break rocker contact mechanism. Combination phenolic-metallic housing furnished with hexagon locknut and knurled facenut. Terminals in rear of base facilitate wiring and reduce possibility of electrical creepage. Visible metal parts have bright nickel plating. UL and CSA approved. ¼" spade terminals. (*) Momentary in one position, ½ HP. (**) Momentary in two positions, ½ HP.



SINGLE POLE

SPST (ON-OFF)

Stock No.	Type	Bushing Length	Terminals	1-24	25-49	50-99	100-499
23F377	7500K13	11/32"	Screw	1.21	1.11	.93	.84
23F247	7500K14	15/32"	Screw	1.21	1.11	.93	.84
23F369	7501K12	11/32"	Solder	1.06	.98	.81	.73
23F230	7501K13	15/32"	Solder	1.06	.98	.81	.73
23F378	7501K14	11/32"	Spade	1.06	.98	.81	.73
41F535	7501K15	15/32"	Spade	1.06	.98	.81	.73
41F534	7506K4*	15/32"	Screw	1.58	1.46	1.22	1.10

SPDT (ON-ON)

41F541	7504K3	11/32"	Screw	1.42	1.31	1.09	.99
23F380	7504K4	15/32"	Screw	1.42	1.31	1.09	.99
41F542	7505K3	11/32"	Solder	1.21	1.11	.93	.84
23F232	7505K4	15/32"	Solder	1.21	1.11	.93	.84

SPDT (ON-OFF-ON)

23F383	7502K12	11/32"	Screw	1.42	1.31	1.09	.99
23F265	7502K13	15/32"	Screw	1.42	1.31	1.09	.99
41F539	7503K12	11/32"	Solder	1.21	1.11	.93	.84
23F231	7503K13	15/32"	Solder	1.21	1.11	.93	.84
41F537	7509K**	15/32"	Screw	1.84	1.70	1.42	1.28

DOUBLE POLE

DPST (ON-OFF)

Stock No.	Type	Bushing Length	Terminals	1-24	25-49	50-99	100-499
41F547	7560K6	11/32"	Screw	1.94	1.79	1.49	1.34
23F267	7560K5	15/32"	Screw	1.94	1.79	1.49	1.34
23F268	7561K5	11/32"	Solder	1.64	1.51	1.26	1.13
23F235	7561K4	15/32"	Solder	1.64	1.51	1.26	1.13
23F381	7561K6	15/32"	Spade	1.64	1.51	1.26	1.13

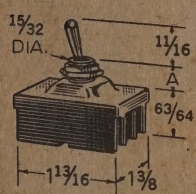
DPDT (ON-ON)

41F554	7564K7	11/32"	Screw	2.39	2.21	1.84	1.66
23F266	7564K6	15/32"	Screw	2.39	2.21	1.84	1.66
41F555	7565K6	11/32"	Solder	1.94	1.79	1.49	1.35
23F236	7565K5	15/32"	Solder	1.94	1.79	1.49	1.35
23F382	7565K7	15/32"	Spade	1.94	1.79	1.49	1.35
41F495	7570K5*	15/32"	Screw	3.12	2.88	2.40	2.16

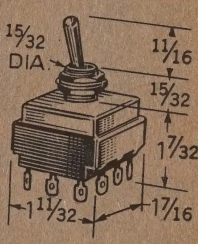
DPDT (ON-OFF-ON)

41F551	7562K5	11/32"	Screw	2.39	2.21	1.84	1.66
23F246	7562K4	15/32"	Screw	2.39	2.21	1.84	1.66
41F552	7563K5	11/32"	Solder	1.94	1.79	1.49	1.35
23F237	7563K4	15/32"	Solder	1.94	1.79	1.49	1.35
41F553	7563K6	15/32"	Spade	1.94	1.79	1.49	1.35
41F490	7568K2*	15/32"	Screw	3.12	2.88	2.40	2.16
41F491	7569K2**	15/32"	Screw	3.12	2.88	2.40	2.16
41F548	7569K1**	15/32"	Solder	2.65	2.45	2.04	1.84

THREE AND FOUR POLE AC SWITCHES



These slow make—slow break AC rated switches feature a rocker type contact mechanism that is actuated by a compression spring to provide positive contact pressure. Exposed metal parts are plated with bright nickel. All switches are provided with a hexagon locknut; the 3 pole with a hexagon facenut, the 4 pole with a knurled facenut. The 3 pole switches are rated for 15 Amps at 125 VAC and 10 Amps at 250 VAC; 1 HP from 125 to 480 VAC. The 4 pole switches are rated for the same current, but ¾ HP at 250 VAC.



THREE POLE

3PST (ON-OFF)

Stock No.	Type	Bushing Length	Terminals	1-24	25-49	50-99	100-499
23F271	7610K2	15/32"	Screw	3.72	3.44	2.86	2.58
23F240	7611K2	15/32"	Solder	3.20	2.96	2.46	2.22

3PDT (ON-ON)

23F257	7614K2	15/32"	Screw	4.72	4.36	3.63	3.27
23F243	7615K2	15/32"	Solder	3.93	3.63	3.02	2.72

3PDT (ON-OFF-ON)

23F256	7612K2	15/32"	Screw	4.72	4.36	3.63	3.27
23F241	7613K2	15/32"	Solder	3.93	3.63	3.02	2.72

FOUR POLE

4PST (ON-OFF)

Stock No.	Type	Bushing Length	Terminals	1-24	25-49	50-99	100-499
41F562	7690K8	15/32"	Screw	5.34	4.94	4.11	3.70
23F242	7691K14	15/32"	Solder	4.82	4.45	3.71	3.34

4PDT (ON-ON)

41F564	7694K4	15/32"	Screw	6.66	6.15	5.12	4.61
41F565	7695K5	15/32"	Solder	5.87	5.42	4.52	4.07

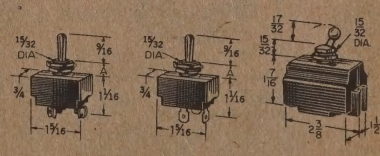
4PDT (ON-OFF-ON)

41F563	7692K13	15/32"	Screw	6.66	6.15	5.12	4.61
41F494	7693K2	15/32"	Solder	5.87	5.42	4.52	4.07

HIGH CAPACITY AC SWITCHES

These heavy duty AC rated switches feature a rocker type contact mechanism for a slow make—slow break operation. The terminals are firmly riveted to the rear of the base with adequate spacing provided to facilitate wiring and to reduce the possibility of electrical creepage. Spade terminals are .250" wide, screw terminals are provided with screws. Type 7576K2 and 7599K1 have bright nickel plating on the exposed metal parts. Type 8320K1 is zinc with an aluminum ball. The 8320K1 is provided with two hexagon facenuts while the others are provided with a hexagon locknut and a knurled facenut.

Stock No.	Type	Circuit	250 VAC Amp	250 VAC HP	Bushing Length	Terminal	1-24	25-49	50-99	100-499
41F472	7576K2	SPST	25	....	11/32"	Screw	2.16	1.99	1.66	1.49
41F483	7599K1	DPST	20	....	15/32"	Spade	1.82	1.68	1.40	1.26
41F559	8320K1	3PST	20	2	15/32"	Screw	6.67	6.16	5.13	4.62



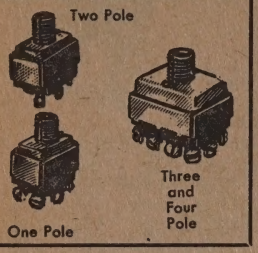
SINGLE POLE | DOUBLE POLE | TRIPLE POLE

Cutler-Hammer Design Switches

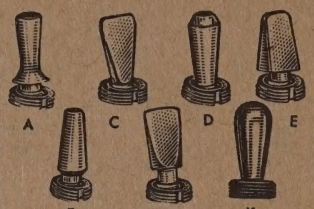
AC "DESIGNER LINE"

SELECTION TABLE FOR COMPOSITE ORDERING NUMBER

BASIC SWITCH TYPE



LEVER SHAPE SUFFIX NO. (Select One)



Lever Color

21. (White)
22. (Red)
23. (Gray
24. (Green)
25. (Yellow)
26. (Blue)
27. (Black)

COMPLETE SWITCH

EXAMPLE

7562K54 BASIC SWITCH TYPE	+	C LEVER STYLE	+	23 COLOR	=	7562K54C23 COMPLETE ORDERING NUMBER

Note: You must make the complete ordering number when placing your order. Switches employ standard slow-make, slow-break rocker type mechanism with nylon toggles epoxied on to the metal actuator. One hole mounting, one hexagon locknut and one knurled facenut furnished unassembled. **Caution:** These are assembled special order switches as per your requirements. Care is advised in choosing correct part numbers. (*) Indicates momentary operation in that position (spring return).

ONE POLE

SCREW TERMINALS

Type	125 VAC	250 VAC	1-24	25-49	50-99	100-499	Circuit
7590K73XXX	6A	3A	1.49	1.38	1.15	1.04	On-Off
7591K73XXX	6A	3A	1.80	1.66	1.38	1.25	On-Off-On
7592K73XXX	6A	3A	1.80	1.66	1.38	1.25	On-On
7597K73XXX	6A	3A	2.41	2.22	1.85	1.67	On*-Off-On*
7560K73XXX	15A	10A	1.80	1.66	1.38	1.25	On-Off
7562K73XXX	15A	10A	2.25	2.07	1.73	1.56	On-Off-On
7564K73XXX	15A	10A	2.25	2.07	1.73	1.56	On-On
7566K73XXX	15A	10A	2.51	2.31	1.93	1.74	Off-On*

SOLDER LUG TERMINALS

Type	125 VAC	250 VAC	1-24	25-49	50-99	100-499
7590K74XXX	6A	3A	1.19	1.10	.92	.83
7591K74XXX	6A	3A	1.36	1.25	1.04	.94
7592K74XXX	6A	3A	1.36	1.25	1.04	.94
7597K74XXX	6A	3A	2.03	1.88	1.56	1.41
7561K74XXX	15A	10A	1.49	1.38	1.15	1.04
7563K74XXX	15A	10A	1.80	1.66	1.38	1.25
7565K74XXX	15A	10A	1.80	1.66	1.38	1.25
7566K74XXX	15A	10A	2.20	2.03	1.69	1.53

TWO POLE

SCREW TERMINALS

7590K53XXX	6A	3A	1.74	1.61	1.34	1.21	On-Off
7591K53XXX	6A	3A	2.05	1.89	1.58	1.42	On-Off-On
7592K53XXX	6A	3A	2.05	1.89	1.58	1.42	On-On
7569K53XXX	15A	10A	3.23	2.98	2.48	2.24	*On-Off-On*
7560K53XXX	15A	10A	2.05	1.89	1.58	1.42	On-Off
7562K53XXX	15A	10A	2.50	2.31	1.92	1.73	On-Off-On
7564K53XXX	15A	10A	2.50	2.31	1.92	1.73	On-On
7566K53XXX	15A	10A	2.76	2.55	2.12	1.91	Off-On*

SOLDER LUG TERMINALS

7590K54XXX	6A	3A	1.44	1.33	1.11	1.00
7591K54XXX	6A	3A	1.60	1.48	1.23	1.11
7592K54XXX	6A	3A	1.60	1.48	1.23	1.11
7569K54XXX	15A	10A	2.77	2.55	2.13	1.92
7561K54XXX	15A	10A	1.74	1.61	1.34	1.21
7563K54XXX	15A	10A	2.05	1.89	1.58	1.42
7565K54XXX	15A	10A	2.05	1.89	1.58	1.42
7566K54XXX	15A	10A	2.45	2.26	1.88	1.70

THREE POLE

SCREW TERMINALS

7690K73XXX	15A	10A	5.20	4.80	4.00	3.60	On-Off
7692K73XXX	15A	10A	6.52	6.02	5.01	4.51	On-Off-On
7694K73XXX	15A	10A	6.52	6.02	5.01	4.51	On-On

FOUR POLE

SCREW TERMINALS

7692K53XXX	15A	10A	6.77	6.25	5.21	4.69	On-Off-On

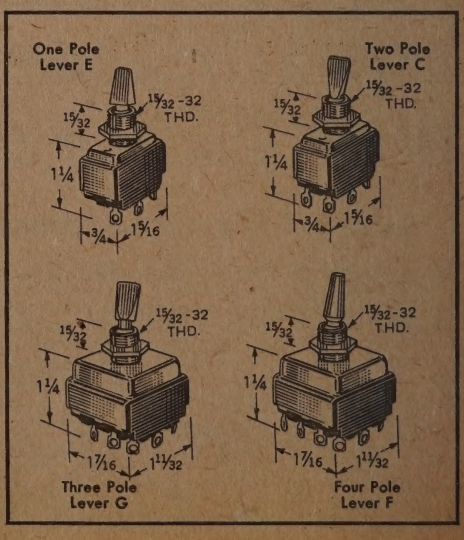
OPTIONAL "DESIGNER LINE" FACE NUTS

Switch w/colored Cap Assembled

Knurled

Bevel

Stk. No.	Type	Color	Style	1-24	25-49	50-99	100-499
41F500	15-1048-3	Black	Knrl.	.20	.18	.15	.14
41F501	15-1048-7	Cl. Alum.	Knrl.				
41F502	15-1048-12	Bronze	Knrl.				
41F503	15-1048-22	Avocado	Knrl.				
41F504	15-1049-3	Black	Bev.				
41F505	15-1049-7	Cl. Alum.	Bev.				
41F506	15-1049-12	Bronze	Bev.				
41F507	15-1049-22	Avocado	Bev.				

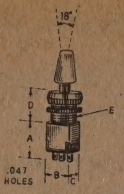


Cutler-Hammer AC-DC Switches

WHEN ORDERING SPECIFY

- Catalog number of basic switch followed by suffix numbers and letter for lever color and shape. Example:

SF1SBX197	−1	A	SF1SBX197-1A
Base Switch	Lever Color	Lever Shape	Complete Number



LARGE BUSHING

	A	B	C	D	E
1			.354		
2	.748	.512	.472	.315	.468-32
3			.638		
4			.835		

DESCRIPTION

These are Miniature Toggle switches with "Designer" line levers. They combine the maximum performance charactersitics and small size of Miniature Toggle switches with custom styled operators, available in seven colors.

An assortment of optional knurled and beveled decorator facenuts in a variety of colors are available for the large bushing switches. Mounting hardware, consisting of a locking ring, two hexagon locknuts and an internal tooth lockwasher, are supplied unassembled.

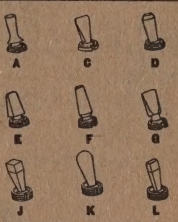
SELECTION TABLE

Nominal Ratings Per Pole (Amperes) 125 V. A-C	28 V. D-C	Circuit Arrangement A B C — Keyway on "C" Side of Switch			LARGE BUSHING 0.468 In. Diameter Type	Each
ONE POLE						
5	5	ON	OFF	ON	SF1GBX197	2.55
10	5	ON	NONE	ON	SF1GCY197	1.95
TWO POLE						
5	5	ON	OFF	ON	SF2GBX197	3.15
10	5	ON	NONE	ON	SF2GCY197	2.55
THREE POLE						
5	5	ON	OFF	ON	SF3GBX197	4.78
10	5	ON	NONE	ON	SF3GCY197	4.25
FOUR POLE						
5	5	ON	OFF	ON	SF4GBX197	5.95
10	5	ON	NONE	ON	SF4GCY197	5.35

Lever Color Suffix Number

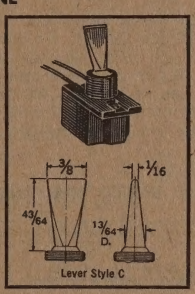
- **1 (White)** No Price Addition
- **2 (Red)** No Price Addition
- **10 (Gray)** No Price Addition
- **6 (Green)** No Price Addition
- **5 Yellow)** No Price Addition
- **4 (Blue)** No Price Addition
- **3 (Black)** No Price Addition

Lever Shape Suffix Letter



AC-DC DESIGNER LINE

Designer line switches employ standard utility mechanism with addition of nylon toggles. Are available in eight styles, and in seven colors on special order. Standard levers C listed below. All are double insulated and feature quick-make, quick-break contact mechanism. Nylon bushing in 13/32"-32, 1 1/32" long. Furnished with all necessary mounting hardware. Designer line facenuts optional UL and other CSA approved. Note: switches with other than standard bushing length (1 1/32), for dry circuit applications, with other than listed ampere ratings, terminations, descriptions and colors-available on request.



Lever Style C

ONE POLE (ON-OFF)

Stk. No.	Type	125VAC	250VAC	Color	1-24	25-49	50-99	100-499
41F460	8280K21C	.....	3A	White	1.03	.95	.79	.72
41F461	8280K22C	.....	3A	Red	1.03	.95	.79	.72
41F463	8280K27C	.....	3A	Black	1.03	.95	.79	.72
23F450	8381K21C	6A	3A	White	1.14	1.05	.88	.79
23F451	8381K22C	6A	3A	Red	1.14	1.05	.88	.79
23F454	8381K27C	6A	3A	Black	1.14	1.05	.88	.79

ONE POLE (ON-ON)

23F465	8282K21C	3A	1A	White	1.25	1.15	.96	.86
23F466	8282K22C	3A	1A	Red	1.25	1.15	.96	.86
23F469	8282K27C	3A	1A	Black	1.25	1.15	.96	.86

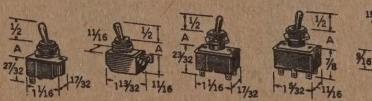
TWO POLE (ON-OFF)

23F480	8370K21C	6A	3A	White	1.82	1.68	1.40	1.26
23F481	8370K22C	6A	3A	Red	1.82	1.68	1.40	1.26
23F484	8370K27C	6A	3A	Black	1.82	1.68	1.40	1.26

TWO POLE (ON-ON)

23F501	8373K21C	6A	3A	White	2.05	1.89	1.58	1.42
23F502	8373K22C	6A	3A	Red	2.05	1.89	1.58	1.42
23F505	8373K27C	6A	3A	Black	2.05	1.89	1.58	1.42

AC-DC QUICK-MAKE, QUICK BREAK



8280 **8396** **8282** **8373** **7320**

STANDARD DUTY, ONE POLE (ON-OFF)

Stock No.	Type	125V AC-DC	250V AC-DC	Bush Lt.	Term.	1-24	25-49	50-99	100-499
23F385	8280K15	3A	3A	1 1/32	Solder	1.00	.92	.77	.69
23F220	8280K16	3A	3A	13/32	Solder	1.00	.92	.77	.69
23F391	8290K15	3A	3A	1 1/32	Wire	1.21	1.11	.93	.84
23F335	8290K16	3A	3A	13/32	Wire	1.21	1.11	.93	.84
23F336	8295K7	3A	3A	1 1/32	Screw	1.21	1.11	.93	.84
23F337	8295K8	3A	3A	13/32	Screw	1.21	1.11	.93	.84
41F520	8381K7	6A	3A	1 1/32	Solder	1.16	1.07	.89	.80
23F221	8381K8	6A	3A	13/32	Solder	1.16	1.07	.89	.80
41F521	8391K7	6A	3A	1 1/32	Wire	1.37	1.26	1.05	.95
23F338	8391K8	6A	3A	13/32	Wire	1.37	1.26	1.05	.95
41F522	8396K7	6A	3A	1 1/32	Screw	1.37	1.26	1.05	.95
23F228	8396K8	6A	3A	13/32	Screw	1.37	1.26	1.05	.95

ONE POLE (ON-ON)

23F395	8282K13	3A	1A	1 1/32	Solder	1.27	1.17	.97	.88
23F222	8282K14	3A	1A	13/32	Solder	1.27	1.17	.97	.88

TWO POLE (ON-OFF)

23F225	8370K8	6A	3A	1 1/32	Solder	1.94	1.79	1.49	1.35
23F227	8370K7	6A	3A	13/32	Solder	1.94	1.79	1.49	1.35
23F339	8372K7	6A	3A	1 1/32	Screw	2.36	2.18	1.82	1.64
41F456	8371K7	6A	3A	13/32	Wire	2.50	2.31	1.92	1.74

TWO POLE (ON-ON)

23F263	8373K8	6A	3A	1 1/32	Solder	2.23	2.06	1.71	1.54
23F226	8373K7	6A	3A	13/32	Solder	2.23	2.06	1.71	1.54
23F340	8375K7	6A	3A	13/32	Screw	2.87	2.65	2.21	1.99
41F458	8374K7	6A	3A	13/32	Wire	3.05	2.81	2.34	2.11

HEAVY DUTY

ONE POLE (ON-OFF)

Stk. No.	Type	1250	2500	Bush Lt.	Term.	1-24	25-49	50-99	100-499
23F252	7321K3	6A	3A	.....	.....	2.16	2.00	1.66	1.50
41F524	7361K5	20A	10A	1 1/32	Screw	3.63	3.35	2.79	2.51

TWO POLE (ON-OFF)

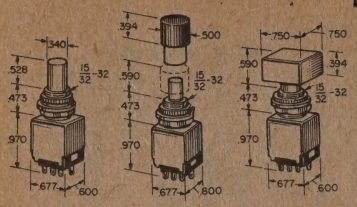
23F229	8690K2	15A	10A	1 1/32	Screw	7.27	6.71	5.59	5.03

TWO POLE (ON-OFF)

Stock No.	Type	125V AC-DC	250V AC-DC	Bush Lt.	Term.	1-24	25-49	59-99	100-499
23F250	7320K2	16A	8A	1 1/32	Screw	2.02	1.86	1.55	1.40
23F251	7320K3	16A	8A	13/32	Screw	2.02	1.86	1.55	1.40
23F270	7360K7	20A	10A	1 1/32	Screw	3.47	3.20	2.67	2.40
23F253	7360K8	20A	10A	13/32	Screw	3.47	3.20	2.67	2.40
41F527	7402K3	20A	22A	1 1/32	Screw	4.67	4.31	3.59	3.23
23F255	7402K4	20A	22A	13/32	Screw	4.67	4.31	3.59	3.23

Illuminated Switches

ILLUMINATED PUSHBUTTON SWITCHES



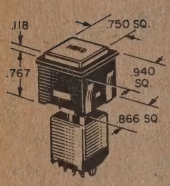
.340" Round | ½" Round | ¾" Square

Two Pole (ON-On) design. Rated 5 amps @ 125 VAC and 28 VDC. Positive detent. Solder lug terminals. Independent lamp circuit. Snap-in bulbs replaceable from front panel. Hardware furnished unassembled. Choice of operator styles and colors. Bushing 15/32"-32 dia. Price listed is for complete unit.

COMBINE FOUR CODES (TEN ALPHA NUMERIC DIGITS) FOR COMPLETE PART NUMBER

Basic Switch		Each		Bulb			Cap Style			Cap Color	
Operation	Code	1-24		Voltage	Code		Style	Code		Color	Code
Momentary	SB1DDX	5.45	+	6	1	+	¾" Square	91	+	White	—1
Push-Push	SB1DEX	5.45		14	2		½" Round	92		Red	—2
				28	4		.340" Round	93		Green	—3
										Amber	—4

ILLUMINATED SNAP-IN PUSHBUTTON SWITCHES



Snap-In Pushbutton Switch

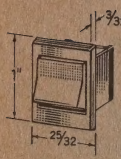
TOP VIEW .750 SQ.

Two Pole, Double Throw design. Rated 5 amps @ 125 VAC and 28 VDC. Positive detent. Solder lug terminals. Incandescent bulbs replaceable from front panel. Hardware furnished unassembled. Choice of operator styles and colors. Independent lamp circuit. Superstructure mounts in .870" sq. panel opening. Bushing 15/32"-32 dia. Price listed is for complete unit.

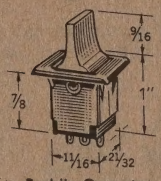
COMBINE FOUR CODES (TWELVE ALPHA NUMERIC DIGITS) FOR COMPLETE PART NUMBER

Basic Switch		Each		Bulb			Cap Color			Bezel Color	
Operation	Code	1-24		Voltage	Code		Color	Code		Color	Code
Momentary	SB1DDX	6.60	+	6	1	+	White	91-1	+	White	A1
Push-Push	SB1DEX	6.60		14	2		Red	91-2		Red	A2
				28	4		Green	91-3		Green	A5
							Amber	91-4		Black	A6

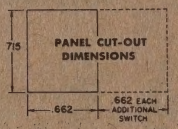
ILLUMINATED SNAP-IN ROCKER SWITCHES



Rocker Operator



Paddle Operator

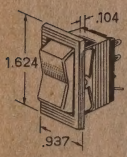


Slow-make, slow-break contact mechanism. Rated 5 amps @ 125 VAC and 28 VDC. Solder lug terminals. Independent lamp circuit. Snap-in bulbs replaceable from front panel. Smooth, polycarbonate resin translucent rocker or paddle operators and indicator light lenses. Mounts in .040-.120 with bezel. Nylon bezels snap over metal mounting flanges of switch or indicator light. Price listed is for complete unit. (*) Momentary.

COMBINE FOUR CODES (ELEVEN ALPHA NUMERIC DIGITS) FOR COMPLETE PART NUMBER

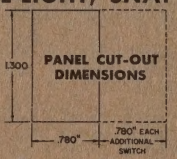
Basic Switch		Each		Bulb			Operators (select only one)				Bezel	
Circuit	Code	1-24		Voltage	Code		Color	Rocker Code		Paddle Code	Color	Code
On-Off-On	SC2BX	4.87	+	6	E1	+	White	91	OR	81	White	—91
On---------On	SC2CX	4.87		14	M1		Red	92		82	Red	—92
On*-------On	SC2GX	5.00		18	J1		Green	93		83	Green	—93
On*-Off-On	SC2FX	5.00		28	L1		Amber	94		84	Amber	—94
On*-Off-On*	SC2JX	5.00					Black	96		86	Black	—96
							Blue	97		87	Blue	—97
							Yellow	98		88	Yellow	—98

DUAL-LIGHT, SNAP-IN ROCKER SWITCHES



Switch

Lamp with Bulb Color Filter cap Assembled.



Recommended Panel Thickness .040-.120 with Bezel.

Two Pole Double Throw. Solder lug terminals. Bulbs electrically independent of switch circuit. Can also be wired in parallel with load to indicate operation. Removable rocker for front of panel bulb replacement. Color coded bulb filter caps provide even dispersion of color over entire rocker face when illuminated. Designed for installation in .040-.150" thick panels. Rated 10 Amps @ 125 VAC, 6 Amps @ 250 VAC, and 5 Amps @ 28 VDC. Price listed is for complete unit. (*) Momentary.

Basic Switch		Each		Two Bulbs			Bulb Caps			Bezel	
Circuit	Code	1-24		Voltage	Code		Color	Code		Color	Code
ON-Off-On	SC5DBP	7.98	+	6	19	+	None	1-9	+	White	A1
On---------On	SC5DCP	7.38		14	29		1 Red	1-2		Red	A2
On-Off-On*	SC5DFP	8.75		18	39		2 Red	1-12		Green	A3
On-------On*	SC5DGP	8.75		28	59		1 Green	1-3		Amber	A4
On*-Off-On*	SC5DHP	8.75					2 Green	1-13		Gray	A5
							1 Amber	1-4		Black	A6
							2 Amber	1-14			
							Green/Red	1-5			
							Red/Amber	1-6			
							Green/Amber	1-7			

Call your nearest Newark facility for quantity pricing

Cutler-Hammer Switches

AC/DC PUSHBUTTON SWITCHES

Quick-made, Quick-break, "tease-proof" mechanism. Hexagon locknut, knurled facenut furnished unassembled. Visible metal parts bright-nickel plated. 6" long wire leads, skinned ¾". ¼" spade terminals, tin plated for easy soldering.

One Pole—Momentary—Normally Open

Stock No.	Type	Fig.	Rating 125V	Rating 250V	Button Color	Terms.	1-24	25-49	50-99	100-499
41F608	8410K3	A	¾ A	¼ A	Black	Screw	.99	.92	.76	.69
23F260	8411K11	B	¾ A	¼ A	Black	Spade	.69	.64	.53	.48
23F439	8411K12	B	¾ A	¼ A	Black	Screw	.82	.75	.63	.57
23F359	8411K13	B	¾ A	¼ A	Red	Spade	.69	.64	.53	.48
67F1618	8424K1	C	¾ A	¼ A	White	Spade	.69	.64	.53	.48

One Pole—Momentary—Normally Closed

67F1620	8410K1	A	¾ A	¼ A	Black	Screw	.99	.92	.76	.69
23F440	8411K7	B	¾ A	¼ A	Black	Screw	.82	.75	.63	.57
23F261	8411K8	B	¾ A	¼ A	Black	S. Lug	.69	.64	.53	.48
67F1621	8423K1	C	¾ A	¼ A	White	Spade	.66	.61	.51	.46

One Pole—Push On/Push Off

67F1622	7206K4	.....	6A	3A	Nickel	S. Lug	1.51	1.39	1.16	1.04
67F1623	7207K4	.....	6A	3A	Nickel	Wires	1.72	1.59	1.32	1.19
23F364	7208K4	.....	6A	3A	Nickel	Screw	1.72	1.59	1.32	1.19

AC PUSHBUTTON SWITCHES

Slow-make, Slow-break momentary contact mechanism. Bright nickel plated button. Mounting hardware furnished unassembled. 1 9/32" diameter bushing.

One Pole—Normally Open

Stock No.	Type	Fig.	Rating 125V	Rating 250V	125V 250V	Terms.	1-24	25-49	50-99	100-499
23F262	8440K2	F	3A	.....	.....	S. Lug.	1.39	1.28	1.07	.96
23F441	8440K3	F	3A	.....	.....	Screw	1.60	1.47	1.23	1.11
67F1624	8442K2	G	6A	3A	.....	Spade	1.34	1.23	1.03	.93
23F360	8442K4	H	6A	3A	.....	Screw	1.52	1.40	1.17	1.05
67F1625	8444K2	G	15A	10A	⅓ HP	Spade	1.47	1.35	1.13	1.02
23F443	8444K3	G	15A	10A	⅓ HP	Screw	1.64	1.52	1.26	1.14
23F361	8444K4	H	15A	10A	⅓ HP	Screw	1.64	1.52	1.26	1.14

One Pole—Double Throw

41F609	8446K2	G	15A	10A	½ HP	Screw	1.88	1.73	1.44	1.30

Two Pole—Normally Open

23F362	8448K2	K	15A	10A	.....	Screw	2.35	2.17	1.81	1.63

MINIATURE SNAP SWITCHES

Single-pole, double-throw. Rated 15 Amps, ⅓ HP @ 125-250 VAC and 10 Amps @ 28VDC. −100°F to +185°F. Operating Position: .578" ±.015". Free Position: .640" max. Release Force: 4 oz. min. Quick connect terminals, .188" wide. UL and CSA listed.

Stock No.	Type	Fig.	Terminals	Actuator	Max. Operating Force	1-9	10-24	25-49	50-99
23F1132	SS12ET10	L	Screw	Plunger	14 oz.	1.70	1.53	1.36	1.19
23F1133	SS12ET20	L	S. Lug	Plunger	14 oz.	1.30	1.17	1.04	.91
23F1134	SS12ET30	L	Q.C.	Plunger	14 oz.	1.05	.95	.84	.74
23F1135	SS12ET30-2L1	M	Q.C.	0.84"	14 oz.				
23F1136	SS12ET30-2L2	M	Q.C.	1.40"	8 oz.				
23F1137	SS12ET30-2L6	M	Q.C.	2.34"	4 oz.	1.40	1.26	1.12	.98
23F1138	SS12ET30-2L14	M	Q.C.	2.75"	3 oz.				
23F1141	SS12ET30-12L5	N	Q.C.	1.285"	8 oz.				
23F1139	SS12ET30-102L3	O	Q.C.	0.81"	14 oz.	1.60	1.44	1.28	1.12
23F1140	SS12ET30-102L4	O	Q.C.	1.34"	8 oz.				

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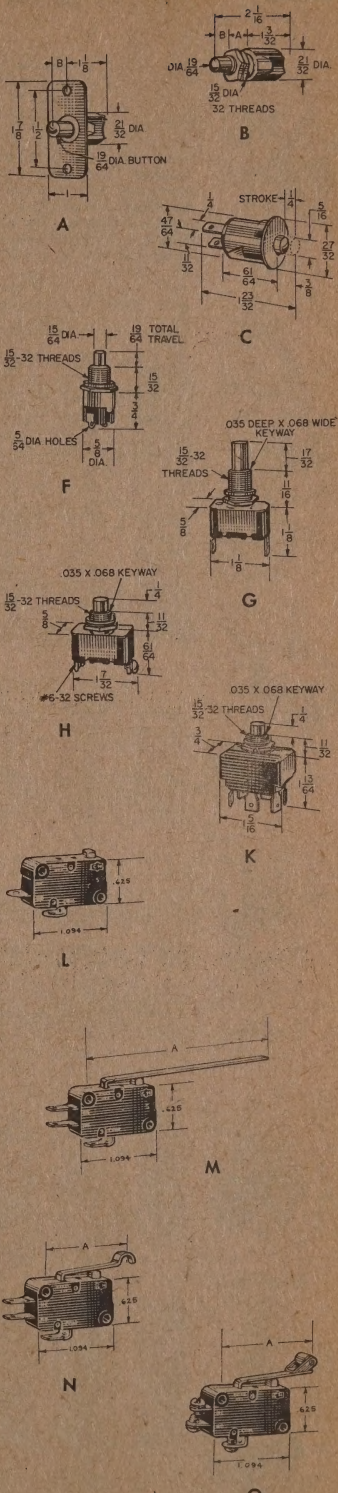
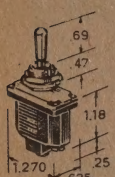


Cutler-Hammer Military Switches

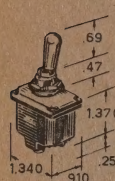
MIL-S-3950 ENVIRONMENTALLY SEALED



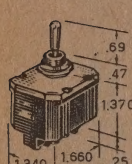
One Pole

- Patented Sealing Process
- Positive Detent Feel
- Rated 20 A at 28 VDC
- Rated 15 A at 115 VAC

Brown base has patented sealing process. Molding material provides greater safety, higher ignition time and increased arc resistance under contaminated conditions. Positive detent feel and reliable momentary return action. Improved dielectric capability. Simplified wiring and bussing together with excellent sealing in medium-range pricing. Current rating is 20 amperes at 28 VDC and 15 amperes at 115 VAC resistive.



Two Pole



Four Pole

ONE POLE

Stk. No.	Type	Gov't MS. No.	Key	1-9	10-19	20-49	50-99
23F1077	8500K1	24523-21	A	6.55	5.90	5.24	4.59
23F1078	8500K9	24523-22	B	6.55	5.90	5.24	4.59
23F1079	8500K4	24523-23	C	6.55	5.90	5.24	4.59
23F1080	8500K7	24523-28	K	7.60	6.84	6.08	5.32
23F1081	8500K2	24523-27	F	6.55	5.90	5.24	4.59
23F1082	8500K11	24523-30	I	6.55	5.90	5.24	4.59

TWO POLE

23F1083	8501K1	24524-21	A				
23F1084	8501K9	24524-22	B				
23F1085	8501K4	24524-23	C				
23F1086	8501K11	24524-30	I	9.10	8.19	7.28	6.37
23F1087	8501K5	24524-26	E				
23F1088	8501K2	24524-27	F				
23F1089	8501K3	24524-31	J				
23F1090	8504K6	24659-23D	N	14.10	12.69	11.28	9.87

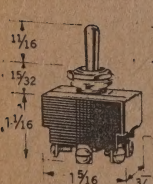
FOUR POLE

23F1091	8502K1	2425-21	A				
23F1092	8502K9	24525-22	B				
23F1093	8502K4	24525-23	C				
23F1094	8502K5	24525-26	D	14.45	13.01	11.56	10.12
23F1095	8502K2	24525-27	F				
23F1096	8502K3	24525-31	J				
23F1097	8505K6	24660-23D	N	19.45	17.51	15.56	13.62

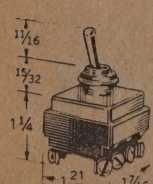
MIL-S-3950 STANDARD LEVER SEALED

One Pole

Employs a rocker-type contact mechanism, has silicone rubber lever seal assembled between the lever and the bushing to stop contaminants. Hot tin-dipped screw terminals (to facilitate soldering when used as lug). Positive snap-acting rocker type movable contactor assembly. Phenolic and metal housing. Rated 28 amps at 28 VDC, 10 amps at 115 VAC.



Two Pole



Four Pole

ONE POLE

Stock No.	Type	Gov't MS No.	Key	1-24	25-49	50-99	100-249
23F307	8800K16	35058-21	A	2.83	2.61	2.18	1.74
23F300	8801K22	35058-22	B	2.47	2.28	1.90	1.52
23F306	8810K15	35058-23	C	2.83	2.61	2.18	1.74
23F301	8801K23	35058-24	D	2.47	2.28	1.90	1.52
23F309	8812K14	35058-27	F	3.15	2.91	2.43	1.94
23F305	8811K17	35058-30	I	2.76	2.55	2.13	1.70
41F645	8857K44	25125-E3	N	7.15	6.60	5.50	4.40

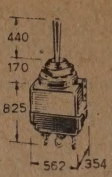
TWO POLE

23F316	8820K16	35059-21	A	3.80	3.51	2.93	2.34
23F311	8822K20	35059-22	B	3.38	3.12	2.60	2.08
23F315	8824K14	35059-23	C	3.80	3.51	2.93	2.34
23F312	8822K21	35059-24	D	3.45	3.18	2.65	2.12
41F646	8830K13	35059-26	E	4.78	4.41	3.68	2.94
23F317	8834K5	35059-27	F	5.01	4.62	3.85	3.08
23F318	8832K6	35059-31	J	4.62	4.26	3.55	2.84
41F648	8858K39	25126-A1	M	8.13	7.50	6.25	5.00
41F649	8858K44	25126-E3	N	8.13	7.50	6.25	5.00

FOUR POLE

41F650	7662K7	25068-21	A	8.13	7.50	6.25	5.00
23F319	7664K5	25068-23	C	8.13	7.50	6.25	5.00
41F651	7660K13	25068-24	D	6.83	6.30	5.25	4.20
41F652	7674K5	25068-26	E	10.17	9.39	7,83	6.26
41F653	7672K5	25068-27	F	10.17	9.39	7.83	6.26
41F654	8859K44	25127-E3	N	13.00	12.00	10.00	8.00

MIL-S-8834 MINIATURE LEVER SWITCHES



One Pole

Two Pole

Miniature size switches are completely "tease-proof". Enclosed in nylon-filled molding and stainless steel housing. Bushing size: ¼-40 thread, .170" long. Toggle size: 440 mounting; one facenut, internal tooth lock washer and silicone "O" ring panel seal. Lever seal withstands 15 feet of water pressure. Rating and description same as 8834B switches .75x.56x.35".

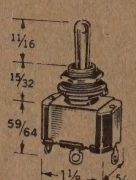
ONE POLE

Stock No.	Type	Gov't MS. No.	Key	1-24	25-49	50-99	100-249
23F327	8866K1	24655-211	A				
23F330	8866K7	24655-221	B	7.15	6.60	5.50	4.40
23F329	8866K4	24655-231	C				
23F448	8866K5	24655-241	D				
23F328	8866K2	24655-271	F	7.80	7.20	6.00	4.80
23F449	8866K6	24655-281	L				
23F447	8866K3	24655-311	J				
23F494	8866K8	.....	K	8.16	7.53	6.28	5.02

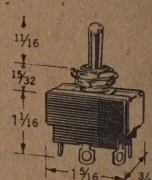
TWO POLE

23F331	8867K1	24656-211	A				
23F334	8867K7	24656-221	B	8.71	8.04	6.70	5.36
23F333	8867K4	24656-231	C				
23F499	8867K5	24656-241	D				
23F332	8867K2	24656-271	F	9.75	9.00	7.50	6.00
23F497	8867K6	24656-281	L				
23F495	8867K3	24656-311	J				
23F498	8867K8	.....	K	10.24	9.45	7.88	6.30

JAN-S-23 UNSEALED SWITCHES



One Pole



Two Pole

JAN-S-23 is an original switch specification; latest specification is MIL-S-3950C which should be used whenever possible. New numbers are shown in "Cross Reference." All have solder lug terminals and are not sealed (except * which are sealed)

ONE POLE

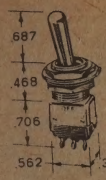
Stock No.	Type	Jan #	Cross to MS 3950	Key	-24	25-49	50-99	100-249
23F277	8803K6	ST42A	35058-22	B	2.31	2.13	1.78	1.42
23F200	8803K10*	ST42A	35058-22	B	2.41	2.22	1.85	1.48
23F205	8816K5	ST42C	35058-30	I	2.67	2.46	2.05	1.64
23F323	8817K5	ST42D	35058-23	C	2.47	2.28	1.90	1.52
23F201	8816K9*	ST42D	35058-23	C	2.76	2.55	2.13	1.70
23F324	8802K6	ST42E	35058-21	A	2.47	2.28	1.90	1.52
23F203	8805K9*	ST42F	35058-26	E	2.96	2.73	2.28	1.82
41F655	8818K5	ST42G	35058-27	F	2.73	2.52	2.10	1.68
23F204	8818K9*	ST42G	35058-27	F	2.83	2.61	2.18	1.74
23F208	8815K6	ST42H	35058-31	J	2.76	2.55	2.13	1.70

TWO POLE

23F326	8823K5	ST52K	35059-22	B	3.19	2.94	2.45	1.96
23F210	8823K6*	ST52K	35059-22	B	3.38	3.12	2.60	2.08
23F273	8825K5	ST52N	35059-23	C	3.19	2.94	2.45	1.96
23F211	8825K6*	ST52N	35059-23	C	3.38	3.12	2.60	2.08
23F325	8821K5	ST52P	35059-21	A	3.32	3.06	2.55	2.04
23F212	8821K6*	ST52P	35059-21	A	3.51	3.24	2.70	2.16
23F216	8831K5	ST52R	35059-26	E	4.39	4.05	3.38	2.70
23F217	8835K3	ST52S	35059-27	F	4.39	4.05	3.38	2.70
41F656	8835K4*	ST52S	35059-27	F	4.62	4.26	3.55	2.84
23F213	8833K3	ST52T	35059-31	J	4.23	3.90	3.25	2.60

Cutler-Hammer Military Switches

MIL-S-8834 MINIATURE LARGE LEVER



One Pole

Two Pole

Mechanism similar to standard size positive action switches. Gold-plated contacts with wiping action. Gold-plated terminals are potted. All levers are sealed. Size: SP, .562x.354x.706"; DP, .562x.546x.706". Rated 4 amps at 28 VDC, 3 amps at 115 VAC resistive load. With 2 locknuts, lockwasher, locking ring.

ONE-POLE

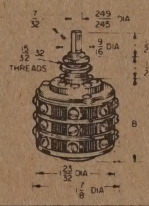
Stock No.	Type	Gov't MS No.	Key	1-24	25-49	50-99	100-249
23F781	8868K1	90310-211	A	7.44	6.87	5.73	4.58
23F274	8868K7	90310-221	B				
23F784	8868K4	90310-231	C				
23F785	8868K5	90310-241	D	8.09	7.47	6.23	4.98
23F782	8868K2	90310-271	F				
23F786	8868K6	90310-281	L				
23F783	8868K3	90310-311	J				
23F787	8868K8	90310-321	K	8.42	7.77	6.48	5.18

TWO-POLE

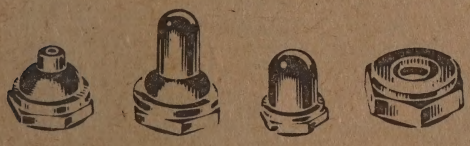
23F788	8869K1	90311-211	A	9.17	8.46	7.05	5.64
23F794	8869K7	90311-221	B				
23F791	8869K4	90311-231	C				
23F792	8869K5	90311-241	D	10.21	9.42	7.85	6.28
23F789	8869K2	90311-271	F				
23F793	8869K6	90311-281	L				
23F790	8869K3	90311-311	J				
23F795	8869K8	90311-321	K	10.53	9.12	8.10	6.48

ROTARY POWER SWITCH

Meet MIL-S-6807. Adjustable index and continuous rotation. Rated 5 amperes at 28 VDC and 115 VAC. All switches are non-shorting and have 8 positions. All have screw terminals, $1^{17}/_{32}$" shaft, $^{15}/_{32}$" bushing. Complete with hex nuts, locking ring and locking washer. Continuous rotation is accomplished by omitting the stop screws.



Stock No.	Type	MS No.	Sec.	Action	1-24	25-49	50-99
23F544	7261K14	25002-1	1	SP	10.91	10.07	8.40
23F545	7262K14	25002-2	2	DP	16.59	15.32	12.77
23F546	7263K13	25002-3	3	3P	22.24	20.53	17.11
23F547	7264K10	25002-4	4	4P	28.69	26.48	22.07
23F548	7265K10	25002-5	5	5P	33.50	30.92	25.77



A B C D

MILITARY SWITCH SEALS

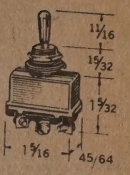
Meet MIL-B-5423. Grey silicone rubber seals make switches watertight, dustproof. Install easily to provide vibration-resistant seal. Designed for operating temperatures between -160°F and +500°F

Stk. No.	Type	Size	Fig.	MIL-B-5423	1-99	100-249	250-999
41F629	SW1AN1030	$^{15}/_{32}$-32	B	1-A1	.94	.92	.72
41F630	SW1BN1030	$^{15}/_{32}$-32	A	2-A3	.94	.92	.72
41F631	SW1LN5030	¼-40	B	5-A71	1.31	1.31	.94
41F632	SW1BN5032	¼-40	A	11-A8	1.31	1.31	.94
41F633	SW1AN3030	$^{15}/_{32}$-32 $^{5}/_{16}$	C	7-B21	.85	.83	.67
41F634	SW1NC3030	$^{15}/_{32}$-32 $^{7}/_{16}$	C	7-B22	.85	.83	.67
41F635	SW1AN9060-14	$^{15}/_{32}$-32	D	9-C6	1.47	1.39	1.03
41F636	SW1AN9030-14	⅜-32	D	9-C2	.78	.78	.61
41F637	SW1AN9040-18	¼-32	D	9-C4	.81	.81	.65
41F639	SW1RC3030-1	$^{15}/_{32}$-32	C	RF1	2.79	2.79	2.18
41F640	SW1RN9030-14	⅜-32	D	RF1	1.73	1.69	1.42

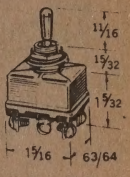
MIL-S-8834 POSITIVE ACTION

- Environmentally Sealed
- "Tease Proof" Action
- Positive Make and Break Action
- Wiping Action for Good Contact
- Rugged Nylon and Stainless Housing

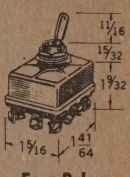
Nylon parts provide high arc-tracking resistance and excellent recovery voltage characteristics. 25A @ 28VDC, 20A @ 115VAC.



One Pole



Two Pole



Four Pole

ONE-POLE

Stock No.	Type	Gov't MS No.	Key	1-24	25-49	50-99	100-249
23F650	8836K1	25306-212	A	15.28	14.10	11.75	9.40
23F658	8836K9	25306-222	B	14.95	13.80	11.50	9.20
23F653	8836K4	25306-232	C	15.28	14.10	11.75	9.40
23F655	8836K6	25306-242	D	15.28	14.10	11.75	9.40
23F1073	8836K2	25306-272	F	15.93	14.70	12.25	9.80
23F660	8836K11	25306-302	I	15.28	14.10	11.75	9.40

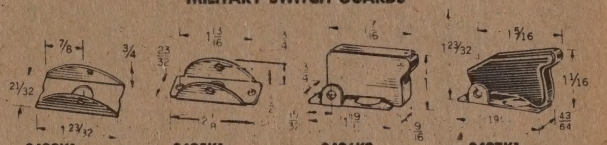
TWO-POLE

23F661	8837K1	25307-212	A	19.83	18.30	15.25	12.20
23F669	8837K9	25307-222	B	19.66	18.15	15.13	12.10
23F664	8837K4	25307-232	C	19.83	18.30	15.25	12.20
23F666	8837K6	25307-242	D	19.99	18.45	15.38	12.30
23F1074	8837K5	25307-262	E	20.80	19.20	16.00	12.80
23F662	8837K2	25307-272	F	20.80	19.20	16.00	12.80
23F663	8837K3	25307-312	J	20.80	19.20	16.00	12.80
23F1075	8844K6	26413-E232	N	26.98	24.90	20.75	16.60

FOUR-POLE

23F672	8838K1	25308-212	A	33.80	31.20	26.00	20.80
23F680	8838K9	25308-222	B	32.50	30.00	25.00	20.00
23F675	8838K4	25308-232	C	33.80	31.20	26.00	20.80
23F676	8838K5	25308-262	D	35.43	32.70	27.25	21.80

MILITARY SWITCH GUARDS



8492K1 8495K1 8496K2 8497K1

Type 8495. Switch guards are for two screw flush mounted switches. They can be used to prevent accidental operation of the switch lever by inserting a pin through the holes provided in the side brackets. With a pin in place across the guard, single pole switches are locked in position and double pole switches will operate from the first position to the second position, but not to the extreme position. The guard is black enamel metal.

Type 8492K1. The same as the 8495 guard except for its use on one hole mounting switches.

Type 8496. For three position switches. Pushing the guard down returns the switch lever to the "off" position from either the up or down positions. These guards are available in red or black phenolic with black enamel flush plate.

Type 8497. Designed for use with single throw switches. The switch can only be operated when the guard is up. Returning the guard to the down position forces the switch lever to the "off" position. Available in red or green phenolic with a black enamel plate.

Stock No.	Type	MS Type	Color	Mtg.	Material	1-24	25-49	50-99
41F675	8497K2	MS25224-2	Red	Flush	Phenolic	3.38	3.12	2.60
41F676	8495K1	MS25221-1	Blk	Flush	Metal	3.25	3.00	2.50
41F677	8496K2	MS25223-2	Red	OBM	Phenolic	2.96	2.73	2.28
23F145	8497K1	MS25224-1	Red	OBM	Phenolic	3.38	3.12	2.60
41F678	8497K3	MS25224-3	Red	OBM	Phenolic	3.38	3.12	2.60
41F679	8497K7	MS25225-1	Red	OBM	Phenolic	4.49	4.14	3.45
23F140	8492K1	MS24417-1	Blk	OBM	Metal	1.50	1.38	1.15

LEVER TRAVEL CHART

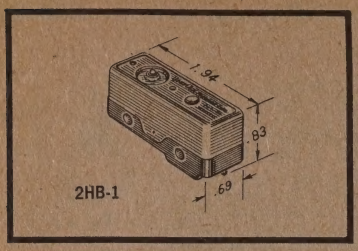
Key	Up Position	Center Position	Down Position (Keyway)
A	ON	OFF	ON
B	ON	NONE	OFF
C	ON	NONE	ON
D	ON	OFF	NONE
E	ON	NONE	ON*
F	ON*	OFF	ON*
G	ON*	OFF	ON
H	ON	NONE	OFF
I	OFF	NONE	ON*
J	ON	OFF	ON*
K	NONE	ON	ON*
L	NONE	OFF	ON*
M	ON-	—OFF—	-ON
N	ON-	NONE	-ON

*Momentary — Direction in which lever is locked

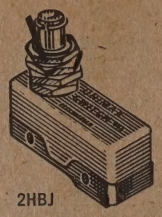
Unimax Switch

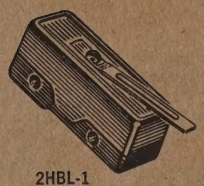
Snap-Action Switches

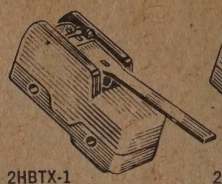
PRECISION SWITCHES

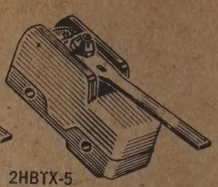


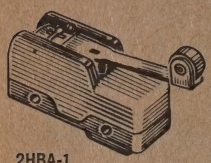
2HB-1


2HBJ


2HBL-1

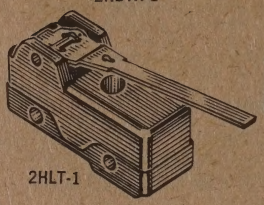

2HBTX-1

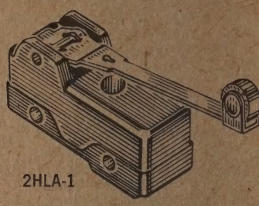

2HBTX-5


2HBA-1

WHB-1

2HL-1


2HLT-1


2HLA-1

BASIC TYPES

Pin actuator. Used in applications requiring minimum pre-travel and over-travel, with moderate operating force. 20 amps 125/250/480 VAC. ½ amp, 125 VDC. ¼ amp, 250 VDC. UL and CSA listed. Double-throw. Mounting holes will accept .139″ dia. max. on 1.0″ centers ±.002″. **Suffix —1:** solder lug terminals of tinned copper, recessed between molded ribs that provide increased creep-distance. **Suffix —5:** screw terminals widely spaced on a stepped base, with #6-32 binding-head screws and cup washers facing bottom.

2HB. Basic type. **2HBL.** Leaf-spring actuator. Moderate over-travel. **2HBJ.** Large plunger actuator. Long over-travel. Single hole panel mounting. **2HBT.** Rigid lever actuator. Low operating force. Long over-travel. **2HBTX.** Permits operating point to be precisely adjusted from the top after switch is installed. **2HBA.** Rolling contact with actuating device. Long over-travel. Low operating force. **2HL.** Heavy duty. **2HLA.** Rolling contact. Long over-travel. Low operating force. **2HLT.** Rigid lever actuator. Low operating force. Long over-travel.

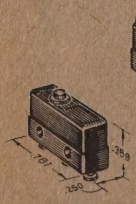
Stock No.	Type	Operate Force Ounces	Release Force Ounces	Movement Differential Inches	Pretravel Inches	Total Overtravel Inches	Contact Separation Inches	1-9	10-19	20-49
07F041	2HB-1	9 to 13	4 min.	.0004-.002	.020	.005	.020	2.25	2.03	1.80
07F042	2HB-5	9 to 13	4 min.	.0004-.002	.020	.005	.020	2.45	2.21	1.96
07F043	2HBL-1	5 max.	.5 min.	.050 max.	.156	.062	.020	2.55	2.30	2.04
07F044	2HBL-5	5 max.	.5 min.	.050 max.	.156	.062	.020	2.95	2.66	2.36
07F045	2HBJ-5	9 to 13	4 min.	.0004-.002	.020	.219	.020	5.25	4.73	4.20
07F046	2HBT-1	1 to 2.5	.5	.078 max.	.125-.375	.188	.020	3.05	2.75	2.44
07F047	2HBT-5	1 to 2.5	.5	.078 max.	.125-.375	.188	.020	3.10	2.79	2.48
07F048	2HBTX-1	2 max.	.25	.031 max.	.05-.187	.093	.020	3.75	3.38	3.00
07F049	2HBTX-5	2 max.	.25	.031 max.	.05-.187	.093	.020	3.85	3.47	3.08
07F050	2HBA-1	1 to 3.5	.75	.062 max.	.094-.313	.156	.020	3.75	3.38	3.00
07F051	2HBA-5	1 to 3.5	.75	.062 max.	.094-.313	.156	.020	3.85	3.47	3.08
07F052	2HL-1	14-22	10	.0075	.050	.010	.025	2.75	2.48	2.20
07F053	2HLT-5	2.5 max.	.5 min.	.109 max.	.59	.078	.025	3.20	2.88	2.56
07F054	2HLA-1	2.5 max.	.5 min.	.085 max.	.56	.062	.025	4.20	3.78	3.36
07F055	2HLA-5	2.5 max.	.5 min	.085 max.	.56	.062	.025	4.00	3.60	3.20

LOW FORCE TYPES

Designed for use where small movement differential, low actuating force and high repeat accuracy are required. Single-pole double-throw operation standard.

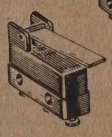
15 amps 125/250 VAC. UL and CSA listed. **WHB.** Basic type high sensitivity. **WHBT215.** Has rigid lever actuator for low operating force and long over-travel.

Stock No.	Type	Operate Force Ounces	Release Force Ounces	Movement Differential Inches	Pretravel Inches	Total Overtravel Inches	Contact Separation Inches	1-9	10-19	20-49
07F056	WHB-1	7 to 9	4 min	.0005 max.	.015	.005	.010	2.90	2.61	2.32
07F057	WHB-5	7 to 9	4 min.	.0005 max.	.015	.005	.010	3.05	2.75	2.44
07F058	WHBT215-1	15 max	2 min	.025 max	.375	.188	.010	3.05	2.75	2.44



2LM-C

5LM-E


2LML-E

2LMT-C

SUBMINIATURE SWITCHES

- **Five Types**
- **Long Life**

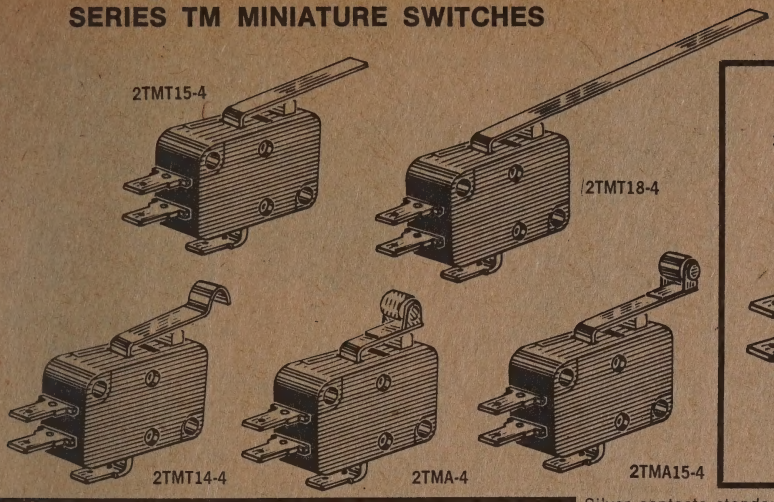
Provide reliable switching in limited space. **2LM-C.** Pin type switch. 5 amps 250 VAC. **2LML-E.** Integral leaf actuator for long over-travel. Solder lug terminals. **5LMI-E.** Integral roller leaf actuator. Long over-travel. Rolling contact with the operating device. **2LMW-E.** Integral roller leaf actuator. Long over-travel. Rolling contact with the operating device. **2LMT-C.** Integral rigid lever actuator. Low force and low differential motion.

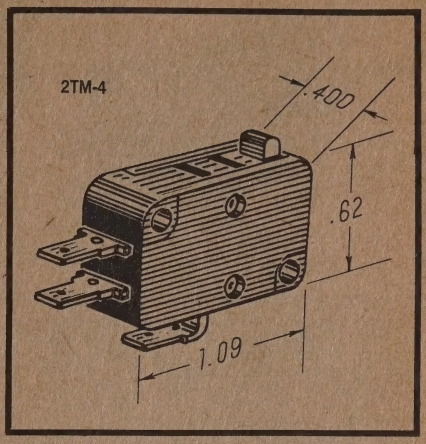
Stock No.	Type	Operate Force Ounces	Release Force Ounces	Movement Differential Inches	Pretravel Inches	Overtravel Inches	1-9	10-19	20-49
07F059	2LM-C	5 max.	1 min	.004 max.	.030	.005	1.40	1.26	1.12
07F060	2LMW-E	6 max.	.5 min	.031 max.	.094	.047	2.45	2.21	1.96
07F061	5LM1-E	5 max.	2 min	.004 max.	.030	.005	2.20	1.98	1.76
07F062	2LML-E	6 max.	.5 min	.031 max.	.094	.047	2.10	1.89	1.68
07F063	2LMT-C	50 max.	7 min	.019 max.	.085	.020	1.65	1.49	1.32

Snap-Action Switches

SERIES TM MINIATURE SWITCHES

Unimax Switch





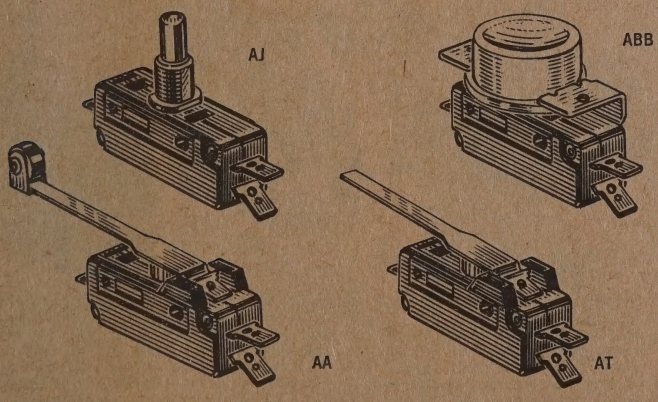
ELECTRICAL RATINGS

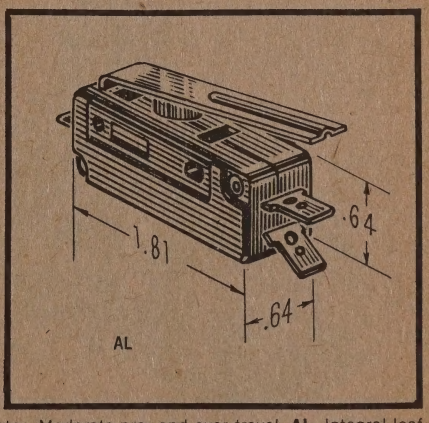
- 10 Amps 250 VAC
- ¼ Amp 250 VDC
- ⅓ Hp 125/250 VAC
- ½ Amp 125 VDC

Silver contacts standard. Low operating force with negative force gradient (overtravel forces less than operating forces). Long life-molded in overtravel stop limits button movement preventing over-stressing and severe shock loading of the blade. Mounting holes independent of cover, giving improved electrical insulation and high case (mounting) strength. Simplified one-piece blade design ensures reliability. Two lever pivot locations afford wide selection of characteristics. Quick connect terminals. **2TM.** Basic switch. **2TMA.** Short roller lever. **2TMA15.** Standard roller lever. Low motion lever position. **2TMT15.** Standard lever. Low motion lever position. **2TMT14.** Simulated roller. **2TMT18.** Extra long lever.

Stock No.	Type	Operate Force Grams	Movement Differential Inches	Pretravel Inches	Total Overtravel Inches	1-49	50-99	100-499
07F028	2TM-4	75 max.	.013 max.	.047 max.	.050	.95	.70	.60
07F029	2TMA-4	90 max.	.013 max.	.060 max.	.040	1.35	.99	.85
07F030	2TMT15-4	45 max.	.032 max.	.160 max.	.090	1.10	.81	.70
07F031	2TMA15-4	45 max.	.030 max.	.160 max.	.090	1.35	.99	.85
07F032	2TMT14-4	50 max.	.050 max.	.140 max.	.080	1.15	.84	.73
07F033	2TMT18-4	15 max.	.078 max.	.312 max.	.200	1.15	.84	.73

SERIES A GENERAL PURPOSE





Fully enclosed, high performance, low cost, snap-acting switches with quick connect terminals integral with stationary contacts and spring mechanism. High strength. Low heating. Overlap construction where switch halves meet provide excellent resistance to dirt, dust and moisture. 15 amps 125/250 VAC. ¾ Hp 125 VAC. 1½ Hp 250 VAC. UL and CSA listed.

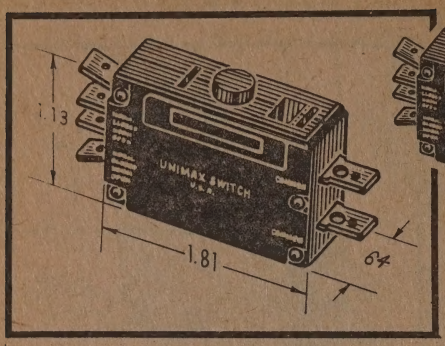
A. Button actuator. Moderate pre- and over-travel. **AL.** Integral leaf actuator. Moderate overtravel. Light operating force. **AT.** Hinged lever actuator integral with switch. Very light operating force with long overtravel. **AA.** Hinged roller lever actuator. Rolling contact with actuating device. **AJ.** Plunger actuator. Threaded bushing. **ABB.** Red push button actuator. **ABB1.** Black push button actuator.

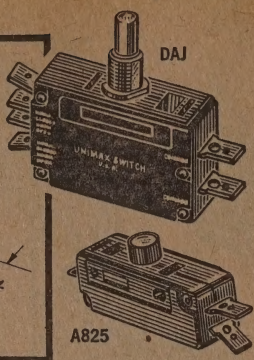
Stock No.	Type	Operate Force Ounces	Release Force Ounces	Movement Differential Inches	Pre-travel Inches	Total Overtravel Inches	Contact Separation Inches	1-49	50-99	100-499
07F034	A	20 max.	3 min.	.010 max.	.050	.050	.020	1.05	.77	.67
07F035	AL	12 max.	1 min.	.093 max.	.281	.062	.020	1.20	.88	.76
07F036	AT	4 max.	.5 min.	.062 max.	.250	.187	.020	1.45	1.06	.92
07F037	AA	4 max.	.5 min.	.062 max.	.250	.187	.020	1.85	1.35	1.17
07F038	AJ	20 max.	3 min.	.010 max.	.050	.187	.020	1.45	1.06	.92
07F039	ABB	20 max.	3 min.	.010 max.	.050	.050	.020	1.65	1.21	1.04
07F040	ABB1	20 max.	3 min.	.010 max.	.050	.050	.020	1.65	1.21	1.04

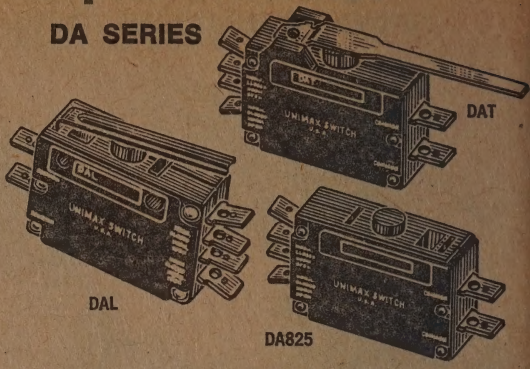
Unimax Switch®

General Purpose Switches

DA SERIES







Provides convenient double-pole double-throw switching or operation of two independent single-pole double-throw switches by the same actuating button. Poles can be arranged to operate in sequence. Quick connect terminals integral with stationary contacts and spring mechanism. Overlap construction. 15 amps 125/250 VAC. ¾ hp, 125 VAC. 1½ hp, 250 VAC. UL and CSA listed. Resistant to dust and moisture.

Type DA. Push button actuator. **Type DAJ.** Plunger actuator. Threaded bushing for panel mounting. Actuator provides long overtravel. **Type DAL.** Integral leaf actuator with moderate overtravel and light operating force. **Type DAT.** Hinged lever actuator that is integral part of switch. Provides very light operating force with long overtravel. Note: Mounting holes accept .139 dia. max. on 1.0″ ±.002″ centers.

Stock No.	Type	Operate Force Ounces Max.	Release Force Ounces Max.	Movement Differential in Max. per Pole	Pretravel Inches Max. First Pole	Total Overtravel Inches Second Pole	Contact Separation Inches Min.	1-49	50-99	100-499
07F001	DA	30	6	.010	.050	.050	.020	2.25	1.64	1.42
07F002	DAJ	30	6	.010	.050	.187	.020	2.65	1.93	1.67
07F003	DAL	18	2	.090	.281	.062	.020	2.35	1.72	1.48
07F004	DAT	6	1	.062	.250	.187	.020	2.50	1.83	1.58

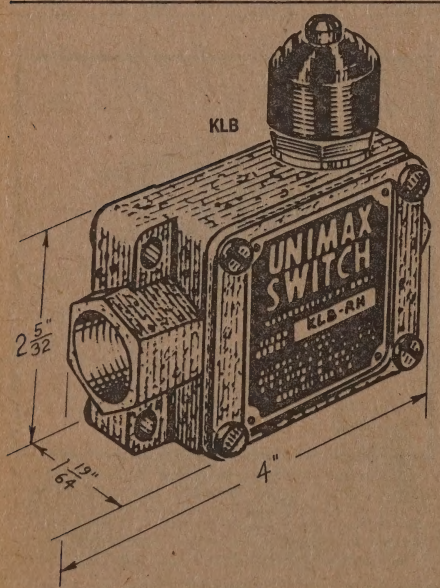
HIGH CURRENT TYPES

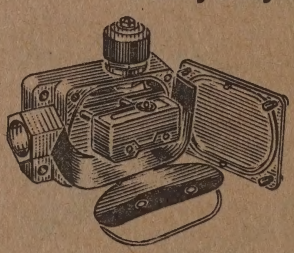
Meet high current requirements of household and industrial devices. Particularly suited to equipment containing heating elements controlled by thermostats. 25 amps, 125/250 VAC.

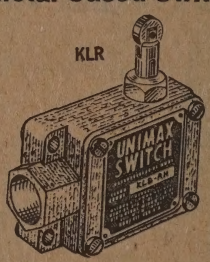
1 hp, 125 VAC. 2 hp, 250 VAC. UL and CSA listed. Mtg. holes accept .139″ dia. max. on centers 1.0″ ±.002″. **Type A825.** Single-pole, double-throw. **Type DA825.** Double-pole, double- throw.

Stock No.	Type	Operate Force Ounces Max.	Release Force Ounces Min.	Movement Differential in Max., per Pole	Pretravel Inches (Max. First Pole)	Total Overtravel Inches	Contact Separation Inches Min.	1-49	50-99	100-499
07F005	A825	20	3	.010	.050	.050	.020	1.45	1.06	.91
07F006	DA825	40	6	.010	.050	.050	.020	3.40	2.48	2.14

Heavy Duty Metal Cased Switches







Available in both right-hand and left-hand mounting.

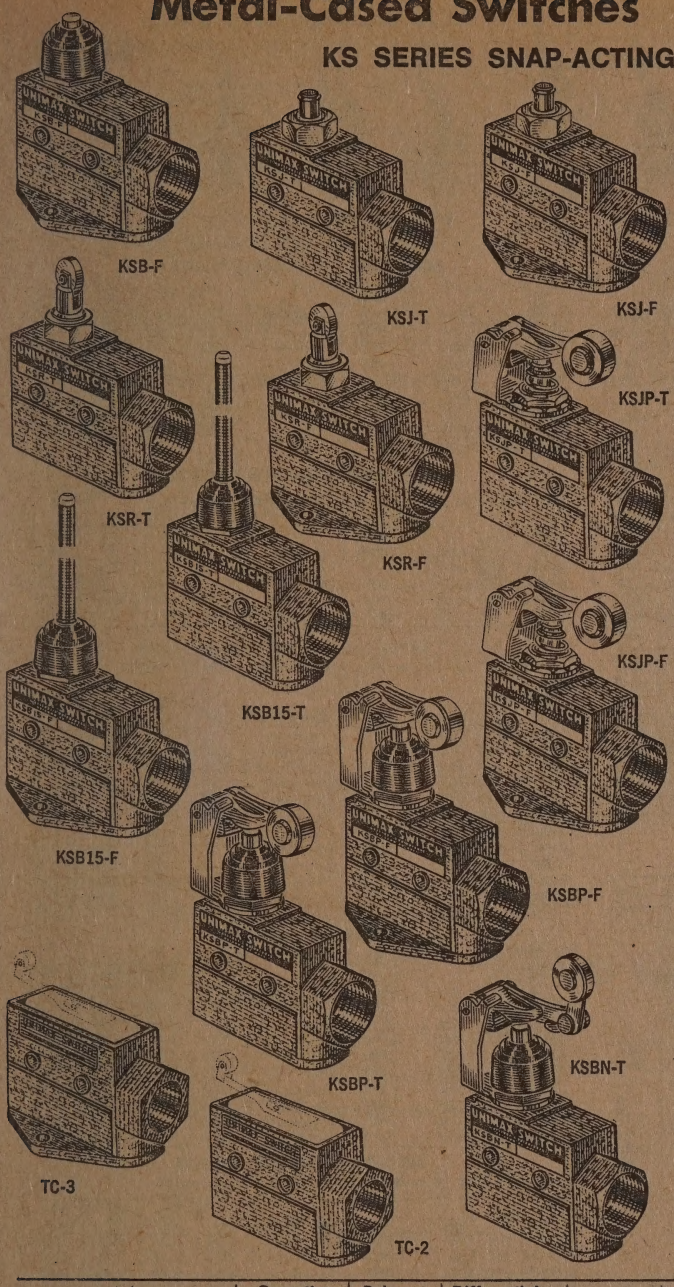
Precision snap-acting switches with side-mounting metal housings. Suitable for automatic-control, limit, and safety-switch applications. Sturdy die-cast housing with removable front plate attached by four captive screws. An O-ring seals joint between cover and switch body against moisture, dirt, oil, and condensation. Conduit-hub tapped with ½-14 NPSM thread. Three mounting ears, integral with body casting, provide for attachment of switch to flat surface. Basic switch mounted on two accurately positioned pins in cast housing for uniformity of operating characteristics. Switch can be removed from housing to facilitate attachment of connecting wires. Flexible insulator between terminals and metal case. 1 hp, 125 VAC. 2 hp, 250 VAC. 20 amps, 125/250/480 VAC. 10 amps, 125 VAC lamp load. ½ amp, 125 VDC. ¼ amp, 250 VDC. **Type KLB.** Sealed plunger for long overtravel applications. **Type KLR.** Roller plunger with long overtravel for cam or slide actuation. **Type KLB15.** Semi rigid rod actuator. Lateral application of force from any direction.

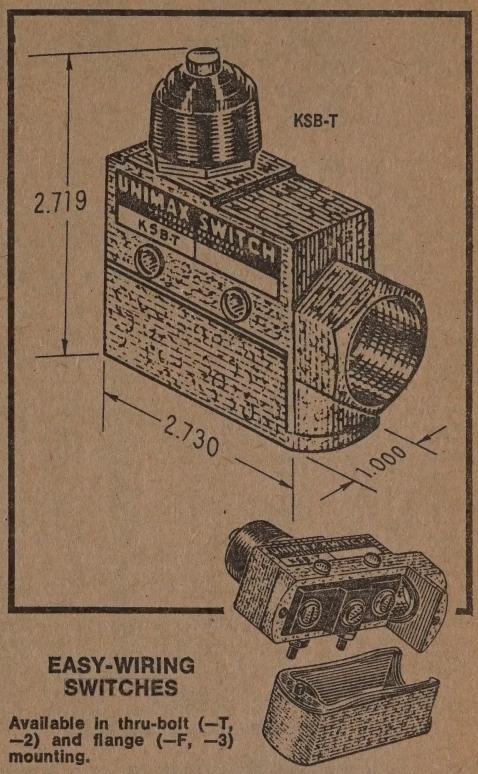
Stock No.	Type	Operate Force Pounds	Release Force Pounds	Differential Motion Inches	Pretravel Inches	Total Overtravel Inches	1-9	10-19	20-49
07F007	KLB-LH	2½ max.	½ min.	.010 max.	.094 max.	.219	14.80	13.32	11.84
07F008	KLB-RH	2½ max.	½ min.	.010 max.	.094 max.	.219	14.80	13.32	11.84
07F009	KLR-LH	2½ max.	¾ min.	.010 max.	.094 max.	.156	19.00	17.10	15.20
07F010	KLR-RH	2½ max.	¾ min.	.010 max.	.094 max.	.156	19.00	17.10	15.20
07F011	KLB15-LH	Rod will bend 90 degrees in any direction.					21.00	18.90	16.80
07F012	KLB-15-RH	Rod will bend 90 degrees in any direction.					21.00	18.90	16.80

Metal-Cased Switches

Unimax Switch®

KS SERIES SNAP-ACTING SWITCHES





EASY-WIRING SWITCHES

Available in thru-bolt (—T, —2) and flange (—F, —3) mounting.

Precision switches combine 20 amp basic switches with sturdy die-cast aluminum housings for maximum ease in mounting and wiring. Switch can be mounted flat with style T housing or upright with style F housing. Conduit-hub has ½-14 NPSM internal thread. Hex shape facilitates installation. Two part housing separates so screw terminals of basic switch are fully accessible. 20 amps, 125/250/480 VAC. ½ amp, 125 VDC. ¼ amp 250 VDC. **Type KSB.** Sealed plunger for long overtravel applications. Switch protected against dirt and splashable liquids. **Type KSB15.** Semi-rigid rod actuator. Allows lateral application of operating force from any direction. **Type KSJ.** Plain plunger for long overtravel where operating force is applied in line with plunger. **Type KSR.** Roller plunger for use with cams or slides that move in same plane as length of switch. **Type KSBP.** Roller lever actuator with sealed plunger for slide or cam operation. Adjustable vertically. Can be rotated horizontally. **Type KSJP.** Actuator without sealing boot. **Type KSBN.** Spring loaded roller arm permits non-operate return stroke of sliding cam. Lever adjustable vertically. Can be rotated horizontally. **Type TC.** Switch and terminal enclosure.

Stock No.	Type	Operating Force Ounces	Release Force Ounces	Differential Motion Inches	Pretravel Inches	Total Overtravel Inches	Contact Separation Inches	1-9	10-19	20-49
07F013	KSB-T	9 to 24	4 min.	.002 max.	.078 max.	.219	.020	9.10	8.19	7.28
07F014	KSB-F	9 to 24	4 min.	.002 max.	.078 max.	.219	.020	9.10	8.19	7.28
07F015	KSB15-T	Rod will bend 90 degrees in any direction.						14.10	12.69	11.28
07F016	KSB15-F	Rod will bend 90 degrees in any direction.						14.10	12.69	11.28
07F017	KSJ-T	9 to 13	4 min.	.002 max.	.020 max.	.219	.020	7.00	6.30	5.60
07F018	KSJ-F	9 to 13	4 min.	.002 max.	.020 max.	.219	.020	7.00	6.30	5.60
07F019	KSR-T	9 to 13	4 min.	.002 max.	.020 max.	.140	.020	11.90	10.71	9.52
07F020	KSR-F	9 to 13	4 min.	.002 max.	.020 max.	.140	.020	11.90	10.71	9.52
07F021	KSBP-T	10 to 20	6 min.	.006 max.	.188 max.	.219	.020	13.50	12.15	10.80
07F022	KSBP-F	10 to 20	6 min.	.006 max.	.188 max.	.219	.020	13.50	12.15	10.80
07F023	KSJP-T	10 to 18	6 min.	.006 max.	.188 max.	.219	.020	11.90	10.71	9.52
07F024	KSJP-F	10 to 18	6 min.	.006 max.	.188 max.	.219	.020	11.90	10.71	9.52
07F025	KSBN-T	8 to 20	6 min.	.006 max.	.234 max.	.219	.020	15.60	14.04	12.48
07F026	TC-2	Thru bolt mounting enclosure						2.80	2.52	2.24
07F027	TC-3	Flange mounting enclosure						2.80	2.52	2.24

ALCOSWITCH Subminiature Toggle Switches

MST

MTF

MTB

MTA

MTA-PC

MTA-WW

MTE

MTG

MTL

MTM-RA

MTM-PC

MST MINIATURE TOGGLE SWITCHES

Slim, bat handle toggle switches for miniature applications with limited back of panel clearance. Black phenolic resin case; ¼-40 threaded bushing. Rated 6 amps @ 125 VAC. SPDT and DPDT types have life cycle over 80,000 on-off operations. 3PDT and 4PDT, over 20,000. Terminals and contacts are solid silver (center terminal, copper with silver plate). High voltage barriers between terminals and contacts.

Stk. No.	Type	Contacts	Operation	1-24	25-49	50-99	100-249
61F854	MST-105D	SPDT	On-none-on	1.75	1.31	1.19	1.10
61F855	MST-105E	SPDT	On-off-on	2.05	1.54	1.39	1.29
61F856	MST-105F	SPDT	None-on-on†	2.05	1.54	1.39	1.29
61F857	MST-105G	SPDT	On-off-on†	2.05	1.54	1.39	1.29
61F858	MST-105H	SPDT	On-off-on	2.05	1.54	1.39	1.29
61F850	MST-115D	SPDT	On-none-on*	1.80	1.35	1.22	1.13
61F859	MST-205N	DPDT	On-none-on	2.30	1.73	1.56	1.45
61F860	MST-205P	DPDT	On-off-on	2.70	2.03	1.84	1.70
61F864	MST-205PA	DPDT	On-on-on	2.95	2.21	2.01	1.86
61F861	MST-205R	DPDT	None-on-on†	2.70	2.03	1.84	1.70
61F862	MST-205S	DPDT	On-off-on†	2.70	2.03	1.84	1.70
61F1184	MST-205SA	DPDT	On-on-on	3.25	2.44	2.21	2.05
61F863	MST-205T	DPDT	On-off-on†	2.70	2.03	1.84	1.70
61F865	MST-205TA	DPDT	On-on-on	3.25	2.44	2.21	2.05
61F851	MST-215N	DPDT	On-none-on*	2.35	1.76	1.60	1.48
61F866	MST-305D	3PDT	On-none-on	3.90	2.93	2.65	2.46
61F867	MST-305E	3PDT	On-off-on	4.20	3.15	2.86	2.65
61F868	MST-305H	3PDT	On-off-on†	4.20	3.15	2.86	2.65
61F852	MST-315D	3PDT	On-none-on*	3.95	2.96	2.69	2.49
61F869	MST-405N	4PDT	On-none-on	5.00	3.75	3.40	3.15
61F870	MST-405P	4PDT	On-off-on	5.40	4.05	3.67	3.40
61F853	MST-415N	4PDT	On-none-on*	5.05	3.79	3.43	3.18

(†) denotes Momentary, (*) denotes White Cap.

MINIATURE TOGGLE SWITCHES

Have molded-in terminals to prevent solder, flux and other contaminants from entering contact area. Contacts and terminals have gold finish. Green diallyl phthalate case. All types have ¼"-40 high torque bushings except **MTG Series** has 15/32"-32 bushings. Rated 6 amps @ 125VAC, 3 amps @ 250VAC.

MINIATURE TOGGLES WITH PC AND WIRE WRAP TERMINALS

PC terms: 0.250" long. WW type: 0.031" x 0.050" x 0.740" long.

Stk. No.	Type	Contacts	Operation	1-24	25-49	50-99	100-249
61F792	MTA-106D-PC	SPDT	On-none-on	1.85	1.39	1.26	1.17
61F793	MTA-106E-PC	SPDT	On-off-on	2.15	1.61	1.46	1.35
61F794	MTA-106F-PC	SPDT	On-none-on†	2.15	1.61	1.46	1.35
61F795	MTA-206N-PC	DPDT	On-none-on	2.55	1.91	1.73	1.61
61F796	MTA-206P-PC	DPDT	On-off-on	2.90	2.18	1.97	1.83
61F797	MTA-206R-PC	DPDT	On-none-on†	2.90	2.18	1.97	1.83
61F798	MTA-106D-WW	SPDT	On-none-on	2.00	1.50	1.36	1.26
61F799	MTA-206N-WW	DPDT	On-none-on	2.85	2.14	1.94	1.80

(†) denotes Momentary positions.

MINIATURE BAT HANDLE TOGGLES

Solder Terminals accept two #20 AWG wires.

Stk. No.	Type	Contacts	Operation	1-24	25-49	50-99	100-249
61F1245	MTA-106D	SPDT	On-none-on	1.70	1.28	1.16	1.07
61F1246	MTA-106E	SPDT	On-off-on	2.05	1.54	1.39	1.29
61F800	MTA-106F	SPDT	On-none-on†	2.05	1.54	1.39	1.29
61F801	MTA-106G	SPDT	On-off-on†	2.05	1.54	1.39	1.29
61F802	MTA-106H	SPDT	On-off-on†	2.05	1.54	1.39	1.29
61F1247	MTA-206N	DPDT	On-none-on	2.35	1.76	1.60	1.48
61F1248	MTA-206P	DPDT	On-off-on	2.70	2.03	1.84	1.70
61F803	MTA-206R	DPDT	On-none-on†	2.70	2.03	1.84	1.70
61F804	MTA-206S	DPDT	On-off-on†	2.70	2.03	1.84	1.70
61F805	MTA-206T	DPDT	On-off-on†	2.70	2.03	1.84	1.70
61F1249	MTA-206PA	DPDT	On-on-on	2.95	2.21	2.01	1.86
61F1250	MTA-306D	3PDT	On-none-on	3.90	2.93	2.65	2.46
61F1251	MTA-306E	3PDT	On-off-on	4.20	3.15	2.86	2.65
61F1252	MTA-406N	4PDT	On-none-on	5.00	3.75	3.40	3.15
61F1253	MTA-406P	4PDT	On-off-on	5.40	4.05	3.67	3.40

(†) denotes Momentary positions.

MINIATURE FLAT HANDLE TOGGLES

Stk. No.	Type	Contacts	Operation	1-24	25-49	50-99	100-249
61F806	MTF-106D	SPDT	On-none-on	2.25	1.69	1.53	1.42
61F807	MTF-106E	SPDT	On-off-on	2.55	1.91	1.73	1.61
61F808	MTF-106G	SPDT	On-off-on†	2.55	1.91	1.73	1.61
61F809	MTF-206N	DPDT	On-none-on	2.85	2.14	1.94	1.80
61F810	MTF-206P	DPDT	On-off-on	3.20	2.40	2.18	2.02
61F811	MTF-206R	DPDT	On-none-on†	3.20	2.40	2.18	2.02
61F812	MTF-306D	3PDT	On-none-on	4.40	3.30	2.99	2.77

(†) denotes Momentary

MINIATURE BATON LEVER TOGGLES

0.6" long baton with black plastic tip. Solder lug terms.

Stk. No.	Type	Contacts	Operation	1-24	25-49	50-99	100-249
61F813	MTB-106D	SPDT	On-none-on	1.85	1.39	1.26	1.17
61F814	MTB-106E	SPDT	On-off-on	2.15	1.61	1.46	1.35
61F815	MTB-206N	DPDT	On-none-on	2.45	1.84	1.67	1.54
61F816	MTB-206P	DPDT	On-off-on	2.80	2.10	1.90	1.76

MINIATURE WATERPROOF TOGGLES

Bat Handle. "O" ring seals inside bushing. Solder lug terms.

Stk. No.	Type	Contacts	Operation	1-24	25-49	50-99	100-249
61F871	MTE-106D	SPDT	On-none-on	2.15	1.61	1.46	1.35
61F872	MTE-106E	SPDT	On-off-on	2.45	1.84	1.67	1.54
61F817	MTE-106F	SPDT	On-none-on†	2.45	1.84	1.67	1.54
61F873	MTE-206N	DPDT	On-none-on	2.75	2.06	1.87	1.73
61F874	MTE-206P	DPDT	On-off-on	3.10	2.33	2.11	1.95
61F875	MTE-206PA	DPDT*	On-on-on	3.35	2.51	2.28	2.11
61F818	MTE-206R	DPDT	On-none-on†	3.10	2.33	2.11	1.95
61F876	MTE-306D	3PDT	On-none-on	4.30	3.23	2.92	2.71
61F877	MTE-306E	3PDT	On-off-on	4.60	3.45	3.13	2.90
61F878	MTE-406N	4PDT	On-none-on	5.40	4.05	3.67	3.40
61F879	MTE-406P	4PDT	On-off-on	5.80	4.35	3.94	3.65

(†) denotes Momentary, (*) denotes useable as SP3T

MUSTANG TOGGLES

Bat Handle. 5/32" bushing. Solder lug terminals.

Stk. No.	Type	Contacts	Operation	1-24	25-49	50-99	100-249
61F1187	MTG-106D	SPDT	On-none-on	2.30	1.73	1.56	1.45
61F819	MTG-106E	SPDT	On-off-on	2.60	1.95	1.77	1.64
61F884	MTG-206N	DPDT	On-none-on	2.90	2.18	1.97	1.83
61F885	MTG-206P	DPDT	On-off-on	3.25	2.44	2.21	2.05
61F886	MTG-206PA	DPDT	On-on-on	3.50	2.63	2.38	2.21
61F887	MTG-306D	3PDT	On-none-on	4.45	3.34	3.03	2.80
61F888	MTG-306E	3PDT	On-off-on	4.75	3.56	3.23	2.99
61F889	MTG-406N	4PDT	On-none-on	5.55	4.16	3.77	3.50
61F890	MTG-406P	4PDT	On-off-on	5.95	4.46	4.05	3.75

MINIATURE LOCKING TOGGLES

Lever lock must be pulled out to operate. Sol. lug terms.

Stk. No.	Type	Contacts	Operation	1-24	25-49	50-99	100-249
61F972	MTL-106D	SPDT	On-none-on	3.00	2.25	2.04	1.89
61F973	MTL-106E	SPDT	On-off-on†	3.30	2.48	2.24	2.08
61F974	MTL-206N	DPDT	On-none-on	3.60	2.70	2.45	2.27
61F975	MTL-206P	DPDT	On-off-on	3.95	2.96	2.67	2.49
61F989	MTL-206PA	DPDT	On-on-on*	4.20	3.15	2.86	2.65
61F990	MTL-306D	3PDT	On-none-on	5.15	3.86	3.50	3.24
61F991	MTL-406N	4PDT	On-none-on	6.25	4.69	4.25	3.94

(†) denotes Momentary, (*) denotes useable as SP3T

MINIATURE SHORT LEVER TOGGLE
0.27" LONG TOGGLE
PC TERMINALS

RA types have right angle PC terminals & unthreaded bushing.

Stk. No.	Type	Contacts	Operation	1-24	25-49	50-99	100-249
61F820	MTM-106D-PC	SPDT	On-none-on	1.85	1.39	1.26	1.17
61F821	MTM-106E-PC	SPDT	On-off-on	2.15	1.61	1.46	1.35
61F822	MTM-206N-PC	DPDT	On-none-on	2.55	1.91	1.73	1.61
61F823	MTM-206P-PC	DPDT	On-off-on	2.90	2.18	1.97	1.83
61F824	MTM-106D-RA	SPDT	On-none-on	2.10	1.58	1.43	1.32
61F825	MTM-106E-RA	SPDT	On-off-on	2.40	1.80	1.63	1.51
61F826	MTM-206N-RA	DPDT	On-none-on	3.05	2.29	2.07	1.92
61F827	MTM-206P-RA	DPDT	On-off-on	3.40	2.55	2.31	2.14

Subminiature Toggle Switches

ALCOSWITCH

RIGHT ANGLE TOGGLE SWITCHES WITH PC TEMINALS AND THREADED BUSHING

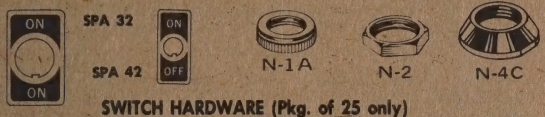
Right angle switch with printed circuit terminals and ¼-40 threaded bushing for panel mounting

Stk. No.	Type	Con-tacts	Operation	1-24	25-49	50-99	100-249
61F772	MSTS-104D	SPDT	On-None-On	1.85	1.39	1.26	1.17
61F773	MSTS-204N	DPDT	On-None-On	2.55	1.91	1.73	1.61

RIGHT ANGLE TOGGLE SWITCHES WITH PC. TERMINALS AND PLAIN BUSHING

Stk. No.	Type	Con-tacts	Operation	1-24	25-49	50-99	100-249
61F774	MTMS-104D	SPDT	On-None-On	1.65	1.24	1.12	1.04
61F775	MTMS-204N	DPDT	On-None-On	2.35	1.76	1.60	1.48

ALUMINUM SWITCH PLATES AND HARDWARE

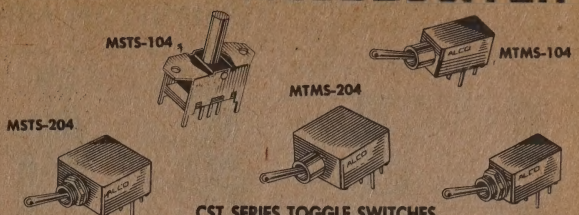


SWITCH HARDWARE (Pkg. of 25 only)

Stk. No.	Type	Description	Each 25-75	100-475	500-975
61F913	N-1	¼"-40 Knurled Nut	.05	.04	.04
61F914	N-1A	¼"-40 Perfect Fit Chrome Nut	.09	.08	.07
61F915	N-1B	15/32" Perfect Fit Nut	.12	.11	.10
61F916	N-2	¼"-40 Hex Nut	.03	.03	...

SWITCH PLATES

Stk. No.	Type	Description	Each 25-75	100-475	500-975
61F948	SPA32	Aluminum. ¼" Dia.	.68	.60	55
61F949	SPA42	Aluminum. 15/32" Dia.	.75	.66	61



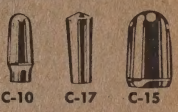
CST SERIES TOGGLE SWITCHES

Low cost baton lever toggles. DPDT, 3mA @ 125 VAC. Positive wiping for low contact resistance. Sealed terminals.

Stk. No.	Type	Contacts	1-24	25-49	50-99	100-249
57F2390	CST-022	DPDT	.85	.64	.58	.54
61F776	CST-022-1	DPDT	1.10	.83	.75	.69
61F777	CST-022S	DPDT	1.20	.90	.82	.76
61F778	CST-022N	DPDT	1.20	.90	.82	.76
61F779	CST-023	DP3T	1.35	1.01	.92	.85

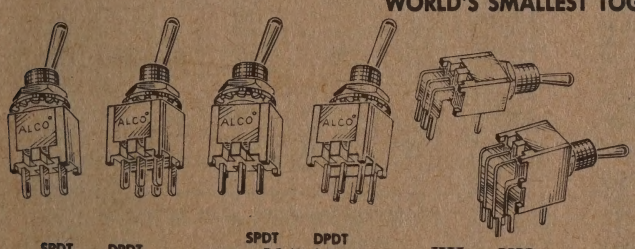
COLOR CODED CAPS FOR SWITCHES ON THIS PAGE

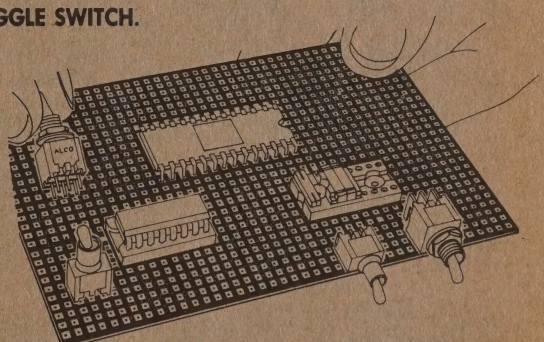
C-10 and C-17 for MST, MTA & MTE.
C-15 for MTG Series switches.



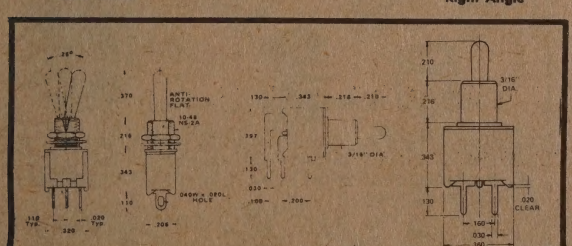
Stk. No.	Type	Color	1-24	25-99	100-499	500-999
61F880	C-10	Black	.04	.04	.03	.03
61F881	C-10	White				
61F882	C-10	Red				
61F883	C-10	Blue				
57F2086	C-10	Grey				
57F2088	C-10	Yellow				
57F2089	C-10	Pink				
61F951	C-15	Black	.08	.06	.05	.05
61F952	C-15	White				
61F953	C-15	Red				
61F954	C-15	Blue				
61F1202	C-17	Black	.05	.05	.04	.03
61F1203	C-17	White				
61F1204	C-17	Red				
61F1205	C-17	Blue				

WORLD'S SMALLEST TOGGLE SWITCH.





- 60% less volume
- Rugged Construction
- Fits 1/2" Centers



TT Series with terminals for handwiring is the ultimate in miniaturization. A smaller diameter bushing is utilized resulting in smaller hardware to allow closer spacing. Maintains a standard 26° throw. Features .370" Bat toggle threaded bushing. 3 Amp @ 125 VAC. The PC version of the TT Series has features ideally suited for this application. Single and double pole types have four standoffs to provide clearance for proper cleaning and allow for maximum mounting stability. Terminals fall into a 0.1" PC grid pattern. Terminals are gold plated. Features .210" Bat Toggle, Plain bushing. 0.4 VA rating. The right angle type as a double pole version actually occupies one third the volume of a comparable miniature right angle switch. The first toggle switch that easily fits between PC boards on 1/2" centers. All terminals and mounting pins fall into a 0.1" PC grids. Offered with plain or threaded bushing. Features .210" Bat toggle. Plain bushing 0.4 VA rating.

HAND WIRED MODEL

Stk. No.	Type	Con-tacts	Action	1-24	25-99	100-249
61F780	TT13D-3	SPDT	On-None-On	1.65	1.24	1.04
61F781	TT13E-3	SPDT	On-Off-On	1.95	1.46	1.23
61F782	TT23N-3	DPDT	On-None-On	2.35	1.76	1.48
61F783	TT23P-3	DPDT	On-Off-On	2.65	1.99	1.67

UPRIGHT PC MODEL

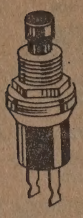
Stk. No.	Type	Con.	Action	1-24	25-49	50-99	100-249
61F784	TT11DG-PC-1	SPDT	On-None-On	1.75	1.31	1.19	1.10
61F785	TT11EG-PC-1	SPDT	On-Off-On	2.05	1.54	1.39	1.29
61F786	TT21NG-PC-1	DPDT	On-None-On	2.55	1.91	1.73	1.61
61F787	TT21PG-PC-1	DPDT	On-Off-On	2.85	2.14	1.94	1.80

RIGHT ANGLE MODEL

61F788	TT11DG-RA-1	SPDT	On-None-On	2.00	1.50	1.36	1.26
61F789	TT11EG-RA-1	SPDT	On-Off-On	2.30	1.73	1.56	1.45
61F790	TT21NG-RA-1	DPDT	On-None-On	3.05	2.29	2.07	1.92
61F791	TT21PG-RA-1	DPDT	On-Off-On	3.35	2.51	2.28	2.11

PUSHBUTTON MINIATURE SWITCHES

MSP


MSPS

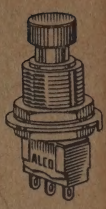
MSPM

MPA-103

MPA-106

MPE

MPN



MPG

MSP MINIATURE PUSHBUTTON SWITCHES

MSP-105, MSP-205. Snap action. Rated 6 A, 125 VAC. Solid silver contacts and terminals. Bushing ¼"—40 w/ keyway. Blk. phenolic case. Life: 25,000 cycles. **MSP-103** economy, low pressure operation. Rated 1 A, 125 VAC. Silver plated brass contacts & terminals. Bushing ¼"—40. Dia. .408" **MSPS-103C.** Similar to MSP-103. Dia. .310". Rated 0.5 A @ 125 VAC.

Stk. No.	Model	Contacts	Operation	1-24	25-49	50-99	100-249
61F908	MSP-105D	SPDT	Push-On-Off	2.75	2.06	1.87	1.73
61F906	MSP-105F	SPDT	Momentary	2.75	2.06	1.87	1.73
61F909	MSP-205N	DPDT	Push-On-Off	3.65	2.74	2.48	2.30
61F907	MSP-205R	DPDT	Momentary	3.65	2.74	2.48	2.30
61F1212	MSP-103B	SPST	NC Black Button	1.15	.86	.78	.72
61F1213	MSP-103C	SPST	NO Red Button	1.15	.86	.78	.72
61F1214	MSP-103C-B	SPST	NO Black Button	1.15	.86	.78	.72
57F2072	MSPS-103B	SPST	NC Black Button	.75	.56	.51	.47
61F1215	MSPS-103C	SPST	NO Red Button	.75	.56	.51	.47

MAGNETIC REPULSION PUSHBUTTON

Momentary pushbutton switch designed for data entry in modern electronic equipment. Ceramic magnets eliminate springs. Contacts are glass encapsulated reeds for long life. Rated 100 mA @ 50 VDC, resistance 100 milliohms. Contacts bounce 1 millisecond. Plunger travel 3/64". Oper. force, under 2 ozs. SPST. Accepts C-13, C-14 & C-14L.

Stk. No.	Model	Description	1-24	25-99	100-499	500-999
61F1207	MSPM101B	N.C., Solder lug	4.25	3.40	2.98	2.76
61F1208	MSPM101C	N.O., Solder lug	4.10	3.28	2.87	2.67
61F1209	MSPM101B-1	N.C., .110" Terminal	4.25	3.40	2.98	2.76
61F1210	MSPM101C-1	N.O., .110" Terminal	4.10	3.28	2.87	2.67

SUBMINIATURE PUSHBUTTON SWITCHES

Cylindrical pushbutton switch, gold flashed terminals molded in DAP base. One piece bushing, ¼—40. Rating: 3 amps @ 125 VAC D and F Series. 1 amp @ 125 VAC, B and C Series. Supplied with C5 black cap.

Stk. No.	Model	Cont.	Operation	1-24	25-49	50-99	100-249
25F2020	MPA-103B	SPST	NC Momentary	1.40	1.05	.95	.88
25F2021	MPA-103C	SPST	NO Momentary	1.40	1.05	.95	.88
25F2022	MPA-103D	SPDT	Push-On-Off	2.45	1.84	1.67	1.54
25F2023	MPA-103F	SPDT	Momentary	2.45	1.84	1.67	1.54

MINIATURE PUSHBUTTONS

Supplied with black C-22 button.

Stk. No.	Type	Contacts	Operation	1-24	25-49	50-99	100-249
61F752	MPA-106D	SPDT	Push on/off	2.65	1.99	1.80	1.67
61F753	MPA-106F	SPDT	Momentary	2.65	1.99	1.80	1.67
61F754	MPA-206N	DPDT	Push on/off	3.55	2.66	2.41	2.24
61F755	MPA-206R	DPDT	Momentary	3.55	2.66	2.41	2.24

MPE MINIATURE WATERPROOF PUSHBUTTONS

"O" rings inside bushing and at panel. 6 amps at 125 VAC ¼" bushing. Gold flash terminals. Green DAP case. Supplied with black button.

Stk. No.	Model	Contacts	Operation	1-24	25-49	50-99	100-249
61F959	MPE-106D	SPDT	Push-On-Off	3.05	2.29	2.07	1.92
61F957	MPE-106F	SPDT	Momentary	3.05	2.29	2.07	1.92
61F960	MPE-206N	DPDT	Push-On-Off	3.95	2.96	2.69	2.49
61F958	MPE-206R	DPDT	Momentary	3.95	2.96	2.69	2.49
61F961	MPE-406N	4PDT	Push-On-Off	6.25	4.69	4.25	3.94
61F1211	MPE-406R	4PDT	Momentary	6.25	4.69	4.25	3.94

MPG MUSTANG PUSHBUTTON

19/32" bushing with solder lug terminals. PC suffix for PC terminals. 6 A @ 125 VAC. Green DAP case.

Stk. No.	Model	Contacts	Operation	1-24	25-49	50-99	100-249
61F756	MPG-106D	SPDT	Push on/off	2.90	2.18	1.97	1.83
61F757	MPG-106F	SPDT	Momentary	2.90	2.18	1.97	1.83
61F993	MPG-206N	DPDT	Push on/off	3.80	2.85	2.58	2.39
61F994	MPG-206R	DPDT	Momentary	3.80	2.85	2.58	2.39
61F758	MPG-406R	4PDT	Momentary	6.10	4.58	4.15	3.84
61F759	MPG-206R-PC	DPDT	Momentary	3.95	2.96	2.69	2.49

MPN ILLUMINATED PUSHBUTTON SWITCHES

Snap action type. DPDT. Miniature case. Separate connections to replaceable T-1¾ grooved base lamp. Metal construction. DAP case. Silver contacts. 6A @ 125 VAC. 19/32" dia. mounting hole. Button, guard, lamp not supplied. Order separately. (††) Translucent button colors: Amber, Blue, Red, White, Green. State color when ordering.

Stk. No.	Model	Contacts	Operation	1-24	25-49	50-99	100-249
61F1216	MPN-206N	DPDT	Push-on-off	5.75	4.31	3.91	3.62
61F1217	MPN-206R	DPDT	Momentary	5.75	4.31	3.91	3.62
61F1218	RS-XP††	.....	½" Round Button	.15	.10	.10	.09
61F1222	CGR-½	.....	½" Round Chrome Guard	.55	.37	.37	.33

INCANDESCENT T-1¾ LAMPS

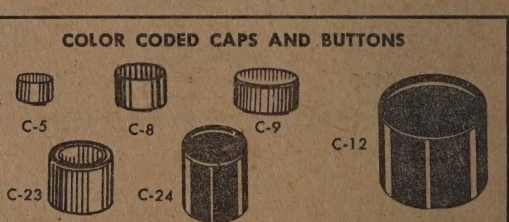
Stock No.	Type	V	Amps	MCSP	1-9	10-99	100-499	500-Up
61F1226	379—T-1¾ Mid.	6.3	.200	.40	.73	.47	.37	.31
61F1227	386—Grooved	14.0	.080	.30				
61F1228	388—Base	28.0	.040	.30				

PROTECTIVE BUTTON GUARDS/MPA and MPE SERIES

Stk. No.	Type	Style	Matching Button	1-24	25-99	100-499	500-999
57F2112	G12-C	Plain*	C22	.45	.31	.27	.25
57F2113	G12-A	Plain†	C22				
57F2114	G12-B	Plain‡	C22				
25F2035	G12K-C	Knurled*	C22	.50	.34	.30	.28
57F2110	G12K-A	Knurled†	C22				
57F2111	G12K-B	Knurled‡	C22				
57F2118	G13-C	Plain*	C23				
57F2119	G13-A	Plain†	C23				
57F2120	G13-B	Plain‡	C23				
57F2115	G13K-C	Knurled*	C23	.55	.37	.33	.31
57F2116	G13K-A	Knurled†	C23				
57F2117	G13K-B	Knurled‡	C23				

(*) Chromed Brass. (†) Nat. Aluminum. (‡) Blk. Aluminum

COLOR CODED CAPS AND BUTTONS



C-5 and **C-8** fits MPA-103 Series switches. **C-9** is for MPG Series switches. **C-12** and **C-13** fit MSP Series switches. **C-14** and **C-14L** are **chrome** and fit MSP Series. **C-22** and **C-23** fit MPA and MPE Series switches.

PLASTIC

Type	Black Stk. No.	Red Stk. No.	Green Stk. No.	1-24	25-99	100-499	500-999
C-5#	25F2099	25F2030	25F2031	.08	.06	.05	.05
C-8**	25F2032	25F2033	25F2034	.10	.07	.06	.06
C-9	61F760	61F761	61F762	.08	.06	.05	.05
C-12#	61F910	61F911	61F763	.08	.11	.10	.09
C-13**	57F2091	57F2090	57F2092	.22	.12	.11	.10
C-22#	61F764	61F765	61F766	.10	.07	.06	.06
C-23**	61F767	61F768	61F769	.12	.09	.08	.07

CHROME

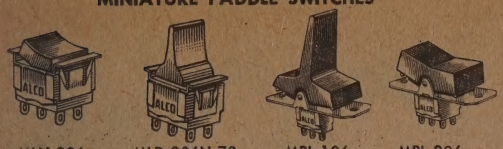
Type	Stk. No.	1-24	25-99	100-499	500-999
C-14#	61F912	.18	.11	.10	.09
C-14**	61F770	.25	.17	.15	.14

(#) Small (**) Large

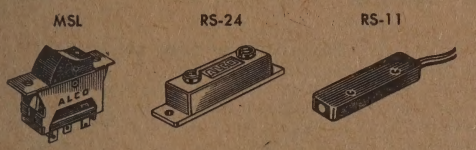
Miniature Switches

ALCOSWITCH

MINIATURE PADDLE SWITCHES



MLN-206 MLD-206N-70 MRL-106 MRL-206

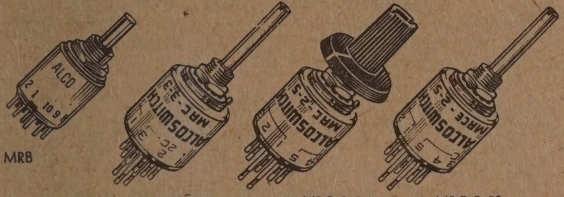


MSL RS-24 RS-11

Adds distinction to front panel. "Snap-in" installation in .5" x .6" hole. 6 amps at 125 VAC. Molded silver terminals, contacts. 70-rocker type; 80-lever type. Specify color: Red, Black, Gray.

Stk. No.	Model	Contacts	Application	1-24	25-49	50-99	100-249
61F828	MLD-106D-70	SPDT	On-none-on	1.90	1.43	1.29	1.20
57F2077	MLD-106D-80	SPDT	On-none-on	1.90	1.43	1.29	1.20
57F2078	MLD-106E-80	SPDT	On-off-on	2.10	1.58	1.43	1.32
61F829	MLD-106F-70	SPDT	On-none-(on)	2.25	1.69	1.53	1.42
57F2079	MLD-106F-80	SPDT	On-none-(on)	2.25	1.69	1.53	1.42
57F2076	MLD-206N-70	DPDT	On-none-on	2.25	1.69	1.53	1.42
57F2080	MLD-206N-80	DPDT	On-none-on	2.25	1.69	1.53	1.42
57F2081	MLD-206P-80	DPDT	On-off-on	2.70	2.03	1.84	1.70

MINIATURE ROTARY SWITCHES



MRB MRC-3-3S MRC-2-5 MRC-2-5S

MRB adjustable-stop rotary switches are rated 500 mA @ 125VAC Non-shorting. 36° spacing. Silver clad/plated contacts, terminals. Bushing: ¼"-28. Less knob. Refer to Alco Knob Series PKG for mating knobs. All have short shafts except those with suffix "S"—long shaft.

Stock No.	Model	Poles	Positions	1-24	25-49	50-99	100-249
25F2024	MRB-1-10	1	2-10	6.75	5.06	4.59	4.25
25F2025	MRB-2-5	2	2-5	7.75	5.81	5.27	4.88
25F2026	MRB-3-3	3	2-3	8.45	6.34	5.75	5.32
25F2036	MRB-1-10S	1	2-10	6.75	5.06	4.59	4.25
25F2037	MRB-2-5S	2	2-5	7.75	5.81	5.27	4.88
25F2038	MRB-3-3S	3	2-3	8.45	6.34	5.75	5.32
25F2027	MRB-1-12S*	1	1-12	8.55	6.41	5.81	5.39
25F2039	MRB-1-10SC*†	1	10	6.75	5.06	4.59	4.25
25F2040	MRB-4-3S*	4	2-3	9.95	7.46	6.77	6.27
25F2028	MRB-2-6S*	2	2-6	9.25	6.94	6.29	5.83

(*) 30° spacing. (†) Continuous rotation.

MRC SERIES MINIATURE ROTARY SWITCHES

Terminals are permanently molded into DAP base. ‡Available with knobs. Cylinders are .610" diameter with switch depth behind panel of .620", less terminals.

Stk. No.	Type	Description	1-24	25-49	50-99	100-249
61F830	MRC-1-10	1 pole, 2-10 pos.	6.65	4.99	4.52	4.19
61F831	MRC-2-5	2 pole, 2-5 pos.	6.95	5.21	4.73	4.38
61F832	MRC-3-3	3 pole, 2-3 pos.	7.25	5.44	4.93	4.57
61F833	MRC-4-2	4 pole, 2 pos.	7.85	5.89	5.34	4.95
61F834	MRC-1-10S‡	1 pole, 2-10 pos.	6.65	4.99	4.52	4.19
61F835	MRC-2-5S‡	2 pole, 2-5 pos.	6.95	5.21	4.73	4.38
61F836	MRC-3-3S‡	3 pole, 2-3 pos.	7.25	5.44	4.93	4.57
61F837	MRC-4-2S‡	4 pole, 2 pos.	7.85	5.89	5.34	4.95

Phone your NEWARK Facility For Quotes on Larger Quantities

MRL MINIATURE ROCKERS AND PADDLES

MT toggle switch body w/rocker or paddle lever for snap action feel. Rating: 6 amps @ 125 VAC, 3 amps @ 250 VAC. Contacts; silver std. 30 denotes Rocker. 40 denotes Lever. Specify color: Red, Black, Gray, White.

Stk. No.	Type	Con.	Description	1-24	25-49	50-99	100-249
61F838	MRL-106D-30	SPDT	On-none-on	2.10	1.58	1.43	1.32
61F839	MRL-106D-40	SPDT	On-none-on				
61F840	MRL-206N-30	DPDT	On-none-on	2.70	2.03	1.84	1.70
61F841	MRL-206N-40	DPDT	On-none-on				

MSH LEVER AND MSL ROCKER SWITCHES

Versatile DPDT (On-On) action. Rated 3 amps @ 125 VAC. Life, 25,000 cycles. Contacts silverplated. Screw mount; .34" x .58" hole.

57F2083	MSH-203N-3	DPDT	Lever	1.85	1.39	1.26	1.17
57F2084	MSL-203N-7	DPDT	Rocker				

MLN ROCKER SWITCHES

Convenient front-panel lamp replacement; snaps into .765" x .756" hole. Rated 6 amps at 125 VAC. Supplied with white lens cap. For use with Alco No. 378 (6.3V), 362 (14.0V) or 388 SC (28.0V) lamps.

Stk. No.	Type	Description	1-24	25-49	50-99	100-249
57F2073	MLN-206N	DPDT, on-none-on	4.35	3.26	2.96	2.74
57F2074	MLN-206P	DPDT, on-off-on	4.65	3.49	3.16	2.93
57F2075	MLN-206R	DPDT, none-on-on#	4.80	3.60	3.26	3.02

#Momentary position.

PROXIMITY MAGNETIC REED SWITCHES

RS-24: Alnico-5 magnet actuates reed switch within distance of 1". Rated 0.5 amp break, 1.0 amp carry over. 18 million operations. **Miniature RS-11:** Alnico-5 magnet actuates reed switch within distance of .39". Current rating: 0.15 amp break, 0.5 amp carry at 50 VDC. 200 VDC breakdown. Life: 10 million cycles. **RS-51:** Alnico 5 magnet actuates reed switch within distance of 1". Rated 0.5 amps @ VDC. Life: 10,000,000 cycles.

Stock No.	Type	Description	1-24	25-99	100-499	500-999
61F1623	RS-24-NC	Norm. closed (apart)	3.75	2.55	2.25	1.88
61F971	RS-24-NO	Norm. open (apart)	3.45	2.35	2.07	1.73
61F1256	RS-11-NC	Norm. closed (apart)	3.75	2.55	2.25	1.88
61F1255	RS-11-NO	Norm. open (apart)	2.85	1.94	1.71	1.43
61F1270	RS-51-NC	Norm. closed (apart)	2.25	1.53	1.35	1.13
61F1271	RS-51-NO	Norm. open (apart)	1.95	1.33	1.17	.98

MINIATURE MOTOR START POWER SWITCHES

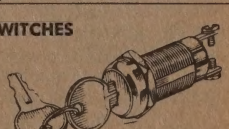
SW-251 SW-251L SW-251D SW-251S

Oil tight pushbutton switches are compact, flexible and low in cost. Mount in 1" hole. Positive double break silver contacts rated to carry 6 amps, 230 VAC. Supplied with single (NO-NC) block. Additional blocks available to convert switches to double pole. Three way selector switch has bar knob with pointer. Black.

Stk. No.	Type	Description	1-24	25-99	100-499	500-999
57F2151	SW-251	Standard button	4.65	3.16	2.79	2.33
57F2152	SW-251D	Mushroom button	5.45	3.71	3.27	2.73
61F843	SW-251L	Long button	4.85	3.30	2.91	2.43
61F844	SW-251S-2	Selector, No-none-NC	5.75	3.91	3.45	2.88
57F2153	SW-251S-3	Selector, No-off-NC	5.75	3.91	3.45	2.88
57F2154	SU-251	NO-NC block	2.85	1.94	1.71	1.43
57F2155	C-251-00	On-off buttons	.65	.44	.39	.33
57F2156	C-251-SS	Stop-start buttons				
57F2157	C-251-HL	High-low btns., pair				
57F2158	C-251-UD	Up-down btns., pair				

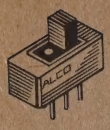
KEYLOCK SWITCHES

Roller-type mechanical action with positive contact. Choice of 25 keys. Rated 5 A resis. 115 VAC; 15 A 24 VDC. Flatted ¾" dia. barrel fits panels to ¾" thick.



Stk. No.	Type	Description	1-24	25-99	100-499	500-999
61F845	SWK-12-1	SPST Off	5.95	4.05	3.57	2.98
61F846	SWK-12-3	SPST On				
61F847	SWK-13-1	Rmv. Key/Off Pos.	3.95	2.69	2.37	1.98
61F848	SWK-13-2	Rmv. Key/Off-On				
61F849	SWK-13-3	Rmv. Key/On Pos.				

ALCOSWITCH Miniature Switches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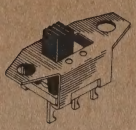
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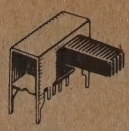
MSS-4200

MSS-22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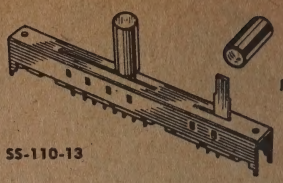

SS-110-13

KSS

SLS MINIATURE SLIDE SWITCHES

Economical miniature slide switches, 5/16" wide and approx. 3/4" long. Rated at 0.5 amps @ 125 VAC except 121M series 0.3 amps @ 125 VAC; −130 and −240 series, .25 amps @ 125 VAC.

Stock No.	Type SLS	Description	1-24	25-99	100-499	500-999
59F800	120	SPDT, w/Tabs	.50	.34	.30	.25
59F806	120-1	SPDT, w/o Tabs	.50	.34	.30	.25
59F804	121M	SPDT, w/Tabs & PC terms.	.60	.41	.36	.30
59F811	121M-1	SPDT, w/o Tabs, w/terms.	.60	.41	.36	.30
59F813	121M-RA	SPDT, w/o Tabs, w/terms.	.70	.48	.42	.35
59F809	130-PC	SP3P, w/o Tabs, w/terms.	.80	.54	.48	.40
59F801	220	DPDT, w/Tabs	.65	.44	.39	.33
59F814	220-1	DPDT, w/o Tabs	.65	.44	.39	.33
59F807	240-PC	DP4P, w/o Tabs, w/PC terminals.	1.10	.75	.66	.55

MINIATURE PC SLIDE SWITCHES

Make before break. Upright levers for direct mounting to PC board (except suffix "R" with right angle levers for side mtg.). MSS-4300 has threaded screw holes on top of mtg. frame for 4-40 screws. Standard models have silverplated brass contacts and terminals, movable contacts of plated beryllium brass. Suffix "G" indicates gold-plate over nickel. Rated 0.3 amp at 125 VAC. Low contact resistance over 15,000 cycle life.

Stock No.	Type MSS-	Con-tacts	Description	1-24	25-99	100-499	500-999
57F2134	1200R	SPDT	Right Angle	.65	.44	.39	.33
57F2135	1200RG	SPDT	Right Angle, Gold	.95	.65	.57	.48
59F815	1300	SP3T	Upright	.70	.48	.42	.35
57F2136	2200	DPDT	Upright	.70	.48	.42	.35
57F2137	2200G	DPDT	Upright, Gold	1.25	.85	.75	.63
59F816	2220	DPDT	Upright, .200" Lever	.70	.48	.42	.35
57F2138	2220G	DPDT	Uprt., .200" lever, Gld.	1.25	.85	.75	.63
57F2133	2250	DPDT	Upright, Lg. Handle	.75	.51	.45	.38
57F2139	2250G	DPDT	Uprt., Long Handle, Gld.	1.30	.88	.78	.65
57F2140	2250R	DPDT	Rt. Angle, Long Handle	.85	.58	.51	.43
57F2141	2250RG	DPDT	Rt. An., Long Han., Gld.	1.40	.95	.84	.70
59F817	2450G	DP4T	Uprt., Lg. Handle, Gold	2.00	1.36	1.20	1.00
57F2143	4200	4PDT	Upright	.80	.54	.48	.40
57F2144	4200G	4PDT	Upright, Gold	1.90	1.29	1.14	.95
57F2145	4200R	4PDT	Right Angle	.90	.61	.54	.45
57F2132	4200RG	4PDT	Right Angle, Gold	2.00	1.36	1.20	1.00
57F2146	4300G	4P3T	Upright, Gold	2.75	1.87	1.65	1.38
57F2147	4350R	4P3T	Rt. Angle, Long Handle	1.35	.92	.81	.68

MINIATURE PC SLIDE SWITCHES

Instrument grade switches designed for printed circuit board mounting. Primarily for use in programming, test apparatus and other instrumentation applications. All models available in SPDT and DPDT except right angle models (RA). Rated at 2 amps @ 230 VAC and 4 amps @ 115 VAC.

Stk. No.	Type MSS	Description	1-24	25-99	100-499	500-999
59F802	104D	1 Pole, 2 Pos., upright	1.55	1.05	.93	.78
59F812	104D-RA	1 Pole, 2 Pos., rt. angle	1.65	1.12	.99	.83
59F808	104D-1	1 Pole, 2 Pos., flush	1.55	1.05	.93	.78
59F810	204N	2 Poles, 2 Pos., upright	2.10	1.43	1.26	1.05
59F805	204N-1	2 Poles, 2 Pos., flush	2.10	1.43	1.26	1.05

MSS MINIATURE SLIDE SWITCHES

Anti-tease design. Break before make. Rated .5 amps @ 125 VAC. Life: 250,000 operations. Size, .500" x .305".

Stk. No.	Type	Con-tacts	Description	1-24	25-99	100-499	500-999
61F947	MSS-22	SPDT	2-Ckt. NO-NC w/o tabs	1.90	1.27	.95	.80
61F995	MSS-44	DPDT	On-None-On with tabs	3.25	2.18	1.63	1.37

MULTIPLE-POLE SLIDE SWITCHES

Designed for printed circuit boards. Offers operational versatility, high density, light weight. Rated to carry 300 mA @ 30 VDC. Make before break, silver contacts, sealed term.

Stock No.	Type	Description	1-24	25-99	100-499	500-999
57F2389	SS-110-13	1-pole, 10 + 3 pos.*	2.35	1.60	1.41	1.18
57F2388	SS-111	1-pole, 11 positions*	1.75	1.19	1.05	.88
57F2387	SS-24	2-pole, 4 positions	1.20	.82	.72	.60

*Less knobs; order below.

ACTUATOR KNOBS FOR SS SERIES

A in type number indicates anodized B-Block.

Stock No.	Type	Description	1-24	25-99	100-499	500-999
57F2400	KSS-1A	Small; w/o hairline	.30	.27	.26	.24
57F2401	KSS-1B	Small; w/o hairline	.30	.27	.26	.24
57F2402	KSS-2A	Large; w/o hairline	.35	.32	.30	.28
57F2403	KSS-2B	Large; w/o hairline	.35	.32	.30	.28
57F2404	KSS-3A	Large; dbl. hairline	.40	.36	.34	.32
57F2405	KSS-3B	Large; dbl. hairline	.40	.36	.34	.32

For Prices on Larger Quantities of ALCO Switches Phone Your NEWARK BRANCH

ISOLATION RELAYS

Ideal for remote control applications, eliminating shock hazards. Combines isolated step-down transformer and sensitive low voltage relay in a single laminated core. Low voltage circuit can be run through ordinary surface wiring with low current drain. SPDT Max. load, 7 amps at 125 VAC, 60 Hz.

FR-102. Basic core of the following relays.

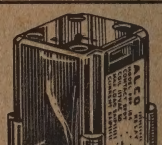
FRE-103. Basic core with 3-way receptacle to select normally open or normally closed circuit.

FRP-104. Basic core with octal plug-in base, enclosed in dust cover.

FR-105A1. Basic core but SPST and smaller.

Stk. No.	Type	Action	1-99	100-499	500-999
61F969	FR-102	SPDT	5.20	4.06	3.54
61F1206	FRE-103	SPDT	7.30	5.69	4.96
61F970	FRP-104	SPDT	6.25	4.88	4.25
59F803	FR-105A1	SPST	4.65	3.63	3.16

FRE-103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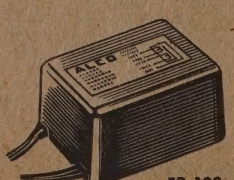
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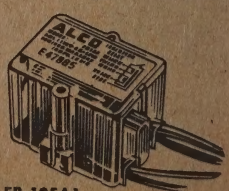
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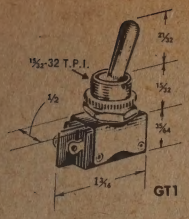
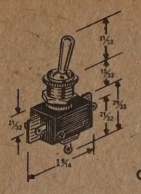
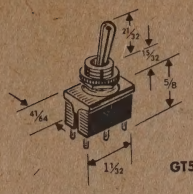
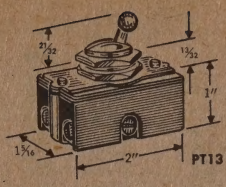
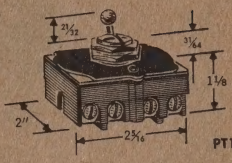
Switches

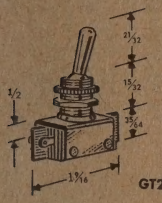


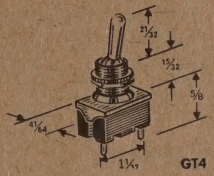


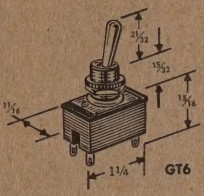


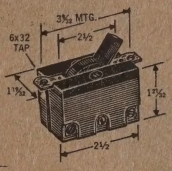


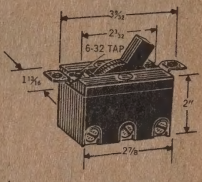








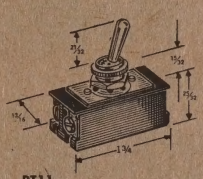




SNAP ACTION TOGGLE SWITCHES AC/DC

Providing long life at low cost. Ideal for light duty applications U.L. listed.

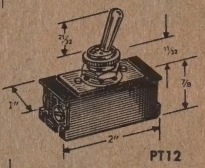
Stock No.	Type	Fig.	Positive Action (*momentary)	Rating 125V	Rating 250V	Lever Type	Term Type	1-24	25-99	100-499	500-999
23F021	20994-CS	GT1	SPST-ON-OFF	6	3	Ball	Lug	2.07	1.66	1.04	.83
23F013	20994-LH	GT1	SPST-ON-OFF	6	3	Bat	Lug	2.07	1.66	1.04	.83
23F063	80054-S	GT1	SPST-ON*	3	1	Bat	Lug	3.61	2.89	1.81	1.44
23F024	21350-BF	GT2	SPDT-ON-ON	3	1	Ball	Lug	2.60	2.08	1.30	1.04
23F011	21350-EH	GT2	SPDT-ON-ON	3	1	Bat	Lug	2.60	2.08	1.30	1.04
23F075	21827-GA	GT2	SPDT-ON-ON*	3	1	Bat	Lug	3.84	3.07	1.92	1.54
23F025	20902-N	GT2	DPST-ON-OFF	3	1	Ball	Lug	3.75	3.00	1.88	1.50
23F012	20902-CX	GT2	DPST-ON-OFF	3	1	Bat	Lug	3.75	3.00	1.88	1.50
23F015	20905-FR	GT3	DPDT-ON-ON	3	1	Bat	Lug	4.29	3.43	2.15	1.72
23F028	20905-BX	GT3	DPDT-ON-ON	3	1	Ball	Lug	4.29	3.43	2.15	1.72



MIDGET WIPING ACTION TOGGLE SNAP SWITCH

For electronic applications demanding small size, highly dependable performance U.L. listed.

60F2322	83050	GT4	SPST-ON-OFF	3	1	Bat	Lug	2.05	1.64	1.03	.82
60F2323	83052	GT4	SPDT-ON-ON	3	1	Bat	Lug	2.44	1.95	1.22	.98
60F2328	83053	GT4	DPST-OFF-ON*	3	1	Bat	Lug	3.04	2.43	1.52	1.22
60F2325	83054	GT4	DPDT-ON-ON	3	1	Bat	Lug	3.49	2.79	1.75	1.40



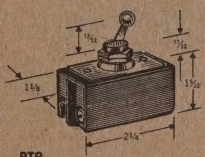
THREE-POSITION TOGGLES — SOLDER LUGS/QUICK-CONNECT TERMINALS

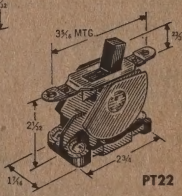
23F064	84105	GT5	SPDT-ON-OFF-ON	3	1	Bat	CSQC	4.74	3.79	2.37	1.90
23F065	84104	GT5	DPDT-ON-OFF-ON	3	1	Bat	CSQC	5.64	4.51	2.82	2.26

INTERMEDIATE SIZE TOGGLE TWO POSITION SNAP ACTION SWITCH

Silver plated wiping action contacts for low contact resistance applications UL Listed.

23F006	81015-AW	GT6	SPST-ON-OFF	6	3	Bat	Lug	2.05	1.64	1.03	.82
23F007	81021-AV	GT6	SPDT-ON-ON	6	1	Bat	Lug	2.44	1.95	1.22	.98
23F008	81024-GB	GT6	DPST-OFF-ON	6	3	Bat	Lug	3.04	2.43	1.52	1.22
23F009	81027-CE	GT6	DPDT-ON-ON	6	3	Bat	Lug	3.49	2.79	1.75	1.40
23F074	81054H	GT6	DPST-OFF-ON*	6	3	Bat	Lug	4.25	3.40	2.13	1.70
23F005	81057N	GT6	DPDT-ON-ON*	6	3	Bat	Lug	5.13	4.10	2.57	2.05





THREE POSITION STANDARD DUTY TOGGLE QUICK MAKE & BREAK AC/DC

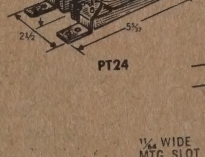
Switch presents a foolproof answer to control problems requiring a positive stop at center position (OFF) U.L. listed.

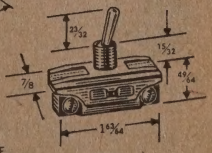
23F060	80638-D	PT13	DPDT-ON-OFF-ON	10	5	Ball	Scrw.	9.05	7.24	4.53	3.62
23F019	80983	PT14	3PDT-ON-OFF-ON	10	5	Ball	Scrw.	13.98	11.18	6.99	5.59
23F000	80985	PT14	4PDT-ON-OFF-ON	10	5	Ball	Scrw.	18.65	14.92	9.33	7.46
23F066	80634	PT15	DPDT-ON-OFF-ON	20	10	Squ.	Scrw.	14.55	11.64	7.28	5.82
23F067	80988	PT16	DPDT-ON-OFF-ON	30	20	Squ.	Scrw.	25.29	20.23	12.65	10.12

TWO-POSITION HEAVY DUTY TOGGLES AC/DC

Non-teasable action providing control available for motor loads up to 2 H.P. U.L. listed.

Stock No.	Type	Fig.	Action	Rating 120V	Rating 250V	HP	Cap	Term Type	1-24	25-99	100-499	500-999
23F039	80600-B	PT11	DPST-ON-OFF	16	8	1	Ball	Scrw.	3.11	2.49	1.56	1.24
23F048	80600-BJ	PT11	DPST-ON-OFF	16	8	1	Bat	Scrw.	3.11	2.49	1.56	1.24
23F016	80602-C	PT12	DPST-ON-OFF	15	10	1½	Ball	Scrw.	5.43	4.34	2.72	2.17
23F047	80602-CA	PT12	DPST-ON-OFF	15	10	1½	Bat	Scrw.	5.43	4.34	2.72	2.17
23F020	80421	PT9	DPST-OFF-ON	—	20	1½	Ball	Scrw.	7.29	5.83	3.65	2.92
23F017	80093	PT22	DPST-ON-OFF	30	20	2	Squ.	Scrw.	9.90	7.92	4.95	3.96
23F068	80770-K	PT24	DPST-OFF-ON	60	—	2	Squ.	Scrw.	33.06	26.45	16.53	13.22



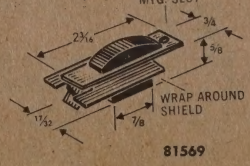


DOUBLE INSULATION DESIGN

23F069	83800D	PT6	DPST-OFF-ON	16	8	1	Mld.Bat	Scrw.	3.25	2.60	1.63	1.30

SLIDE SWITCH

23F070	81569	81569	SPST-OFF-ON	6	3	—	Blk.	Scrw.	3.11	2.49	1.56	1.24



Switches

AIRCRAFT TYPE AC ONLY TOGGLE SWITCH

Butt type contacts. All have bat handles. U.L. listed.

Fig. A

Fig. B

Stock No.	Type	Fig.	Action	Rating 125V	Rating 250V	HP	Sleeve Lgth.	Term Type	1-24	25-99	100-499	500-999
23F106	82600	A	SPST-ON-OFF	15	10	¾	15/32	scrw	1.85	1.48	.93	.74
60F2300	82601	A	SPST-ON-OFF	15	10	¾	15/32	lug	1.62	1.30	.81	.65
60F2308	82605	A	SPDT-ON-ON	15	10	¾	15/32	lug	1.85	1.48	.93	.74
23F107	82602	A	SPDT-ON-OFF-ON	15	10	¾	15/32	scrw	2.22	1.78	1.11	.89
60F2304	82603	A	SPDT-ON-OFF-ON	15	10	¾	15/32	lug	1.85	1.48	.93	.74
60F3450	82606	B	DPST-ON-OFF	15	10	¾	15/32	scrw	2.98	2.38	1.49	1.19
60F2302	82607	B	DPST-ON-OFF	15	10	¾	15/32	lug	2.52	2.02	1.26	1.01
60F3451	82610	B	DPDT-ON-ON	15	10	¾	15/32	scrw	3.67	2.94	1.84	1.47
60F2310	82611	B	DPDT-ON-ON	15	10	¾	15/32	lug	2.98	2.38	1.49	1.19
23F108	82608	B	DPDT-ON-OFF-ON	15	10	¾	15/32	scrw	3.67	2.94	1.84	1.47
60F2306	82609	B	DPDT-ON-OFF-ON	15	10	¾	15/32	lug	2.98	2.38	1.49	1.19
60F3452	82612	C	3PST-ON-OFF	15	10	1	15/32	scrw	5.70	4.56	2.85	2.28
60F3453	82614	C	3PDT-ON-OFF-ON	15	10	1	15/32	scrw	7.23	5.78	3.62	2.89
60F3454	82615	C	3PDT-ON-OFF-ON	15	10	1	15/32	lug	6.03	4.82	3.02	2.41
60F3455	82616	C	3PDT-ON-NONE-ON	15	10	1	15/32	scrw	7.23	5.78	3.62	2.89
60F3456	82617	C	3PDT-ON-NONE-ON	15	10	1	15/32	lug	6.04	4.83	3.02	2.42
60F3457	82634	C	4PDT-ON-OFF-ON	15	10	1½	15/32	lug	9.04	7.23	4.52	3.62
60F3458	82636	C	4PDT-ON-NONE-ON	15	10	1½	15/32	lug	9.04	7.23	4.52	3.62

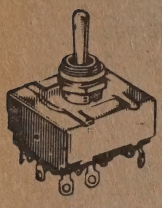


Fig. C

SWITCH HARDWARE

			.10	.08	.05	.04
23F045	20590-1AS	On-Off Plate for 15/32" dia. sleeve				
60F2376	8991-1378	Bronze Lock washer for 15/32" dia. sleeve		2.00 per 100		
60F2377	20590-174AS	Locking Ring for 15/32" dia. sleeve		3.00 per 100		

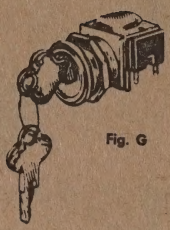


Fig. G

Fig. G. SECURITY LOCK SWITCHES—ROTARY ACTION—U.L. Listed

3 pin "Corbin" security lock switch, designed for easy dead front mounting.

Stock No.	Type	Action	DC 125V	Rating 250V	Key Removable	Sleeve Lgth.	Term Type	1-24	25-99	100-499	500-999
60F3479	81721-LQ-41	SPDT-ON-ON	6	3	Pos. 1 & 11	⅞	lug	19.83	15.86	9.92	7.93
60F3480	(Key for above A-H #41)							2.10	1.59	1.51	1.41
60F3484	81721-LQ-61	SPDT-ON-OFF	6	3	Pos. 1	⅞	lug	19.83	15.86	9.92	7.93
60F3483	(Key for above A-H #61)							2.10	1.59	1.51	1.41

Fig. H

FIG. H INTERMEDIATE SIZE LOCKING SWITCH—U.L. Listed

Stk. No.	Type	Action	DC 125V	Rating 250V	Key Removable	Sleeve Lgth.	Term Type	1-24	25-99	100-499	500-999
60F2316	81715-L	SPST-ON-OFF	6	3	Pos. 1	15/32"	lug	4.81	3.85	2.41	1.92
60F2320	(Key for above switch 1561-488) (Rem. Off pos. only)							.45	.36	.23	.18
60F3482	81721-L	SPDT-ON-OFF	6	3	Pos. 1	15/32"	lug	5.07	4.06	2.54	2.03
60F2321	Key for above switches #1561-487 Rem. ON & OFF Pos.							.45	.36	.23	.18

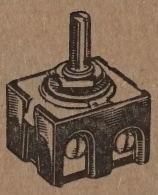


Fig. K

ROTARY POWER SWITCHES

Wiping blade contact, ideal for control panel. Small appliance and instrument use. U.L. List.

Stock No.	Type	Fig.	Action	Rating 125V	Rating 250V	Slv. Dia.	Spdl. Lgth.	Sleeve Lgth.	Term Type	1-24	25-99	100-499	500-999
60F3487	1561-B	K	SPST-ON-OFF	6	3	⅜	⅜	⅜	lug	2.78	2.22	1.39	1.11
60F3488	1575	K	DPDT-ON-ON	3	1	⅜	⅜	⅜	lug	5.30	4.24	3.98	3.71
60F3489	81715	J	SPST-ON-OFF	6	3	⅜	⅜	⅜	lug	3.76	3.01	1.88	1.50
60F3490	81727	J	DPDT-ON-ON	6	3	⅜	⅜	⅜	lug	5.49	4.39	2.75	2.20

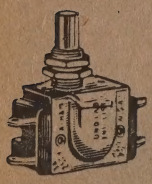


Fig. J

SUBMINIATURE TOGGLE SWITCHES

Gold plated contacts. Toggle switch ratings, 5 amps at 125VAC and 29VDC. Push button switch ratings, 1 amp at 115 VAC and 2 amps at 29 VDC, # rated, 7 amps at 125 VAC and 29 VDC. Base size, SPST switches, ¼x½", DPDT ½x½". Sleeves diameter both ¼".

LEVER POSITION CHART
†denotes maint. on
*denotes momentary action

I ON-NONE-ON
II ON*-OFF-ON†
III ON*-OFF-ON*
IV ON*-NONE-ON
V OFF-NONE-ON
VI ON-OFF-ON
VII ON-ON-ON

Fig. L

Stock No.	Type	Fig.	Action	Lever Chart	1-24	25-99	100-499	500-999
59F521	TC-3	P	SPDT	VI	3.80	3.04	2.85	2.66
59F522	TE-3	P	SPDT	I	4.05	3.24	3.04	2.84
59F523	TG-3	P	SPDT	III	4.05	3.24	3.04	2.84
60F2389	TM-3	P	SPDT	IV	4.05	3.24	3.04	2.84
59F524	TS-3	P	SPDT	I	3.80	3.04	2.85	2.66
60F2390	TS-2	P	DPST	V	4.30	3.44	3.23	3.01
60F2391	TC-6	P	DPDT	VI	4.94	3.95	3.71	3.46
60F2392	TE-6	P	DPDT	II	6.33	5.06	4.75	4.43
60F2393	TG-6	P	DPDT	III	6.05	4.84	4.54	4.24
60F2394	TM-6	P	DPDT	IV	6.33	5.06	4.75	4.43
59F525	TS-6	P	DPDT	I	4.94	3.95	3.71	3.46

Fig. M

SUBMINIATURE PUSH BUTTON SERIES

Momentary action except (#) Snap Action

Stk. No.	Type	Fig.	Action	1-24	25-99	100-499	500-999
23F128	PM-3	L	SPDT	3.62	2.90	2.72	2.53
23F129	PM-6	M	DPDT	4.44	3.55	3.33	3.11
59F520	PM-7	M	3PST-NO	4.19	3.35	3.14	2.93
60F2386	PM-8	M	3PST-NC	5.89	4.71	4.42	4.12
60F2387	PMQ-3	L	SPST#	4.11	3.29	3.08	2.88

Fig. P

Switches

MINIATURE SNAP-IN ROCKER SWITCHES

Carry UL, CSA, BS, VDE and CEE listing. 16 amp 250 VAC. Combination quick connect; solder lug terminal (.250 spade).

Stock No.	Type	Fig.	Action	1-24	25-99	100-499	500-999
23F001	160011E	1	SPST-OFF-ON	1.20	.96	.60	.48
23F003	160211E	1	SPDT-ON-ON	1.46	1.17	.73	.58
23F004	160411E	1	SPDT-ON-OFF-ON	1.55	1.24	.78	.62
23F010	160111E	1	SPST-OFF-MOM ON	1.38	1.10	.69	.55
23F014	160311E	1	SPDT-ON-MOM. ON	1.72	1.38	.86	.69
23F032	260011E	2	DPST-OFF-ON	2.00	1.60	1.00	.80
23F033	260211E	2	DPDT-ON-ON	2.55	2.04	1.28	1.02
23F034	260411E	2	DPDT-ON-OFF-ON	2.75	2.20	1.38	1.10
23F035	260111E	2	DPST-OFF-MOM. ON	2.40	1.92	1.20	.96
23F041	260311E	2	DPST-ON-MOM. ON	2.80	2.24	1.40	1.12

MOMENTARY PUSH SWITCHES—SLOW MAKE & BREAK

Long life expectancy, reliable butt type contacts, low operating pressure, single pole, for use with AC only.

Stock No.	Type	Fig.	Action	Rating 120V	Rating 250V	Cap	Term Type	1-24	25-99	100-249	500-999
23F046	3391	C	ON-MOM. OFF	1	.....	Nkl.	Lug	2.21	1.77	1.11	.88
23F042	3391-GL	A	OFF-MOM. ON	1	.....	Blk.	Lug	2.92	2.34	1.46	1.17
23F043	3391-GLR	A	OFF-MOM. ON	1	.....	Red	Lug	2.92	2.34	1.46	1.17
23F029	3392	A	2-CIRCUIT	1	.....	Nkl.	Lug	2.86	2.29	1.43	1.14
23F044	3392-AE	A	2-CIRCUIT	1	.....	Blk.	Lug	3.53	2.82	1.77	1.41
23F118	80511-E	B	OFF-MOM. ON	3	1	Nkl.	Lug	1.17	.94	.59	.47
23F115	80511	B	ON-MOM. OFF	3	1	Nkl.	Lug	1.17	.94	.59	.47
23F119	80541-E	B	OFF-MOM. ON	3	1	Blk.	Lug	2.20	1.76	1.10	.88
23F120	80541-ER	B	OFF-MOM. ON	3	1	Red	Lug	2.20	1.76	1.10	.88
23F116	80541	D	ON-MOM. OFF	3	1	Blk.	Lug	2.20	1.76	1.10	.88
23F117	80541-R	D	ON-MOM. OFF	3	1	Red	Lug	2.20	1.76	1.10	.88

MIDGET WIPING ACTION MOMENTARY PUSH SWITCHES—AC/DC

23F050	83090	E	SPST-OFF-MOM. ON	3	1	Nkl.	Lug	3.22	2.58	1.61	1.29
60F2330	83090-C	E	SPST-OFF-MOM. ON	3	1	*	Lug	3.22	2.58	1.61	1.29
23F049	83093-C	E	DPST-OFF-MOM. ON	3	1	*	Lug	4.39	3.51	2.20	1.76
23F053	83094-C	E	DPDT-ON-MOM. ON	3	1	*	Lug	4.80	3.84	2.40	1.92
23F123	81084-G	F	DPST-OFF-MOM. ON	6	3	Nkl.	Lug	5.13	4.10	2.57	2.05

*Order caps below.

HEAVY DUTY MOMENTARY PUSH SWITCHES—ONE H.P. AC/DC

23F055	80631	G	SPST-OFF-MOM. ON	16	8	Nkl.	Screw	4.63	3.70	2.32	1.85
23F036	80630	G	DPST-OFF-MOM. ON	16	8	Nkl.	Screw	4.63	3.70	2.32	1.85

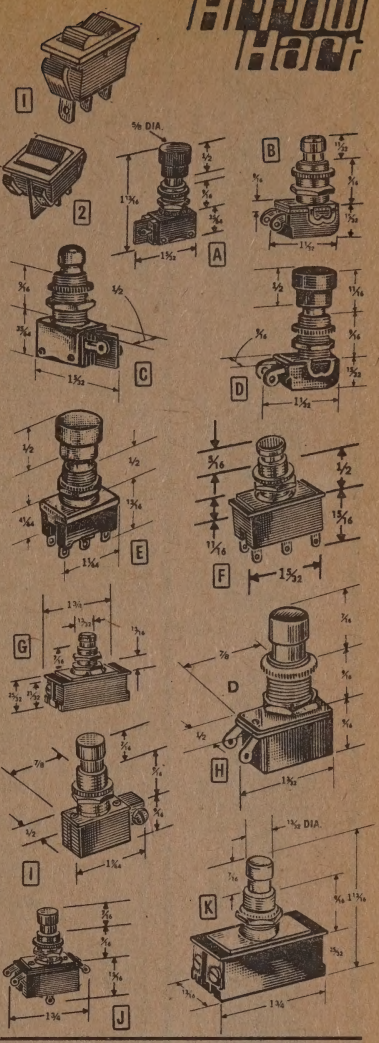
DOUBLE ACTION PUSH SWITCHES

23F056	82403-CL	H	SPST-OFF-ON	6	3	*	Lug	3.63	2.90	1.82	1.45
23F058	82405-CL	I	SPST-OFF-ON	6	3	*	Screw	3.94	3.15	1.97	1.58
23F059	81117	J	DPDT-ON-ON	6	3	Nkl.	Lug	4.69	3.75	2.35	1.88
23F054	80863	K	DPST-OFF-ON	16	8	Nkl.	Screw	4.82	3.86	2.41	1.93

*Order caps below.

CAPS FOR MIDGET and DOUBLE ACTION PUSH SWITCHES

Stk. No.	Type	Color	1-24	25-99	100-499	500-999
23F072	3391-194	Black	.52	.42	.26	.21
23F073	3391-372	Red	.52	.42	.26	.21



ADAPT-A-SWITCHES

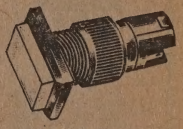
Lens

Lamp

Actuator-Indicator

Mounting Nut

Contact Block


Lighted Indicator

RECTANGULAR ACTUATOR INDICATORS

Stock No.	Mfr's Type	Description	EACH 1-24	25-99	100-499	500-999
29F2015	83501	Rec. Momentary action	1.69	1.35	1.27	1.18
29F2016	83504	Rec. Alternate action	2.66	2.13	2.00	1.86
29F2017	83502	Square Momentary action	1.69	1.35	1.27	1.18
29F2018	83505	Square Alternate action	2.66	2.13	2.00	1.86
29F2019	83503	Round Momentary action	1.69	1.35	1.27	1.18
29F2020	83506	Round Alternate action	2.66	2.13	2.00	1.86

LENSES FOR ABOVE INDICATORS

Stock No.	Mfr's Type	Description	Stock No.	Mfr's Type	Description
29F2021	83500-70	Rect. white	29F2032	83500-84	Sq. yellow
29F2022	83500-71	Rect. red	29F2033	83500-85	Sq. amber
29F2023	83500-72	Rect. green	29F2034	83500-86	Sq. black
29F2024	83500-73	Rect. blue	29F2035	83500-90	Round white
29F2025	83500-74	Rect. yellow	29F2036	83500-91	Round red
29F2026	83500-75	Rect. amber	29F2037	83500-92	Round green
29F2027	83500-76	Rect. black	29F2038	83500-93	Round blue
29F2028	83500-80	Sq. white	29F2039	83500-94	Round yellow
29F2029	83500-81	Sq. red	29F2040	83500-95	Round amber
29F2020	83500-82	Sq. green	29F2041	83500-96	Round black
29F2031	83500-83	Sq. blue			

1-24.....Each .24 100-499.....Each .18
25-99.....Each .19 500-999.....Each .17

Ideal for business machines and the computer industries. Lighted pushbutton switches designed to offer 25, 344 combinations with 31 components listed below. Highly reliable—100,000 cycles mechanical and electrical at full rating. Rated: 5A @ 125vac, 2A @ 250vac, and 5A @ 28vdc. Minimum rating for dry circuit application 10 microamp, 50 mV. Uses standard T-1¾ (CM #327, #328, #330, #387 incandescent lamp with grove base (not supplied). Installed through front of panel.

CONTACT BLOCKS (*Silver plated contacts, †gold plated)

Stock No.	Mfr's Type	Description	EACH 1-24	25-99	100-499	500-999
29F2042	83500-30	Standard Duty*	1.82	1.46	1.37	1.27
29F2043	83600-30	Low Energy†	3.03	2.42	2.27	2.12

SNAP-ON BEZEL

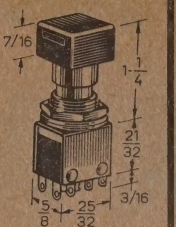
29F2044	83500-46	Bright chrome	.25	.20	.18	.17

SANP-ON CLIP TO CONVERT ANY ACTUATOR TO INDICATOR

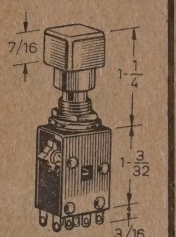
29F2045	83500-51	Snap-on-clip	.25	.20	.18	.17

One-Light Pushbutton Switches

SERIES 01-145 AND 01-365 METAL CLAD ONE-LIGHT PUSHBUTTON SWITCHES



01-145



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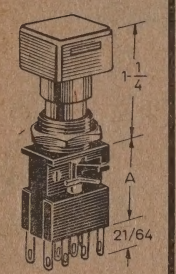
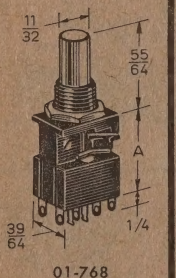
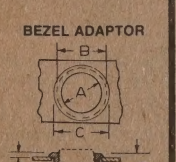


01-748



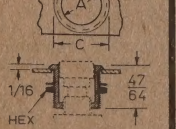
01-768

BEZEL ADAPTOR



01-745

LEN CAPS



Solid Color
Projected Color

Rugged metal housing. 'Butterfly' double break switching mechanism. Available in both momentary and maintained actions. Silver and gold contacts with solder lug terminals. Choice of either T-1¾ flange base or T-1¾ screw base bulb. During operation socket remains stationary reducing lamp damage during normal operations. Lamp replacement accomplished through front of panel. UL and CSA listed. Rated 10 amps 125/250 VAC. Meets requirements of MIL-S 22885/27. Cad. plated brass bushing. Cad. plated steel bracket. (*) Gold.

BEZEL ADAPTOR ORDERING GUIDE

Stk. No.	Type	Cap	Bushing	Each
61F1893	70-2110	⅝"	15/32-32	2.05
61F1938	70-2116	⅝"	⅝-24	2.05
61F1920	70-2111	¾"	15/32-32	2.20
61F1866	70-2117	¾"	⅝-24	2.20

MOMENTARY ACTION SWITCHES

15/32" Bushing Screw		⅝" Bushing Flange			
Stk. No.	Type	Stk. No.	Type	Description	Each
61F1800	01-145510	61F1937	01-365510	1 Pole Form C	7.10
61F1822	01-145520	61F1955	01-365520	1 Pole Form Z	7.80
61F1838	01-145530	61F1894	01-365530	1 Pole Form Z*	7.05
61F1852	01-145610	61F1868	01-365610	2 Pole Form C	10.05
61F1880	01-145620	61F1959	01-365620	2 Pole Form Z	11.45
61F1908	01-145630	61F1917	01-365630	2 Pole Form Z*	9.95

MAINTAINED ACTION SWITCHES

15/32" Bushing Screw		⅝" Bushing Flange			
Stk. No.	Type	Stk. No.	Type	Description	Each
61F1941	01-145110	61F1850	01-365110	1 Pole Form C	10.20
61F1876	01-145120	61F1980	01-365120	1 Pole Form Z	10.90
61F1947	01-145130	61F1884	01-365130	1 Pole Form Z*	10.15
61F1912	01-145210	61F1904	01-365210	2 Pole Form C	12.85
61F1963	01-145220	61F2060	01-365220	2 Pole Form Z	14.50
61F1865	01-145230	61F2044	01-365230	2 Pole Form Z*	12.75

SERIES 01-748, 01-768, 01-745 ONE-LIGHT PUSHBUTTON SWITCHES

- **Compact**
- **Economical**
- **UL & CSA Listed**

One piece Lexan housing contains Butterfly double break switch in either single or double pole configurations. Momentary, maintained and indicator only functional styles. Silver and gold plated contacts. Available in standard T-1¾ flange as well as screw base lamp designs. .110" quick connect terminals. Easy front of panel lamp replacement. Direct or sub-panel mounting is accomplished via a threaded ⅝ or 15/32 bushing and lock nut. 10 amps 125/250 VAC. **Momentary.** Pre-travel: .093 maximum. Operating Force: 10 oz. maximum. **Maintained.** Pretravel: .187 maximum. Operating Force: 48 oz. maximum.

CYL. PLUNGER FOR 01-745 SERIES

Translucent cylindrical plungers. Excellent side-light viewing.

Momentary Action

Stk. No.	Type	Color	Each
61F1867	80-010768	White	.25
61F1812	80-010765	Red	.25
61F1911	80-010764	Green	.25

Maintained Action

Stk. No.	Type	Color	Each
61F1808	80-010894	White	.32
61F1841	80-010891	Red	.32
61F1946	80-010890	Green	.32

01-748/01-768 MOMENTARY ACTION SWITCHES

	15/32" Bushing Screw			⅝" Bushing Flange		
Description	Stk. No.	Type	Each	Stk. No.	Type	Each
1 Pole Form C	61F2064	01-748510	3.85	61F1882	01-768510	3.65
1 Pole Form Z	61F2077	01-748530	3.80	61F1906	01-768530	3.60
1 Pole Form Z*	61F2074	01-748520	4.30	61F1957	01-768520	4.10
2 Pole Form C	61F2048	01-748610	4.90	61F2020	01-768610	4.65
2 Pole Form Z	61F1965	01-748630	4.80	61F2000	01-768630	4.55
2 Pole Form Z*	61F1874	01-748620	5.80	61F1968	01-768620	5.55
Indicator	61F1828	01-748000	2.15	61F1930	01-768000	2.05

01-748/01-768 MAINTAINED ACTION SWITCHES

	15/32" Bushing Screw			⅝" Bushing Flange		
Description	Stk. No.	Type	Each	Stk. No.	Type	Each
1 Pole Form C	61F1801	01-748110	5.05	61F1840	01-768100	4.80
1 Pole Form Z	61F1823	01-748130	5.00	61F1854	01-768130	4.75
1 Pole Form Z*	61F2067	01-748120	5.50	61F1945	01-768120	5.25
2 Pole Form C	61F2071	01-748210	6.05	61F1976	01-768210	5.75
2 Pole Form Z	61F2051	01-748230	5.95	61F2007	01-768230	5.65
2 Pole Form Z*	61F1898	01-748220	6.95	61F2013	01-768220	6.65

01-745 MOMENTARY ACTION SWITCHES

15/32" Bushing Screwbase			
Stock No.	Type	Description	Each
61F2038	01-7455[illegible]	1 Pole Form C	3.65
61F1915	01-745[illegible]	1 Pole Form Z	3.60
61F2028	01-74[illegible]20	1 Pole Form Z*	4.10
61F2034	01-745610	2 Pole Form C	4.65
61F2042	01-745630	2 Pole Form Z	4.55
61F2024	01-745620	2 Pole Form Z*	5.55
61F1890	01-745000	Indicator	1.95

01-745 MAINTAINED ACTION SWITCHES

15/32" Bushing Screwbase			
Stock No.	Type	Description	Each
61F1806	01-745110	1 Pole Form C	4.75
61F2015	01-745130	1 Pole Form Z	4.70
61F1984	01-745120	1 Pole Form Z*	5.20
61F1926	01-745210	2 Pole Form C	5.70
61F1813	01-745230	2 Pole Form Z	5.60
61F1990	01-745220	2 Pole Form Z*	6.60

LENS CAPS FOR SERIES 01-748 AND 01-145

SOLID COLORS

Stk. No.	Type	Size	Color	Each
61F1807	01-911311	⅝" Sq.	White	.60
61F1843	01-911312	⅝" Sq.	Red	
61F1896	01-911313	⅝" Sq.	Green	
61F2096	01-931311	⅝" Rd.	White	
61F2105	01-931312	⅝" Rd.	Red	
61F1878	01-931313	⅝" Rd.	Green	
61F1892	01-911411	¾" Sq.	White	
61F2091	01-911412	¾" Sq.	Red	
61F2113	01-911413	¾" Sq.	Green	
61F1811	01-931411	¾" Rd.	White	
61F1862	01-931412	¾" Rd.	Red	
61F2030	01-931413	¾" Rd.	Green	

PROJECTED COLORS

Stk. No.	Type	Size	Color	Each
61F2073	01-911321	⅝" Sq.	White	1.00
61F2110	01-911322	⅝" Sq.	Red	
61F2116	01-911323	⅝" Sq.	Green	
61F1967	01-931321	⅝" Rd.	White	
61F2118	01-931322	⅝" Rd.	Red	
61F1919	01-931323	⅝" Rd.	Green	
61F2075	01-911421	¾" Sq.	White	
61F1932	01-911422	¾" Sq.	Red	
61F1992	01-911423	¾" Sq.	Green	
61F2053	01-931421	¾" Rd.	White	
61F2088	01-931422	¾" Rd.	Red	
61F1988	01-931423	¾" Rd.	Green	

LENS CAPS FOR SERIES 01-768 AND 01-365

SOLID COLORS

Stk. No.	Type	Size	Color	Each
61F1996	01-921311	⅝" Sq.	White	.60
61F2018	01-921312	⅝" Sq.	Red	
61F1972	01-921313	⅝" Sq.	Green	
61F1939	01-941311	⅝" Rd.	White	
61F2005	01-941312	⅝" Rd.	Red	
61F2057	01-941313	⅝" Rd.	Green	
61F2111	01-921411	¾" Sq.	White	
61F2117	01-921412	¾" Sq.	Red	
61F2040	01-921413	¾" Sq.	Green	
61F2036	01-941411	¾" Rd.	White	
61F2080	01-941412	¾" Rd.	Red	
61F2103	01-941413	¾" Rd.	Green	

PROJECTED COLORS

Stk. No.	Type	Size	Color	Each
61F2068	01-921321	⅝" Sq.	White	1.00
61F2108	01-921322	⅝" Sq.	Red	
61F2115	01-921323	⅝" Sq.	Green	
61F2084	01-941321	⅝" Rd.	White	
61F2093	01-941322	⅝" Rd.	Red	
61F1928	01-941323	⅝" Rd.	Green	
61F2026	01-921421	¾" Sq.	White	
61F1855	01-921422	¾" Sq.	Red	
61F1910	01-921423	¾" Sq.	Green	
61F2106	01-941421	¾" Rd.	White	
61F2062	01-941422	¾" Rd.	Red	
61F1921	01-941423	¾" Rd.	Green	

Snap-In Panel Mount Lighted Switches

LICON

SERIES 01-665 SNAP IN ONE LIGHT PUSHBUTTON SWITCHES

Snap-in panel mounting. Can be mounted individually or in various strip arrays. Basic switch mechanism is Butterfly double break snap action switch. Available in momentary or maintained action and indicator only. Standard terminals: .110 quick connect. Accepts standard T-1¾ flange base lamps. Replaceable from front panel. UL and CSA listed. 10 amps 125/250 VAC.

MAINTAINED ACTION

Stk. No.	Type	Description	Housing*	Each
61F2076	01-665111	1 Pole Form C	1	6.15
61F2087	01-665112	1 Pole Form C	2	
61F2112	01-665114	1 Pole Form C	4	
61F2093	01-665116	1 Pole Form C	6	
61F2011	01-665131	1 Pole Form Z	1	6.10
61F2104	01-665132	1 Pole Form Z	2	
61F2104	01-665134	1 Pole Form Z	4	
61F2100	01-665136	1 Pole Form Z	6	
61F1888	01-665211	2 Pole Form C	1	7.15
61F1821	01-665212	2 Pole Form C	2	
61F1837	01-665214	2 Pole Form C	4	
61F1974	01-665216	2 Pole Form C	6	
61F2002	01-665231	2 Pole Form Z	1	7.05
61F2050	01-665232	2 Pole Form Z	2	
61F2081	01-665234	2 Pole Form Z	4	
61F2102	01-665236	2 Pole Form Z	6	

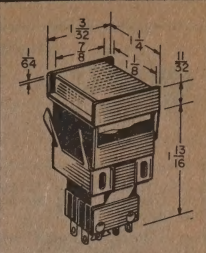
MOMENTARY ACTION

Stk. No.	Type	Description	Housing*	Each
61F1817	01-665511	1 Pole Form C	1	5.05
61F1833	01-665512	1 Pole Form C	2	
61F1846	01-665514	1 Pole Form C	4	
61F2072	01-665516	1 Pole Form C	6	
61F2085	01-665531	1 Pole Form Z	1	5.00
61F2079	01-665532	1 Pole Form Z	2	
61F2063	01-665534	1 Pole Form Z	4	
61F1886	01-665536	1 Pole Form Z	6	
61F1994	01-665611	2 Pole Form C	1	6.00
61F2090	01-665612	2 Pole Form C	2	
61F2098	01-665614	2 Pole Form C	4	
61F2069	01-665616	2 Pole Form C	6	
61F2092	01-665631	2 Pole Form Z	1	5.90
61F1978	01-665632	2 Pole Form Z	2	
61F1858	01-665634	2 Pole Form Z	4	
61F1870	01-665636	2 Pole Form Z	6	
61F1902	01-665001	Indicator	1	4.45
61F2055	01-665002	Indicator	2	
61F2114	01-665004	Indicator	4	
61F2083	01-665006	Indicator	6	

LENS CAP

Stk. No.	Type	Description	Each
61F2111	01-921411	Solid White	.60
61F2117	01-921412	Solid Red	
61F2040	01-921413	Solid Green	
61F2026	01-921421	Projected White	1.00
61F1855	01-921422	Projected Red	
61F1910	01-921423	Projected Green	

*NOTE: Housing Styles. **1**—Vertical row mount with vert. barriers. **2**—Horizontal row mount with vert. barriers. **4**—Horizontal row mount with single vert. barrier. **6**—Horizontal row mount with bezel only.



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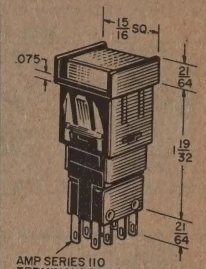


AMP SERIES 110 TERMINALS (TYP)

01-665

SERIES 01-865 RECTANGULAR SNAP-IN PUSHBUTTON SWITCHES

Snap-in panel mounting. Butterfly snap-action basic switch mechanism. Momentary maintained, and indicator only functional styles. Solder lug terminals. Accepts one T-1¾ flange base lamp. Available in one or two poles. Attractive rectangular bezel-barrier housing. UL and CSA listed. Rated 10 amps. 125/250 VAC.

1⅛ x ⅞" LENS CAPS

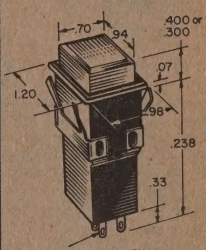
Color	Solid Color Stk. No.	Type	Ea.	Projected Color Stk. No.	Type	Ea.
White	61F1934	01-951911	.75	61F2078	01-951921	1.15
Red	61F2078	01-951912	.75	61F2065	01-951922	1.15
Green	61F2082	01-951913	.75	61F1943	01-951923	1.15

MOMENTARY ACTION

Stk. No.	Type	Description	Each
61F1949	01-865000	Indicator Only	2.40
61F2054	01-865510	1 Pole Form C	4.45
61F2094	01-865530	1 Pole Form Z	4.40
61F2089	01-865610	2 Pole Form C	6.40
61F1860	01-865630	2 Pole Form Z	6.30

MAINTAINED ACTION

Stk. No.	Type	Description	Each
61F2101	01-865110	1 Pole Form C	6.65
61F1924	01-865130	1 Pole Form Z	6.60
61F2123	01-865210	2 Pole Form C	8.65
61F2046	01-865230	2 Pole Form Z	8.55



TERMINAL MATE WITH .110 FASTON RECEPTACLE

01-669

SERIES 01-669 LIGHTED PUSHBUTTON SWITCHES

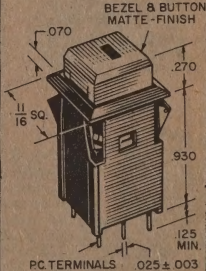
One piece construction. Front of panel re-lamping, mounting. Mounts in .885 x 1.095 panel cutout. Double break Butterfly switch. Momentary or alternate action. Solid fine silver contacts. Standard terminals-mate with .110 Faston receptacles. T-1¾ flange base lamps. 10 amps (Form Z). 5 amps (For C). 125/250 VAC.

FROST GLO LENS CAPS

Stock No.	Type	Description	Each
61F1969	01-969311	Solid White	.95
61F2066	01-969312	Solid Red	.95
61F2099	01-969313	Solid Green	.95

SWITCHES

Stk. No.	Type	Description	Each
61F2121	01-669511	SPDT Form C Momentary	4.00
61F2107	01-669111	SPDT Form C Alternate	5.45
61F1848	01-669611	DPDT Form C Momentary	4.85
61F1961	01-669211	DPDT Form C Alternate	6.30
61F2097	01-669531	SPDT Form Z Momentary	3.95
61F2082	01-669131	SPDT Form Z Alternate	5.40
61F2032	01-669631	DPDT Form Z Momentary	4.75
61F2059	01-669231	DPDT Form Z Alternate	6.20



Series 05

SERIES 05 LIGHTED PUSHBUTTON SWITCHES

Momentary action. Snap in bezel mounting. Front of panel relamping. Accepts T-1¾ wedge base lamp or LED (included). Bifurcated silver plated contacts. .110 quick connect terminals with faston receptacles. Rated at .25 amps, 125 VAC maximum. UL listed. (*) PC board terminals. Standard on LED units.

LIGHTED/NON-LIGHTED SWITCHES

Stk. No.	Type	Description	Each
61F1818	05-115	Lighted SPST N.O.	1.20
61F1847	05-125	Lighted DPST N.O.	2.30
61F2006	05-105	Lighted Indicator Only	.75
61F1834	05-215	Non-lighted SPST N.O.	.95
61F1983	05-225	Non-lighted DPST N.O.	2.05
61F1962	05-46501	LED SPST N.O., red*	3.35
61F1887	05-46502	LED SPST N.O., green*	3.35
61F1889	05-46503	LED SPST N.O., yellow*	3.35
61F1973	05-47501	LED DPST N.O., red*	4.40
61F1991	05-47502	LED DPST N.O., green*	4.40
61F2001	05-47503	LED DPST N.O., yellow*	4.40

Stk. No.	Type	Description	Each
61F2019	05-45501	LED Indicator, red*	2.90
61F1981	05-45502	LED Indicator, green*	
61F1933	05-45503	LED Indicator, yellow*	

STANDARD LENSES

Stk. No.	Type	Color	Stk. No.	Type	Color
61F1819	80-050007	White	61F2014	80-050011	Yellow
61F1835	80-050008	Red	61F1985	80-050012	Amber
61F1960	80-050009	Green	61F1968	80-050013	Orange
61F1997	80-050010	Blue	61F1914	80-050014	Clear

NET.....20

LED LENSES

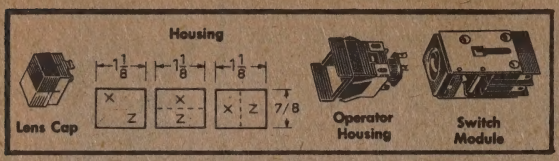
Stk. No.	Type	Color	Stk. No.	Type	Color
61F2014	86-050011	White	61F1952	86-050015	Yellow
61F2085	86-050012	Red	61F1942	86-050016	Amber
61F1968	86-050013	Green	61F1869	86-050017	Black
61F1914	86-050014	Blue			

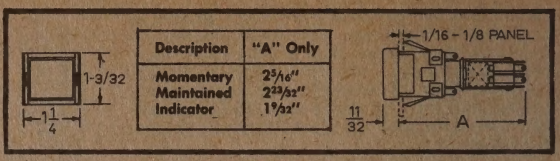
NET.....50

Lens for Series 05

LICON Lighted Pushbutton Switches

SERIES 02 RECTANGULAR SNAP-IN TWO LIGHTS PUSHBUTTON SWITCHES





UL and CSA listed at 10 amps 125/250 VAC. Silver or gold plated contacts and solder lug terminals standard. Accepts standard T-1¾ flange base lamps.

Note: to order a complete switch you must order lens cap, housing and switch module. Lens Caps. 1⅛" x ⅞" rectangular.

Ample room for legend indication. Snap in or out easily for front of panel relamping. For desired color replace XZ with 1) White 2) Red 3) Green 4) Blue 5) Yellow 6) Amber 7) Orange.

SOLID COLOR DISPLAY LENS CAPS

Description	Type	1-49	50-99	100-499	500-999
Full Screen	02-61XZ	.90	.81	.77	.67
Split Screen Vertical	02-62XZ	1.50	1.35	1.28	1.11
Split Screen Horizontal	02-66XZ	1.50	1.35	1.28	1.11

PROJECTED COLOR LENS CAPS

Full Screen	02-64XZ	1.50	1.35	1.28	1.11
Split Screen Vertical	02-65XZ	2.30	2.07	1.96	1.70
Split Screen Horizontal	02-66XZ	2.30	2.07	1.96	1.70

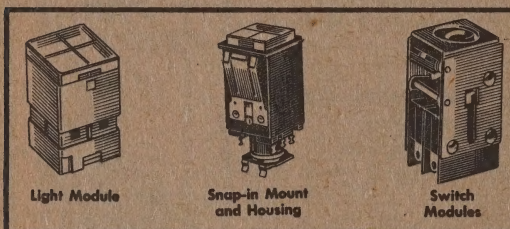
Housing. Bezel barrier housing. May be individually mounted or mounted in various strip arrays. Cut out size: 1.0 x 1.14.

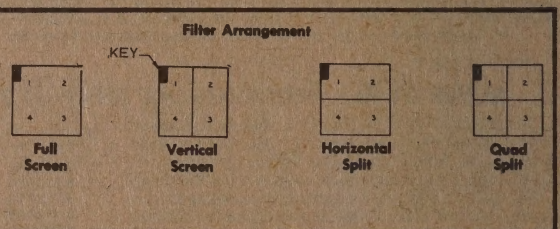
Stock No.	Type	Description	1-49	50-99	100-499	500-999
61F1970	02-73	Operator Housing	2.65	2.39	2.25	1.96
61F2039	02-76	Indicator Only	2.40	2.16	2.04	1.78

Switch Module. Module snaps on to switch housing to complete lighted switch assembly. Contain one or more "Butterfly" double break basic switches in momentary or maintained action.

Stock No.	Type	Description	Each
61F1845	76-2751	1 Pole Form C Momentary	3.75
61F1936	76-2753	1 Pole Form Z Momentary	3.70
61F1995	76-2713	1 Pole Form Z Maintained	5.85
61F1987	76-2761	2 Pole Form C Momentary	4.80
61F2035	76-2721	2 Pole Form C Maintained	7.20
61F2010	76-2763	2 Pole Form Z Momentary	4.70
61F1885	76-2723	2 Pole Form Z Maintained	7.10

SERIES 04 4 LIGHT PUSHBUTTON SWITCHES





Complete unit consists of light module, housing and snap on switch module Accepts 4 standard T 1¾ flange base lamps. Relamping from front of panel. UL and CSA listed at 10 amps, 125/250 VAC. Solder lug terminals, silver contacts standard. Cut out size: .89 x 1.0

Stock No.	Type	Description	Action	Price Each
61F1845	76-2751	1 Pole Form C	Momentary	3.75
61F1936	76-2753	1 Pole Form Z	Momentary	3.70
61F1987	76-2761	2 Pole Form C	Momentary	4.80
61F2010	76-2763	2 Pole Form Z	Momentary	4.70
61F1922	76-2771	3 Pole Form C	Momentary	7.10
61F2012	76-2773	3 Pole Form Z	Momentary	6.95
61F2043	76-2781	4 Pole Form C	Momentary	11.65
61F2056	76-2783	4 Pole Form Z	Momentary	11.45
61F2031	76-2711	1 Pole Form C	Maintained	5.90
61F1995	76-2713	1 Pole Form Z	Maintained	5.85
61F2035	76-2721	2 Pole Form C	Maintained	7.20
61F1885	76-2723	2 Pole Form Z	Maintained	7.10
61F2004	76-2731	3 Pole Form C	Maintained	12.70
61F1901	76-2733	3 Pole Form Z	Maintained	12.55

Stock No.	Type	Description	Action	Price Each
61F1851	76-2741	4 Pole Form C	Maintained	13.90
61F1907	76-2743	4 Pole Form Z	Maintained	13.70

HOUSINGS

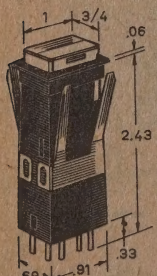
Stock No.	Type	Description	Each
61F1804	04-76	Black Bezel Operator	5.75
61F1929	04-26	Black Bezel Indicator	5.50
61F1826	04-78	Black Bezel Barrier Operator	5.75

LIGHT MODULE

Description	Solid Screen Operator	Solid Screen Indicator	1-49	50-99	100-499	500-999
Full Screen	04-601	04-631	3.70	3.33	3.15	2.74
Vert. Split	04-602	04-632	4.20	3.78	3.57	3.11
Horiz. Split	04-603	04-633	4.20	3.78	3.57	3.11
Quad Split	04-607	04-637	4.75	4.28	4.04	3.52

Note: State color filter arrangement by listing, in numerical order shown in artwork, appropriate letter symbol for each filter. W=white, R=red, G=green, Y=yellow, A=amber, B=blue, O=orange.

SERIES 06 LIGHTED PUSHBUTTON SWITCHES



Rated at 100,000 cycles at full rated load. Accepts standard T 1-¾ flange base bulbs. Maximum wattage 2.4 watts. Relamping may be accomplished thru front of panel, no special tools required. Direct front panel installation in .700 x .920 panel cut-out in panels .062 to .140" thickness. Matte black snap-in bezel mount assures rigid retention and permanent alignment. 10 amps at 125/250 VAC silver contacts. UL Listed. CSA Approved.

SWITCHES

Stock No.	Type	Form	Description	1-49	50-99	100-499	500-999
61F1805	06-710001	C	1 Pole, mom.	3.80	3.42	3.23	2.81
61F1827	06-710002	C	1 Pole, mom.	5.00	4.50	4.25	3.70
61F1839	06-710003	C	1 Pole, Alt.	4.60	4.14	3.91	3.40
61F1958	06-710004	C	2 Pole, alt.	5.50	4.95	4.68	4.07
61F1883	06-710005	Z	1 Pole, mom.	3.75	3.38	3.19	2.78
61F1966	06-710006	Z	2 Pole, mom.	4.90	4.41	4.17	3.63
61F1877	06-710007	Z	1 Pole, alt.	4.55	4.10	3.87	3.37
61F1940	06-710008	Z	2 Pole, alt.	5.40	4.86	4.59	4.00
61F1971	06-710018	Z	2 Pole, mom. gold	5.70	5.13	4.85	4.22
61F1863	06-710020	Z	2 Pole, alt. gold	6.20	5.58	5.27	4.59

ONE LIGHT FULL SCREEN LENS CAPS

SOLID COLOR— (*) COLOR

Stk. No.	Type	C*	1-49	50-99	100-499	500-999
61F1816	06-61111	W				
61F1832	06-61122	R	1.30	1.17	1.11	.96
61F1857	06-61133	Grn				

PROJECTED COLOR

61F2029	06-61211	W				
61F2122	06-61222	R	1.30	1.17	1.11	.96
61F1950	06-61233	Grn				

PROJECTED COLOR, INSERTABLE LEGEND

61F2037	06-61411	W				
61F2061	06-61422	R	1.30	1.17	1.11	.96
61F2025	06-61433	Grn				

HIDDEN DISPLAY

61F1923	06-61611	W				
61F2052	06-61622	R	1.30	1.17	1.11	.96
61F2047	06-61633	Grn				

TWO LIGHT FULL SCREEN LENS CAPS

SOLID COLOR

Stk. No.	Type	C*	1-49	50-99	100-499	500-999
61F1977	06-64111	W				
61F1913	06-64122	R	1.40	1.26	1.19	1.04
61F1873	06-64133	Grn				

PROJECTED COLOR

61F1989	06-64211	W				
61F2023	06-64222	R	1.40	1.26	1.19	1.04
61F1944	06-64233	Grn				

PROJECTED COLOR, INSERTABLE LEGEND

61F1899	06-64411	W				
61F2033	06-64422	R	1.40	1.26	1.19	1.04
61F2017	06-64433	Grn				

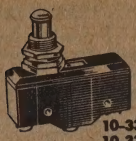
HIDDEN DISPLAY

61F1999	06-64611	W				
61F1954	06-64622	R	1.40	1.26	1.19	1.04
61F1871	06-64633	Grn				

Snap Switches

LICON

10-132



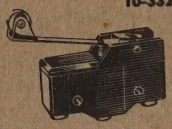
10-332
10-332001

10-432

10-532

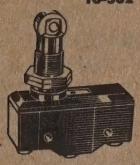
10-632

BASIC SWITCHES
Type 10. Highly sensitive "serpentine blade" snap action switch. UL rated for precision basic switch appli. 15 Amps (75-80%PF) 125, 250, 480 VAC. 0.5A, 125 VDC. #6 Screw Term and cup washer.



10-732

10-832



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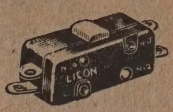
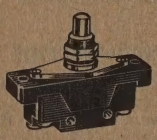


11-104

MINIATURE SWITCH
Type 11. High capacity two circuit Double break mechanism with wiping action. UL/CSA listed. SPDT-DB. Form Z. ¾ Hp. 250 VAC. 10 Amp 125/250 VAC 75%-80% P.F.

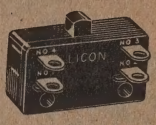


14-3204

14-124

14-724

16-104



16-304

HEAVY DUTY SWITCH
Type 14. Industrial limit switch. Uses double break mechanism for high electrical rating. UL listed. 20 Amps @ 125/250 480 VAC. 75-80%PF. SPDT-DB. Form Z.

TYPE 10

Stock No.	Type	Splash Proof Seal	Oper. Force (Oz.)	RLS Force (Oz.)	Pre Travel	Over Travel	Mov Diff.	Each
23F151	10-132	No	10± 3	4 Min.	.015 Max.	.005 Min.	.0004-.002	2.55
23F155	10-332	No	10± 3	4 Min.	.015 Max.	.219 Min.	.0004-.002	5.45
61F1814	10-332001	Yes	11± 4	4 Min.	.015 Max.	.219 Min.	.0004-.002	6.35
23F156	10-432	No	6 Max.	½ Min.	.156 Max.	.060 Min.	.050 Max.	2.75
23F157	10-532	No	6 Max.	½ Min.	.187 Max.	.060 Min.	.050 Max.	3.75
23F158	10-632	No	3.5 Mx.	½ Min.	.406 Max.	.156 Min.	.005-.045	3.20
23F159	10-732	No	3.5 Mx.	½ Min.	.312 Max.	.156 Min.	.045 Max.	3.95
23F160	10-832	No	10± 3	4 Min.	.015 Max.	.060 Min.	.0004-.002	3.25
23F181	10-932	No	10± 3	4 Min.	.015 Max.	.140 Min.	.0004-.002	9.35

16-404

HEAVY DUTY SWITCH
Type 14. Industrial limit switch. Uses double break mechanism for high electrical rating. UL listed. 20 Amps @ 125/250 480 VAC. 75-80%PF. SPDT-DB. Form Z.

TYPE 11

Stock No.	Type	Terminals	Description	Each
23F161	11-104	End Solder	Basic Switch	2.20
23F162	11-204	#4 Screw	Basic Switch	2.40
23F163	11-304	Side Solder	Basic Switch	2.35
61F1830	11-504	Quick Disconnect, 250	Basic Switch	2.25
61F1844	11-114	End Solder	Reset Action	2.65
61F1935	11-314	Side Solder	Reset Action	2.70

22-104

SUBMINIATURE SWITCH
Type 16 Double break. 2 circuit. UL/CSA listed. 10 Amps @ 125/250 VAC.

TYPE 14

Stock No.	Type	Mntg.	Oper. Force	Release Force	Pre-Travel	Over Travel	Mov. Diff.	Each
61F2041	14-324	Stan.	12± 3	4 Min.	.074 Max.	.218 Min.	.020±.005	6.50
23F178	14-12403	Vert.	12± 3	4 Min.	.074 Max.	.218 Min.	.020+.005	4.50
61F1953	14-124	Stan.	12± 3	4 Min.	.074 Max.	.030 Min.	.020+.005	4.25
61F1872	14-12404	Vert.	12± 3	4 Min.	.074 Max.	.030 Min.	.020+.005	4.50
23F180	14-12804	Vert.	12± 3	4 Min.	.074 Max.	.030 Min.	.020+.005	4.85
61F1900	14-724	Stan.	5± 2	2 Min.	.56 Min.	.060 Max.	.046±.0121	5.75
61F2049	14-72403	Vert.	5± 2	2 Min.	.156 Min.	.060 Max.	.046+.012	6.05

18-404

SUB SUBMINIATURE
Type 18. Double break. Rated: 7 amps @ 125/250 VAC; 3 amps inductive @ 28 VDC. UL listed. Diallylphthalate case.

TYPE 16

Stock No.	Type	Mntg.	Oper. Force	Pre-Travel	Over Travel	Mov. Diff.	Each
23F179	16-104	Stan.	3-8± 2	2 Min.	.050 Max.	.012 Min.	.020± .005	2.80
23F182	16-304	Stan.	3-8± 2	2 Min.	.050 Max.	.012 Min.	.020± .005	2.80
23F183	16-404	Stan.	3-8± 2	2 Min.	.050 Max.	.012 Min.	.020± .005	2.80
61F2003	16-40421	Stan.	3-8± 2	2 Min.	.050 Max.	.012 Min.	.020± .005	3.80
61F2119	16-403	Stan.	3-8± 2	2 Min.	.050 Max.	.012 Min.	.020± .005	2.50
23F187	16-504	Stan.	3-8± 2	2 Min.	.050 Max.	.012 Min.	.020± .005	2.80
61F2045	16-503	Stan.	3-8± 2	2 Min.	.050 Max.	.012 Min.	.020± .005	2.50

DOUBLE POLE SWITCH
Type 22. DPDT high current interruption. Rated: 10 amperes @ 125/250 VAC, 75-80%PF. UL listed. 10 amps @ RES 30 VDC. Double bearing guide. Wiping action. Beryllium copper switch blades.

TYPE 18

Stock No.	Type	Terminal	Circuit	Each
60F1952	18-40421	Solder-Lug	DPDT-DB (Form Z)	5.30
60F1950	18-430080	P.C. Terminals	SPDT-DB (Form Z)	5.30

26-804

DOUBLE POLE SUBMIN.
Type 26. Two Butterfly Double break mechanisms. Both poles operate simultaneously due to special linkage. Uses type 76 actuators. UL rated 8 amps @ 125/250 VAC, 75-80%PF. UL listed. DPDT-DB (Form ZZ). 10 amps. res., 5 ind. @ 28 VDC.

TYPE 22

61F1979	22-104	End Solder	DPDT-DB (Form ZZ)	6.90
23F185	22-304	Side Solder	DPDT-DB (Form ZZ)	6.90
61F1948	22-202	#4 Screw	DPST-DB (N.O.)(Form XX)	7.05
61F1802	22-504	½" Quick Disconnect	DPDT-DB (Form ZZ)	6.90

3 POLE SUBMIN.
Type 36. Compact triple pole double break switch. Three butterfly double break mechanisms. Rated at 7.5 amps 125/250 VAC. Simultaneous handling for up to 6 circuits in a single switch. Uses 76 series actuators. UL listed. 3 PDT-DB (ZZZ).

TYPE 26

60F1961	26-804	End Solder	DPDT-DB (Form ZZ)	7.60
60F1962	26-904	Side Solder	DPDT-DB (Form ZZ)	7.60

36-704

TYPE 36

60F1969	36-604	End Solder, Sim.	3PDT-DB (ZZZ)	11.20
60F1970	36-604010	End Solder, Non-Sim.	3PDT-DB (ZZZ)	9.90
60F1971	36-704	Side Solder, Sim.	3PDT-DB (ZZZ)	11.20
60F1972	36-704010	Side Solder, Non-Sim.	3PDT-DB (ZZZ)	9.90

Switches

ACTUATORS FOR SWITCHES ON PREVIOUS PAGE

TYPE 11 ACTUATORS

Stock No.	Type	Kind	Oper. Force	RLS Force	Pre-travel	Over Trvl	Mov. Dif.	Price Each
23F168	71-1040	Roller	3.5 Max.	2 Min.	.093 Max.	.062 Min.	.030+.015	1.10
23F2010	71-2010	O.T.	8+3	4 Min.	.050 Max.	.215 Min.	.020+.005	3.10

TYPE 16 ACTUATORS

Stock No.	Type	Kind	Oper. Force	RLS Force	Pre-travel	Over Trvl	Mov. Dif.	Price Each
23F188	76-1200	Roller	2.5 Max.	1 Min.	.125 Max.	.025 Min.	.047+.011	1.15
23F189	76-2110	Lever	2.5 Max.	1 Min.	.125 Max.	.025 Min.	.047+.013	.70
61F1895	76-1220	Roller	5+3	2 Min.	.050 Max.	.012 Min.	.020+.005	2.75
61F1864	76-2260	O.T.	5/32 Min.	.....	.....	.....	.....	2.75

TYPE 18 ACTUATORS

Stock No.	Type	Kind	Oper. Force	RLS Force	Pre-travel	Over Trvl	Mov. Dif.	Price Each
61F1856	78-3000	Lever	.....	.....	.....	.....	.....	.65
61F2027	78-3100	Roller	6+2	2 Min.	125 Max.	.030 Min.	.035+.015	1.60

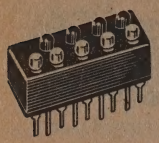
TYPE 22 ACTUATORS

61F1875	72-1160	Roller	.....	.....	.....	.....	.....	1.50
61F1918	72-1150	Lever	10 Max.	1.5 Max.	.150 Max.	.035 Min.	.070+.015	.75
61F1849	72-2080	O.T.	17+5	4 Min.	.060 Max.	.215 Min.	.030+.007	2.05

TYPE 26/36 ACTUATORS

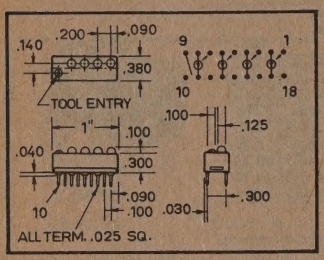
23F188	76-1200	Roller	12 Max.	1.5 Min.	.125 Max.	.025 Min.	.055+.022	1.15
23F189	76-1210	Lever	9 Max.	2 Min.	.155 Max.	.025 Min.	.065 Max.	.70
61F1895	76-1220	Short	12+4	5 Min.	.050 Max.	.012 Min.	.020+.005	2.75
61F1864	76-2260	O.T.	16+4	4 Min.	.050 Max.	.150 Min.	.020+.005	2.75

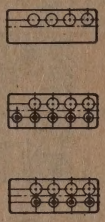
SERIES 43 PUSHBUTTON SWITCHES WITH LED INDICATORS



Combines SPST, NO momentary pushbutton switches with miniature T-1 size LED's. Mounts directly on PC card. Terminals standard D.I.P. .100 x .300" spacings. UL 94V-0 rated, polyester case material. Terminals chamfered on ends for easy PC card insertion. Tested to over 100,000 cycles.

Combined switch/indicator package requires much less PC card area than separate switches and indicators or the conventional lighted PB switches often used to perform press-to-test functions. Compatability with soldering and PC card cleaning procedures. 1.00"L x .380"W x .440"H.





LED, T-1 size, red diffused. Nominal current: 20 MA at 1.6 VDC. Max forward voltage: 2 VDC. Max. forward current: 50 MA. **Switch.** Max current: 100 MA, resistive @ 5 VDC; 50 MA, resistive @ 12 VDC. Initial switch resistance: 50 milliohms @ 1 VDC, 100 MA. Less than 10 milliohms resistance change over 100,000 life cycles.

Stock No.	Type No.	No. of Switches	No. of LED's	1-49	50-99	100-499	500-999
61F1882	43-013002	1	4	5.60	4.48	3.92	3.36
61F1905	43-053001	5	4	6.80	5.44	4.76	4.08
61F1861	43-043002	4	4	6.50	5.20	4.55	3.90
61F1909	43-009501	0	4	5.35	4.28	3.75	3.21

SERIES 30 DIECAST ENCLOSED SWITCHES

Series 30

Accurate repeatability, long life and precise electrical control for heavy duty limit, safety and interlock operations. Durable switch protection, multiple mounting and actuating flexibility. Internal basic switch accessible for wiring or replacement by removing bottom plate. Available in a variety of infinitely adjustable actuators. Aluminum housing. Permits adequate wiring room. Has ½-14 internal tap conduit hub. Rated 15 amps, 125, 250 and 480 VAC; ½ amp 115 VDC. Size: 3 x1 x 2½".

Stock No.	Type No.	Description	Housing	Mount	1-49
23F175	30-100	Overtravel plngr	Diecast	Side	6.90
23F172	30-200	Sealed OT plngr	Diecast	Side	9.05
23F176	30-300	Roller lever	Diecast	Side	12.30
23F173	30-400	Sealed roller	Diecast	Side	13.95
25F2105	30-420	Sealed roller	Diecast	Side	13.95
23F177	30-500	Roller plunger	Diecast	Side	12.30
23F174	30-600	Palm button	Diecast	Side	14.65
25F2108	30-700	Sealed roller	Diecast	Side	13.35
25F2114	30-200010	Sealed OT plngr	Diecast	Side	10.70
25F2115	30-220010	Sealed OT plngr	Diecast	Base	10.70
60F2060	30-340	Roller lever	Split	Side	12.30
25F2119	30-350	Roller lever	Split	Base	12.30
61F1810	30-40001	Roller lever	Split	Side	14.70
61F1825	30-42001	Roller lever	Split	Side	15.65
60F2071	30-540	Roller plunger	Split	Side	12.30

SERIES 65 SUBMINIATURE SEALED SWITCHES

Series 65

Dependable, environment-free snap action switching with ratings up to 10 amps, 30 VDC. SPDT 2-circuit configuration. Solder terminals. Quick disconnect, screw and potted leads available on special order. Size: .850" x .875" x .320". ½" mounting centers. UL listed.

Stock No.	Type	Description	1-49
25F2135	65-101	Riged lever	11.10
25F2137	65-301	Roller lever	11.85
25F2138	65-401	OT Plunger	13.40

NEWARK STOCKS COMPLETE INVENTORY OF INDUSTRIAL ELECTRONICS COMPONENTS

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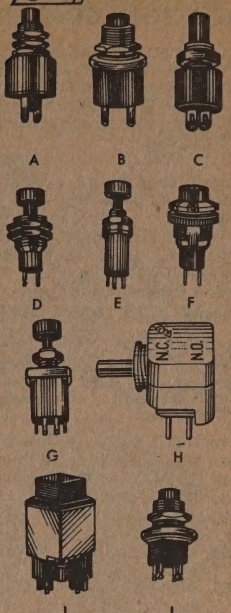
Switches and Hardware

PUSHBUTTON SWITCHES

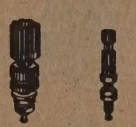
Stock No.	Type	Fig.	Amps, 115 VAC Res.	Contacts	Features	Button	Dimensions, in. Mtg. Hole	Behind Panel	O.A. Ht.	Each 1-49	50-99	100-499	500-999
57F2615	10-9*	B	1	SPST-NO	Silent action	Blk	31/64	.965	1.500	**1.35**	**1.15**	**.95**	**.81**
24F200	2201	A	10	SPST-NO	Snap action	Red	31/64	1.176	1.903	**3.70**	**3.15**	**2.59**	**2.22**
24F201	2202	A	10	SPST-NC	Snap action	Blk	31/64	1.176	1.903	**3.70**	**3.15**	**2.59**	**2.22**
24F204	23-1	B	¼	SPST-NO	Silent action	Red	21/64	.663	1.059	**1.55**	**1.32**	**1.09**	**.93**
24F205	30-1*	B	1	SPST-NO	Silent action	Red	17/64	.592	.992	**1.05**	**.89**	**.74**	**.63**
24F206	30-2*	B	1	SPST-NC	Silent action	Blk	17/64	.605	1.005	**1.05**	**.89**	**.74**	**.63**
57F2616	30-3*	B	1	SPST-NO	Silent action	Blk	17/64	.592	.992	**1.05**	**.89**	**.74**	**.63**
57F2617	30-15	B	1	SPST-NO	Overtravel	Red	17/64	.677	1.077	**1.25**	**1.06**	**.88**	**.75**
57F2618	30-17R	D	1	SPST-NO	Positive feel	Red	31/64	.958	1.350	**1.75**	**1.49**	**1.23**	**1.05**
57F2623	30-01-03-500-0707(B)	J	1	SPST-NO	Overtravel	Blk	.610 sq.	1.142	1.490	**2.50**	**2.13**	**1.75**	**1.50**
57F2624	30-01-03-500-0303(R)	J	1	SPST-NO	Overtravel	Red	.610 sq.	1.142	1.490	**2.50**	**2.13**	**1.75**	**1.50**
57F2627	30-05-01-502-0707(B)	F	1	SPST-NO	.....	Blk	.510 sq.	.932	1.280	**2.40**	**2.04**	**1.68**	**1.44**
57F2628	30-05-01-502-0303(R)	F	1	SPST-NO	.....	Red	.510 sq.	.932	1.280	**2.40**	**2.04**	**1.68**	**1.44**
57F2632	30-05-03-502-0303(R)	F	1	SPST-NO	Overtravel	Red	.510 sq.	1.002	1.350	**2.50**	**2.13**	**1.75**	**1.50**
57F2634	30-05-04-502-0303(R)	F	1	SPST-NO	Pos. feel	Red	.510 sq.	1.132	1.480	**3.25**	**2.76**	**2.28**	**1.95**
24F207	35-1	L	½	DPST-NO	Momentary	Red	31/64	.977	1.274	**1.85**	**1.57**	**1.30**	**1.11**
24F209	39-1	C	½	SPST-NO	Silent	Red	11/64	.315	.615	**1.45**	**1.23**	**1.02**	**.87**
24F236	39-2	C	¼	SPST-NO	Silent	Blk	11/64	.490	.780	**2.00**	**1.70**	**1.40**	**1.20**
57F2635	39-3	C	½	SPST-NO	Silent	Blk	11/64	.315	.615	**1.45**	**1.23**	**1.02**	**.87**
24F202	4001*	B	1	SPST-NO	Silent	Red	31/64	.965	1.500	**1.35**	**1.15**	**.95**	**.81**
24F203	4002	B	1	SPST-NC	Silent	Blk	31/64	.965	1.500	**1.35**	**1.15**	**.95**	**.81**
23F895	46-101R	B	¼	SPDT-BBM	Momentary	Red	17/64	.890	1.327	**1.60**	**1.36**	**1.12**	**.96**
23F894	46-101B	B	¼	SPDT-BBM	Momentary	Blk	17/64	.890	1.327	**1.60**	**1.36**	**1.12**	**.96**
23F897	46-102R	E	¼	SPDT-BBM	Momentary	Red	17/64	.890	1.327	**1.70**	**1.45**	**1.19**	**1.02**
23F896	46-102B	E	¼	SPDT-BBM	Momentary	Blk	17/64	.890	1.327	**1.70**	**1.45**	**1.19**	**1.02**
23F918	46-110R	B	¼	SPDT-MBB	Momentary	Red	17/64	.890	1.327	**1.75**	**1.49**	**1.23**	**1.05**
23F919	46-110B	B	¼	SPDT-MBB	Momentary	Blk	17/64	.890	1.327	**1.75**	**1.49**	**1.23**	**1.05**
57F2920	46-111R	E	¼	SPDT-MBB	Momentary	Red	17/64	.890	1.327	**1.85**	**1.57**	**1.30**	**1.11**
57F2921	46-111B	E	¼	SPDT-MBB	Momentary	Blk	17/64	.890	1.327	**1.85**	**1.57**	**1.30**	**1.11**
23F899	46-200R	G	¼	DPDT-BBM	Momentary	Red	17/64	.921	1.56	**3.40**	**2.89**	**2.38**	**2.04**
23F898	46-200B	G	¼	DPDT-BBM	Momentary	Blk	17/64	.921	1.56	**3.40**	**2.89**	**2.38**	**2.04**
57F2641	46-01-08-500-0303(R)	J	¼	DPDT	Momentary	Red	.510 sq.	1.194	1.380	**3.60**	**3.06**	**2.52**	**2.16**
57F2644	46-05-05-502-0707(B)	F	¼	SPDT-BBM	Momentary	Blk	.510 sq.	1.179	1.527	**2.50**	**2.13**	**1.75**	**1.50**
57F2645	46-05-05-502-0303(R)	F	¼	SPDT-BBM	Momentary	Red	.510 sq.	1.179	1.527	**2.50**	**2.13**	**1.75**	**1.50**
57F2646	46-05-07-502-0707(B)	F	¼	SPDT-BBM	Alt. action	Blk	.510 sq.	1.428	1.776	**4.10**	**3.49**	**2.87**	**2.46**
57F2647	46-05-07-502-0303(R)	F	¼	SPDT-BBM	Alt. action	Red	.510 sq.	1.428	1.776	**4.10**	**3.49**	**2.87**	**2.46**
57F2648	46-05-08-502-0707(B)	F	¼	DPDT-BBM	Momentary	Blk	.510 sq.	1.188	1.536	**3.60**	**3.06**	**2.52**	**2.16**
57F2649	46-05-08-502-0303(R)	F	¼	DPDT-BBM	Momentary	Red	.510 sq.	1.188	1.536	**3.60**	**3.06**	**2.52**	**2.16**
57F3790	39-250†	H	¼	SPDT	Momentary	Red	.....	.....	.....	**1.60**	**1.36**	**1.12**	**.96**
57F3791	39-250†	H	¼	SPDT	Momentary	Blk	.....	.....	.....	**1.60**	**1.36**	**1.12**	**.96**
57F3792	39-251#	H	¼	SPDT	Momentary	Red	.....	.....	.....	**1.40**	**1.19**	**.98**	**.84**
57F3793	39-251#	H	¼	SPDT	Momentary	Blk	.....	.....	.....	**1.40**	**1.19**	**.98**	**.84**
57F3794	SHH1065 Protective cap only			.....	.....	Red	.....	.....	.....	**.10**	**.09**	**.07**	**.06**

(*) UL listed. (†) w. protective cap assem. (#) wo protective cap.



Type 10-9: Wiping contact, .800" dia. x .668". **2201 and 2202:** Snap action, momentary; .880" dia. x .796". **23-1:** .468" dia. x .476". **Types 30-1 thru 30-15:** .375" dia. with ¼-32 thread. **30-17:** Positive feel, 15/32-32 thd. **Series 30-01:** Front panel bezel mtg., square button; ½-32 thread. **30-05,** same but round button. **Type 35-1:** .800" dia. x .743". **Types 39-1, -2, -3:** Butt contact, .250" dia. **39-250.** Butt contact with protective cap. **39-251.** Butt contact without protective cap. **46-01:** front panel bezel mtg., square button; **46-05,** same but round button. **46-200:** .453 x .625 x .734".

BINDING POSTS



29-1: Standard posts rated 15 amps cont. at 120 VDC. **29-100:** Plunger type, extends only ⅜" above board, rated 20 amps at 120 VDC. Type **29-104** includes insulating washer.

Stock No.	Type	Feature	Color	Mtg. Hole	Each 1-99	100-199	1000-1999	2000-2999
28F567	29-1B	Screw type	Black	⅜"	**.90**	**.68**	**.63**	**.59**
28F566	29-1R	Screw type	Red	⅜"	**.90**	**.68**	**.63**	**.59**
28F418	29-100B	Spring load	Black	11/64"	**.65**	**.49**	**.46**	**.42**
28F417	29-100R	Spring load	Red	11/64"	**.65**	**.49**	**.46**	**.42**
57F2650	29-100	Spring load	No cap	11/64"	**.60**	**.45**	**.42**	**.39**
28F422	29-104B	Spring load	Black	25/64"	**.95**	**.71**	**.67**	**.62**
28F421	29-104R	Spring load	Red	25/64"	**.95**	**.71**	**.67**	**.62**

ACCESSORY ITEMS

DECORATIVE MNTG. NUT

.77" dia. .75" across flats. .12" Thk.
57F1514. 7C1040. **NET** .....**.30**

7C1040

BUTTON GUARD

.29" dia. by .41" deep.
23F496. 10C1015. **NET** .....**.35**

10C1015

TEST CLIPS

For panel mounting on test equipment, to allow rapid connections without manual opening and closing of jaws. Hex nut for tension adjustment. Nickel plated brass metal parts, except steel threaded stud.

2-0 2-60 2-42

Stock No.	Type	Mounting	Overall Ht.	1-1999	2000-4999	5000-9999
28F550	2-0	Thrd. stud	1.59"	**.40**	**.34**	**.30**
28F414	2-20	Thrd. stud	1.16"	**.40**	**.34**	**.30**
57F2651	2-60	Tapped hole	1.14"	**.30**	**.26**	**.23**
28F624	2-41	Thrd. stud	.79"	**.40**	**.34**	**.30**
28F625	2-42	Double Clip	.79"	**.45**	**.38**	**.34**

TRANSISTOR AND BI-PIN LAMP SOCKETS

For JEDEC transistors. Leads fit 100 mil grid for printed circuits. Mica filled phenolic. Wrap-around contacts, silver plated beryllium copper with gold plate. Type **22-16-2** has hole and term. at position 4 omitted; **22-16-3** has hole and term. at position 3 omitted.

22-16-4 22-11

Stock No.	Type	Transistor Outline	No. Pins	Each 1-499	500-999
57F2654	22-16-2	TO-5, 9, 11, 16, 26, 29, 31 and 39	3	**.60**	**.48**
28F633	22-16-3	Same as 22-16-2	3	**.60**	**.48**
57F2655	22-16-4	Same as 22-16-2	3	**.65**	**.52**
57F2656	22-3	Bi-Pin Lamp	2	**.65**	**.52**

Rotary Switches

SELECTING GRAYHILL ROTARY SWITCH

Fixed stop rotary switches are not in inventory, but adjustable rotary switches that follow are in Newark's stock. They provide the exact electrical properties and basic mechanical characteristics you need. You can readily obtain the right number of positions per pole for your application by a simple adjustment of stop washers or stop pins.

Adjustable stop feature available in following rotary switches: **1) 1" dia., multi-deck:** Use series 44D for 30° angle throw, 42D for 36° angle throw, prototyping and where series 5000 or 24 will be used for production. **2) ½" dia., single deck:** Use series 50D for 36, 45, 60° angles; series 51D for 30° angles. **3) ½" dia., multi-deck:** Use series 71D for 30° and 36° angles and for prototypes where series 8 or 9 will be used in production.

SERIES 42D AND 44D ADJUSTABLE STOP

1-AMP ROTARY SWITCHES

- **Make/Break 1 Amp at 115 VAC**
- **Carry 10 Amps at 115 VAC**
- **10 or 12 Positions**
- **1 to 4 Decks, 1 to 4 Poles**

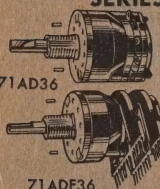
Fully enclosed switches, interchangeable with fixed stop 42A and 44A series. Electrical ratings: make or break 1 amp, carry 10 amps at 115 VAC, resistive. Insulation resistance: 50,000 megohms initially, 10,000 megohms minimum. Non-shorting contacts. Bushing, ⅜-32 NEF. Depth behind panel: 1-deck, 1.025"; 2-deck, 1.371"; 3-deck, 1.717"; 4-deck, 2.063".

SERIES 42D. 10-position switch with 36° indexing. Diameter, 1.000". Shpg. wt. 1½ oz.

SERIES 44D. 12-position switch with 30° indexing. Diameter, 1.162". Shpg. wt., 1½ oz.

Stock No.	Type No.	Poles	Decks	Positions	1-9	10-24	25-49	50-99
57F1541	42D36-01-1-AJN	1	1	10	10.90	10.03	9.16	6.87
57F1544	42D36-01-2-AJN	2	1	10	11.70	10.77	9.83	7.38
57F1542	42D36-02-1-AJN	1	2	10	13.50	12.42	11.34	8.51
43F812	42D36-02-2-AJN	2	2	10	15.20	13.99	12.77	9.58
57F1545	44D30-01-1-AJN	1	1	12	11.20	10.31	9.41	7.06
57F1548	44D30-01-2-AJN	2	1	12	12.00	11.04	10.08	7.56
57F1546	44D30-02-1-AJN	1	2	12	14.10	12.97	11.85	8.89
43F815	44D30-02-2-AJN	2	2	12	15.80	14.54	13.28	9.96
57F1547	44D30-03-1-AJN	1	3	12	17.00	15.64	14.28	10.71
43F817	44D30-03-2-AJN	2	3	12	19.60	18.04	16.47	12.35
43F819	44D30-04-1-AJN	1	4	12	19.90	18.31	16.72	12.54

SERIES 71 ADJUSTABLE STOP



Behind panel distance approx. ¾" for one deck switch and 1" for two deck. Gold plated contact systems. Adj. stops provided. Adjust by relocating stop pins at front of switch. Stops held in place by mylar sticker. Provide form, fit and function equivalents to their fixed stop counterparts. 8th digit in type number represents the number of decks, 9th digit the number of poles.

Stock No.	Type No.	Shft. Dia.	Positions	1-9	10-24	25-49	50-99
57F3744	71AD36-01-1-AJN	⅛	10	6.35	5.85	5.34	4.01
57F3745	71AD36-01-2-AJN	⅛	5	6.70	6.17	5.63	4.23
57F3746	71AD36-02-1-AJN	⅛	10	8.85	8.15	7.44	5.58
57F3747	71AD36-02-2-AJN	⅛	5	9.55	8.79	8.03	6.02
57F3748	71AD30-01-1-AJN	⅛	12	6.35	5.85	5.34	4.01
57F3749	71AD30-01-2-AJN	⅛	6	6.70	6.17	5.63	4.23
57F3750	71AD30-02-1-AJN	⅛	12	8.85	8.15	7.44	5.58
57F3751	71AD30-02-2-AJN	⅛	6	9.55	8.79	8.03	6.02
57F3752	71BD36-01-1-AJN	¼	10	6.35	5.85	5.34	4.01
57F3753	71BD36-01-2-AJN	¼	5	6.70	6.17	5.63	4.23
57F3754	71BD36-02-1-AJN	¼	10	8.85	8.15	7.44	5.58
57F3755	71BD36-02-2-AJN	¼	5	9.55	8.79	8.03	6.02
57F3756	71BD30-01-1-AJN	¼	12	6.35	5.85	5.34	4.01
57F3757	71BD30-01-2-AJN	¼	6	6.70	6.17	5.63	4.23
57F3758	71BD30-02-1-AJN	¼	12	8.85	8.15	7.44	5.58
57F3759	71BD30-02-2-AJN	¼	6	9.55	8.79	8.03	6.02
PRINTED CIRCUIT TERMINALS							
57F3760	71ADF36-01-1-AJN	⅛	10	7.25	6.67	6.09	4.57
57F3761	71ADF36-01-2-AJN	⅛	5	7.60	7.00	6.39	4.79
57F3762	71ADF36-02-1-AJN	⅛	10	10.70	9.85	8.99	6.75
57F3763	71ADF36-02-2-AJN	⅛	5	11.40	10.49	9.58	7.19
57F3764	71ADF30-01-1-AJN	⅛	12	7.25	6.67	6.09	4.57
57F3765	71ADF30-01-2-AJN	⅛	6	7.60	7.00	6.39	4.79
57F3766	71ADF30-02-1-AJN	⅛	12	10.70	9.85	8.99	6.75
57F3767	71ADF30-02-2-AJN	⅛	6	11.40	10.49	9.58	7.19
57F3768	71BDF36-01-1-AJN	¼	10	7.25	6.67	6.09	4.57
57F3769	71BDF36-01-2-AJN	¼	5	7.60	7.00	6.39	4.79
57F3770	71BDF36-02-1-AJN	¼	10	10.70	9.85	8.99	6.75
57F3771	71BDF36-02-2-AJN	¼	5	11.40	10.49	9.58	7.19
57F3772	71BDF30-01-1-AJN	¼	12	7.25	6.67	6.09	4.57
57F3773	71BDF30-01-2-AJN	¼	6	7.60	7.00	6.39	4.79

Chart indicates rotary switch series (1st one or two numbers), style (letters), and angle of throw (last two numbers) of fixed-stop and adjustable-stop rotary switches.

Fixed Stop	Adj. Stop	Fixed Stop	Adj. Stop	Fixed Stop	Adj. Stop
8A36	71AD36	50MP36	50MPD36	51S30	51MD30
9A30	71AD30	50P36	50CDP36	51SP30	51MPD30
42A36	42D36	50S36	50MD36	71A30	71AD30
42M36	42D36	50SP36	50MPD36	71A36	71AD36
44A30	44D30	51A30	51CD30	71AF30	71ADF30
44M30	44D30	51C30	51CD30	71AF36	71ADF36
40A36	50CD36	51CP30	51CDP30	71B30	71BD30
50C36	50CD36	51M30	51MD30*	71B36	71BD36
50CP36	50CDP36	51MP30	51MPD30*	71BF30	71BDF30
50M36	50MD36	51P30	51CDP30	71BF36	71BDF36

(*)51MD/51MDP. Qualified to MIL-S-3786. Other than these, adjustable stop type not qualified and should not be used in equipment submitted for Military approval.

SERIES 50 AND 51 ADJUSTABLE STOP ROTARY TAP SWITCHES

SERIES 50. Single deck, 10-position switch with 36° indexing. "CD" commercial types have no seals, phenolic base. "MD" military types have integral shaft and panel seal, diallyl phthalate base, meet MIL-S-3786/SR20 requirements. Contact resistance, 10 milliohms initially, 50 milliohms max. Non-shorting. ½" dia.; .617" behind panel.

SERIES 51. Similar to above except 12-position (30° indexing). ⅝₁₆" diameter. "MD" types meet MIL-S-3786/SR35.

Stock No.	Type No.	Poles	Positions	1-9	10-24	25-49	50-99
57F1537	50CD36-01-1-AJN	1	10	9.55	8.79	8.03	6.02
57F1538	50CD36-01-2-AJN	2	10	12.35	11.37	10.38	7.79
57F1539	50MD36-01-1-AJN	1	10	11.45	10.54	9.62	7.22
57F1540	50MD36-01-2-AJN	2	10	14.20	13.07	11.93	8.95
43F820	51CD30-01-1-AJN	1	12	10.30	9.48	8.66	6.49
43F821	51CD30-01-2-AJN	2	12	13.10	12.06	11.01	8.26
57F1592	51MD30-01-1-AJN	1	12	12.30	11.32	10.34	7.75
43F822	51MD30-01-2-AJN	2	12	15.00	13.80	12.60	9.45
PRINTED CIRCUIT TERMINALS							
57F3736	50CDP36-01-1-AJN	1	10	9.55	8.79	8.03	6.02
57F3737	50CDP36-01-2-AJN	2	5	12.35	11.37	10.38	7.79
57F3738	50MPD36-01-1-AJN	1	10	11.45	10.54	9.62	7.22
57F3739	50MPD36-01-2-AJN	2	5	14.20	13.07	11.93	8.95
57F3740	51CDP30-01-1-AJN	1	12	10.30	9.48	8.66	6.49
57F3741	51CDP30-01-2-AJN	2	6	13.10	12.06	11.01	8.26
57F3742	51MPD30-01-1-AJN	1	12	12.30	11.32	10.34	7.75
57F3743	51MDP30-01-2-AJN	2	6	15.00	13.80	12.60	9.45

SERIES 19 POWER ROTARY SWITCHES

U.L. LISTED—15 AMPS

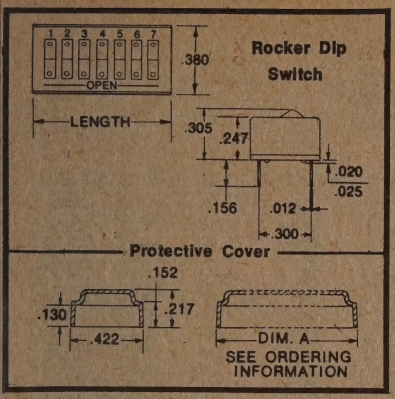
- **2 to 11 Positions—30° Indexing**
- **Life in Excess of 50,000 Cycles**
- **Solder or "Faston" Terminals**

Single pole, single deck rotary tap switches. Non-shorting contacts with 15 amp, 125 VAC resistive rating. Contact resistance, .010 ohm approx. for new switch, measured at 2 VDC and 100 mA. Insulation resistance, approx. 100,000 megohms. Breakdown between mutually insulated parts, 2500 VAC. Contact force, approx. 12 oz. Solder terminals with .125" wire hole, or "Faston" terminals with .080" wire hole. 2 to 11 positions. Wt., 1¾ oz.

Stock No.	Type No.	Taps	Terminals	1-9	10-24	25-49	50-99
43F800	19001-2UL	2	Solder	6.15	5.66	5.17	3.88
43F801	19001-3UL	3	Solder	6.40	5.89	5.38	4.04
43F802	19001-4UL	4	Solder	6.65	6.12	5.59	4.19
43F803	19001-5UL	5	Solder	6.90	6.35	5.80	4.35
43F804	19001-6UL	6	Solder	7.15	6.58	6.01	4.51
43F805	19001-7UL	7	Solder	7.40	6.81	6.22	4.67
43F806	19001-8UL	8	Solder	7.65	7.04	6.43	4.82
43F807	19001-9UL	9	Solder	7.90	7.27	6.64	4.98
43F808	19001-10UL	10	Solder	8.15	7.50	6.85	5.14
43F809	19001-11UL	11	Solder	8.40	7.73	7.06	5.30
57F1500	19101-2UL	2	Faston	6.15	5.66	5.17	3.88
57F1501	19101-3UL	3	Faston	6.40	5.89	5.38	4.04
57F1502	19101-4UL	4	Faston	6.65	6.12	5.59	4.19
57F1503	19101-5UL	5	Faston	6.90	6.35	5.80	4.35
57F1504	19101-6UL	6	Faston	7.15	6.58	6.01	4.51
57F1505	19101-7UL	7	Faston	7.40	6.81	6.22	4.67
57F1506	19101-8UL	8	Faston	7.65	7.04	6.43	4.82
57F1507	19101-9UL	9	Faston	7.90	7.27	6.64	4.98
57F1508	19101-10UL	10	Faston	8.15	7.50	6.85	5.14
57F1509	19101-11UL	11	Faston	8.40	7.73	7.06	5.30

Switches

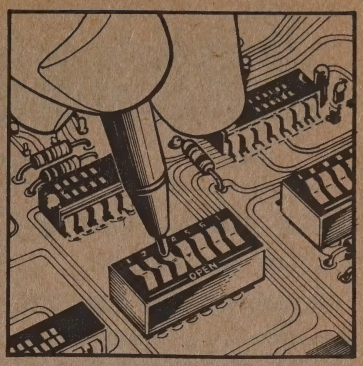
SERIES 76 ROCKER DIP SWITCHES



SPST OR SPDT TYPES

- **Rocker Actuated**
- **Dual In-Line**

Spring loaded sliding ball contact system for positive positioning and high resistance to shock and vibration. Molded-in terminals protect against contact contamination. Tested to 50,000 mechanical operations. Easily mounted to PC board by direct-flow soldering or insertion into standard socket. Even switch independent. Current Rating: 35,000 oper. @50 MA 30VDC; 25,000 oper. @125 MA 30 VDC. Contact Resistance: 100 milliohms. Molded thermoplastic polyester cover, base and baseplate. Brass shorting bar with gold .00001" min over .00005" min. nickel plate.



SPST

Stock No.	SPST Type	Lgth, Inch	No. of Rockers	1-9	10-24	25-49	50-99
57F2913	76B02	.280	2	3.35	3.09	2.82	2.65
57F2912	76B03	.380	3	3.45	3.18	2.90	2.73
57F2904	76B04	.480	4	3.55	3.27	2.99	2.81
57F2903	76B05	.580	5	3.65	3.36	3.07	2.89
57F2910	76B06	.680	6	3.70	3.41	3.11	2.93
57F2901	76B07	.780	7	3.80	3.50	3.20	3.01
57F2900	76B08	.880	8	3.90	3.59	3.28	3.09
57F2911	76B09	.980	9	4.00	3.68	3.36	3.16
57F2902	76B10	1.080	10	4.10	3.78	3.45	3.24

SPDT

A5F3774	76C02	.380	2	3.40	3.06	2.86	2.69
A5F3775	76C03	.580	3	3.65	3.36	3.07	2.89
A5F3776	76C04	.780	4	3.90	3.59	3.28	3.09

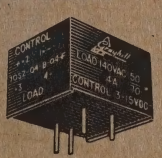
PROTECTIVE COVERS

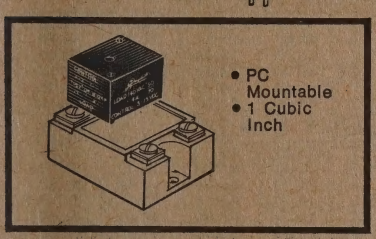
Stock No.	SPST Type	Lgth Inch	No. of Rockers	1-9	10-24	25-49	50-99
27F780	76P02	.322	2				
25F781	76P03	.422	3				
25F782	76P04	.522	4				
25F783	76P05	.622	5				
25F784	76P06	.722	6	.15	.14	.13	.12
25F785	76P07	.822	7				
25F786	76P08	.922	8				
25F787	76P09	1.022	9				
25F788	76P10	1.122	10				

DPDT Types 76C02 uses 76P03. 76C03 uses 76P05. 76C04 uses 76P07.

MINI CUBE SOLID STATE RELAYS

- Optically Isolated
- Zero Voltage Turn-On





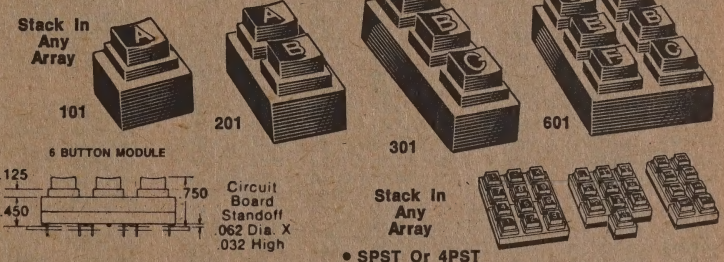
- PC Mountable
- 1 Cubic Inch

Switches from 0.1 to 4 amps. Rated at 25°C, no derating to actual operating temperature. Measure 1.0" x 1.2" x 0.85"—occupying only 1 cubic inch and ⅓ the board space of old-style relays. Can be used directly with TTL, DTL, CMOS and other logic circuits—no intermediate driver necessary. Control circuit takes less than 5 mA drain with typical 5 volt logic circuit. Optical isolation for coupling the control and power circuits. Theoretically infinite life span. Zero voltage turn on and zero current turn off prevent the 'feedback' of spurious pulses into logic circuit when relay is turned on or off. 3000 volt per microsecond transient protection. Designed for PC board mounting.

Stock No.	Type	Volt Range	1-9	10-24	25-49	50-99
57F3777	70S2-04-B-04-F	3-15	21.00	18.27	16.80	14.70
57F3778	70S2-05-B-04-F	14-30	21.00	18.27	16.80	14.70
57F3779	70S2-04-C-04-F	3-15†	21.00	18.27	16.80	14.70
57F3780	70S2-05-C-04-F	14-30†	21.00	18.27	16.80	14.70

50 to 140 VAC. except (†)100 to 240 VAC

PUSH BUTTON SWITCH MODULES



- **SPST Or 4PST Under Each Button**
- **Slip-In Legends**

For prototype and small quantity usage. Clear protective cap slotted on one side to allow insertion of clear plastic tab imprinted with legend. Legend sheet has all normally required legends for both vertical and horizontal mounting. Rating @ 5 VDC: 100 milliamps. Contact Resistance: 25 milliohms or less. Voltage Breakdown: 250 VAC between mutually isolated parts. Insulation Resistance: 1,000 megohms min. Life expectancy: 1,500,000 operations.

Stock No.	Type	Buttons	Switch	1-49	50-99	100-499	500-999
57F3781	82-101-71	1	SPST	1.50	1.28	1.05	.90
57F3782	82-101-74	1	4PST	1.80	1.53	1.26	1.08
57F3783	82-201-41	2	SPST	2.50	2.13	1.75	1.50
57F3784	82-201-44	2	4PST	3.10	2.64	2.17	1.86
57F3785	82-301-61	3	SPST	3.50	2.98	2.45	2.10
57F3786	82-301-64	3	4PST	4.40	3.74	3.08	2.64
57F3787	82-601-81	6	SPST	6.50	5.53	4.55	3.90
57F3788	82-601-84	6	4PST	8.30	7.06	5.81	4.24

LEGEND SHEET

Stk. No.	Type	1-49	50-99	100-499	500-999
A57F3789	82AC2017	1.00	.85	.70	.60

SWITCHCRAFT INC.

Multi-Switches

65000

67000

SERIES 65000 AND 67000

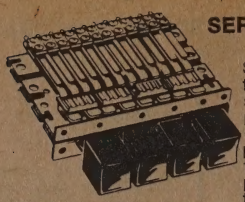
FACTORY ASSEMBLED

"DW" SERIES "MULTI-SWITCH"

Series 65000. Non-illuminated "Multi-Switch." With DPDT switch module per station. Double-wipe bifurcated silver plated brass contacts rated 3A AC, 0.5A DC; 125 V. non-inductive load. $1\frac{1}{16}$" depth behind panel. $\frac{3}{4}$" length plus $\frac{5}{8}$" for each station. $2\frac{7}{32}$" height.

Series 67000. Illuminated version of above. Front of panel lamp replacement. Accepts Ind. #327 and #328 lamps.

Stk. No.	Type	Function	Sta-tions	EACH 1-9	10-24	25-49	50-99
22F137	65021K-206	Interlock	2	2.48	1.86	1.71	1.55
22F090	65022-206	Non-Lock	2	2.36	1.77	1.62	1.48
22F143	65023-206	All-Lock	2	2.48	1.86	1.71	1.55
22F138	65041K-206	Interlock	4	4.40	3.30	3.03	2.75
22F091	65042-206	Non-Lock	4	4.28	3.21	2.94	2.68
22F144	65043-206	All-Lock	4	4.40	3.30	3.03	2.75
22F139	65061K-206	Interlock	6	6.32	4.74	4.35	3.95
22F092	65062-206	Non-Lock	6	6.16	4.62	4.24	3.85
22F145	65063-206	All-Lock	6	6.32	4.74	4.35	3.95
22F140	65081K-206	Interlock	8	8.24	6.18	5.67	5.15
22F093	65082-206	Non-Lock	8	8.08	6.06	5.56	5.05
22F146	65083-206	All-Lock	8	8.28	6.21	5.69	5.18
22F141	65101K-206	Interlock	10	10.20	7.65	7.01	6.38
22F094	65102-206	Non-Lock	10	10.00	7.50	6.88	6.25
22F147	65103-206	All-Lock	10	10.20	7.65	7.01	6.38
39F581	65121K-206	Interlock	12	12.16	9.12	8.36	7.60
39F582	65123-206	All-Lock	12	12.16	9.12	8.36	7.60
39F583	65041K-212	Interlock	4	5.28	3.96	3.63	3.30
39F584	65061K-212	Interlock	6	7.68	5.76	5.28	4.80
39F585	65081K-212	Interlock	8	10.00	7.50	6.88	6.25
39F586	65101K-212	Interlock	10	12.40	9.30	8.53	7.75
39F587	65121K-212	Interlock	12	14.80	11.10	10.18	9.25
39F588	65043-212	All-Lock	4	5.28	3.96	3.63	3.30
39F589	65063-212	All-Lock	6	7.68	5.76	5.28	4.80
39F590	65083-212	All-Lock	8	10.00	7.50	6.88	6.25
39F591	65103-212	All-Lock	10	12.40	9.30	8.53	7.75
39F592	65123-212	All-Lock	12	14.80	11.10	10.18	9.25
39F593	65047-206	Push-Lock	4	4.40	3.30	3.03	2.75
39F594	65067-206	Push-Lock	6	6.32	4.74	4.35	3.95
39F595	65087-206	Push-Lock	8	8.28	6.21	5.69	5.18
39F596	65107-206	Push-Lock	10	10.20	7.65	7.01	6.38
39F597	65127-206	Push-Lock	12	12.16	9.12	8.36	7.60
39F2300	67021K-506	Interlock	2	3.32	2.49	2.28	2.08
39F2301	67022-506	Non-Lock	2	3.00	2.25	2.06	1.88
39F2302	67023-506	All-Lock	2	3.32	2.49	2.28	2.08
39F2303	67041K-506	Interlock	4	5.92	4.44	4.07	3.70
39F2304	67042-506	Non-Lock	4	5.40	4.05	3.71	3.38
39F2305	67043-506	All-Lock	4	5.92	4.44	4.07	3.70
39F2306	67061K-506	Interlock	6	8.56	6.42	5.89	5.35
39F2307	67062-506	Non-Lock	6	7.76	5.82	5.34	4.85
39F2308	67063-506	All-Lock	6	8.56	6.42	5.89	5.35
39F2309	67081K-506	Interlock	8	11.20	8.40	7.70	7.00
39F2310	67082-506	Non-Lock	8	10.12	7.59	6.96	6.33
39F2311	67083-506	All-Lock	8	11.20	8.40	7.70	7.00
39F2312	67101K-506	Interlock	10	13.88	10.41	9.54	8.68
39F2313	67102-506	Non-Lock	10	12.52	9.39	8.61	7.83
39F2314	67103-506	All-Lock	10	13.88	10.41	9.54	8.68
39F598	67121K-506	Interlock	12	16.52	12.39	11.36	10.33
39F599	67123-506	All-Lock	12	16.52	12.39	11.36	10.33
39F600	67021K-512	Interlock	2	3.72	2.79	2.56	2.33
39F601	67041K-512	Interlock	4	6.80	5.10	4.68	4.25
39F602	67061K-512	Interlock	6	9.88	7.41	6.79	6.18
39F603	67081K-512	Interlock	8	13.00	9.75	8.94	8.13
39F604	67101K-512	Interlock	10	16.04	12.03	11.03	10.03
39F605	67121K-512	Interlock	12	19.16	14.37	13.17	11.98
39F606	67027-506	Push-Lock	2	3.32	2.49	2.28	2.08
39F607	67047-506	Push-Lock	4	5.92	4.44	4.07	3.70
39F608	67067-506	Push-Lock	6	8.56	6.42	5.89	5.35
39F609	67087-506	Push-Lock	8	11.20	8.40	7.70	7.00
39F610	67107-506	Push-Lock	10	13.88	10.41	9.54	8.68
39F611	67127-506	Push-Lock	12	16.52	12.39	11.36	10.33



SERIES 35000 NON-ILLUMINATED

Switches mount on panels up to $\frac{1}{8}$" thick. Provides 6PDT switching in .6 sq. in. Narrow rectangular silhouette permits stacking in parallel rows on $\frac{3}{4}$" centers. Only $2\frac{5}{16}$" depth behind panel. End brackets have four 6-32 tapped mounting holes. A square black pushbutton is furnished for each station.

INTERLOCK WITH LOCKOUT 2-C PER STATION

Stk. No.	Type	Stations	1-9	10-24	25-49	50-99
39F612	35041K-206	4	14.63	13.50	12.38	11.25
39F613	35061K-206	6	20.48	18.90	17.33	15.75
39F614	35081K-206	8	26.33	24.30	22.28	20.25
39F615	35101K-206	10	32.18	29.70	27.23	24.75
39F616	35121K-206	12	38.16	35.22	32.29	29.35

PUSH-LOCK/PUSH-RELEASE 2-C PER STATION

39F617	35047-206	4	14.63	13.50	12.38	11.25
39F618	35067-206	6	20.48	18.90	17.33	15.75
39F619	35087-206	8	26.33	24.30	22.28	20.25
39F620	35107-206	10	32.18	29.70	27.23	24.75
39F621	35127-206	12	38.16	35.22	32.29	29.35

INTERLOCK WITH LOCKOUT 4-C PER STATION

39F622	35041K-212	4	20.61	19.02	17.55	15.85
39F623	35061K-212	6	29.48	27.21	24.94	22.68
39F624	35081K-212	8	38.42	35.46	32.51	29.55
39F625	35101K-212	10	47.32	43.68	40.04	36.40
39F626	35121K-212	12	56.16	51.84	47.52	43.20

PUSH-LOCK/PUSH-RELEASE 4-C PER STATION

39F627	35047-212	4	20.61	19.02	17.44	15.85
39F628	35067-212	6	29.48	27.21	24.94	22.68
39F629	35087-212	8	38.42	35.46	32.51	29.55
39F630	35107-212	10	47.32	43.68	40.04	36.40
39F631	35127-212	12	56.16	51.84	47.52	43.20

SERIES 37000 SINGLE LAMP ILLUMINATED

Identical in switching functions and characteristics as Series 35000 but with added feature of illuminated pushbuttons.

INTERLOCK FUNCTION

Stock No.	Type	Sta-tions	EACH 1-9	10-24	25-49	50-99
39F2238	37021K-1206	2	14.43	13.32	12.21	11.10
39F2239	37041K-1206	4	25.61	23.64	21.67	19.70
39F2240	37061K-1206	6	36.79	33.96	31.13	28.30
39F2241	37081K-1206	8	48.30	44.58	40.87	37.15
39F2242	37101K-1206	10	59.54	54.96	50.38	45.80
39F2243	37121K-1206	12	70.85	65.40	59.95	54.50

NON-LOCK FUNCTION

39F2244	37022-1206	2	14.43	13.32	12.21	11.10
39F2245	37042-1206	4	25.61	23.64	21.67	19.70
39F2246	37062-1206	6	36.79	33.96	31.13	28.30
39F2247	37082-1206	8	48.30	44.58	40.87	37.15
39F2248	37102-1206	10	59.54	54.96	50.38	45.80
39F2249	37122-1206	12	70.85	65.40	59.95	54.50

ALL LOCK FUNCTION

39F2250	37023-1206	2	14.43	13.32	12.21	11.10
39F2551	37043-1206	4	25.61	23.64	21.67	19.70
39F2252	37063-1206	6	36.79	33.96	31.13	28.30
39F2253	37083-1206	8	48.30	44.58	40.87	37.15
39F2254	37103-1206	10	59.54	54.96	50.38	45.80
39F2255	37123-1206	12	70.85	65.40	59.95	54.50

PUSH-PUSH FUNCTION

39F2256	37027-1206	2	14.43	13.32	12.21	11.10
39F2257	37047-1206	4	25.61	23.64	21.67	19.70
39F2258	37067-1206	6	36.79	33.96	31.13	28.30
39F2259	37087-1206	8	48.30	44.58	40.87	37.15
39F2260	37107-1206	10	59.54	54.96	50.38	45.80
39F2261	37127-1206	12	70.85	65.40	59.95	54.50

SERIES 38000 TWIN LAMP ILLUMINATED

Same compact assembly and versatility as Series 37000, except features twin lamp illumination at each station.

INTERLOCK WITH LOCKOUT 2-C PER STATION

Stk. No.	Type	Stations	1-9	10-24	25-49	50-99
39F632	38041K-1206	4	33.02	30.48	27.94	25.40
39F633	38061K-1206	6	47.91	44.22	40.54	36.85
39F634	38081K-1206	8	63.18	58.32	53.46	48.60
39F635	38101K-1206	10	78.00	72.00	66.00	60.00
39F636	38121K-1206	12	92.95	85.80	78.65	71.50

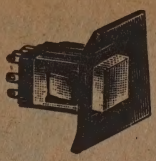
PUSH-LOCK/PUSH-RELEASE 2-C PER STATION

39F637	38047-1206	4	33.02	30.48	27.94	25.40
39F638	38067-1206	6	47.91	44.22	40.54	36.85
39F639	38087-1206	8	63.18	58.32	53.46	48.60
39F640	38107-1206	10	78.00	72.00	66.00	60.00
39F641	38127-1206	12	92.95	85.80	78.65	71.50

Switches

SWITCHCRAFT INC

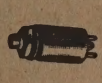
BOX SWITCH



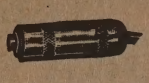
A flush mounted, momentary action pushbutton switch. Offers broad switching capabilities in minimum panel space. For control panel application in computers, data processors, ground support equipment, machine and process controls, test equipment, and telephones. 1 1/16" square. 4 switching poles; 2 limited to single throw. Solder lug terms. Silver plated, brass integral contacts.

Stock No.	Type	Contact Assembly	Button Color	1-9	10-24	25-49	50-99
22F1000	BXR-01-1	1-A	Red	3.04	2.28	2.09	1.90
22F1001	BXR-01-3	1-C	Red	3.20	2.40	2.20	2.00
22F1004	BXR-02-1	1-A	Black	3.04	2.28	2.09	1.90
22F1005	BXR-02-3	1-C	Black	3.20	2.40	2.20	2.00
22F1006	BXR-02-6	2-C	Black	3.48	2.61	2.39	2.18
22F1007	BXR-02-10	2-C, 2-A	Black	4.00	3.00	2.75	2.50
22F1008	BXR-03-1	1-A	Green	3.04	2.28	2.09	1.90
22F1009	BXR-03-3	1-C	Green	3.20	2.40	2.20	2.00
22F1010	BXR-03-6	2-C	Green	3.48	2.61	2.39	2.18
22F1011	BXR-03-10	2-C, 2-A	Green	4.00	3.00	2.75	2.50
22F1012	BXR-05-1	1-A	White	3.04	2.28	2.09	1.90
22F1013	BXR-05-3	1-C	White	3.20	2.40	2.20	2.00
22F1014	BXR-05-6	2-C	White	3.48	2.61	2.39	2.18

Button Switch



Tiny Switches



Cord Switch

BUTTON SWITCHES

Non-locking, push button switch. Rated at 250 mils., non-inductive load, AC, 30 watts max. Size: ½" D x 1" L. Wt. 2 oz. *Numeral indicates No. of sets of contacts.

Stk. No.	Type	Description	Contact*	1-9	10-24	25-49	50-99
22F229	903	Red Button	1C	1.52	1.14	1.05	.95
22F230	903D	Red Button	1D				
22F233	913	Black Button	1C				
22F234	913D	Black button	1D				
22F231	923	Red button	1C	1.60	1.20	1.10	1.00
22F232	923D	Red button	1D				
22F235	933	Black button	1C				

TINY SWITCHES

Subminiature design. Integral silver contacts for low level circuits where low contact resistance is not a factor. Size: 7/16" D x 1 1/16" L.

22F237	951	Red button	1A	1.00	.75	.69	.63
22F238	952	Red button	1B				
22F240	961	Black button	1A				
22F241	962	Black button	1B				
22F239	953	Red button	1C	1.24	.93	.86	.78
22F242	963	Black button	1C				

CORD OR PENDANT SWITCHES

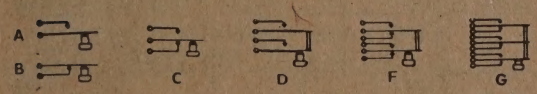
Nickel plated housing incorporates Series 903 and 913 button switches shown above. Dia. 1 1/16". Approx. length 2 3/16". Wt. 3 oz.

22F243	E903	Red button	1C	1.52	1.14	1.05	.95
22F245	E913	Black button	1C	1.52	1.14	1.05	.95

FLAT FRAME PUSH BUTTON SWITCHES

One piece, black plastic, push button, all common circuit model. Fine silver contacts used for minimum resistance. Rated at 3 amps, 300 watts, max. AC non-inductive load. Shaft and button need not be removed for mounting. Mounts in single 3/8" hole, panels up to ¼" thick. Size: 1 29/32" L x ¾" W. Shpg. wt., each 2 oz.

CONTACT CIRCUITS FOR FLAT FRAME SWITCHES



Stock No.	Type	Circuit Figure	Switch Action	1-9	10-24	25-49	50-99
22F200	1001	A	SPST NO	1.44	1.08	.99	.90
22F202	1003	C	SPDT	1.56	1.17	1.07	.98
22F203	1004	D	DPST NO	1.68	1.26	1.16	1.05
22F205	1006	F	DPDT	2.00	1.50	1.38	1.25
22F206	1009	G	3PDT	2.88	2.16	1.98	1.80

"UNISWITCH" SWITCH

Low cost, compactly built, momentary action pushbutton, ideal for use on computers, data processing equipment, test & measurement devices, telephone apparatus. Illuminated, only 1 1/16" square, mount in a single panel, requiring only 1 3/4" to 1 17/64" max. Terminals extruded for use with #5-40 machine screws, contacts rated at 250 ma., 30 watts max., AC non-inductive load. SPST—NO circuit.

LUS SERIES

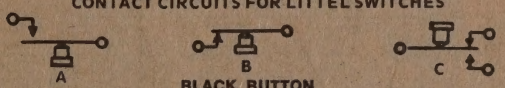
Stock No.	Type No.	Color	1-9	10-24	25-49	50-99
39F1613	LUS-01-1	Red	1.68	1.26	1.16	1.05
39F1614	LUS-04-1	Blue				
39F1615	LUS-03-1	Green				
39F1616	LUS-08-1	Yellow				
39F1617	LUS-05-1	White				

Stock No.	Type	Desc.	Amp.	10-90	100-490	500-Up
27F1030	CM7-7377	6V Bi-Pin Lamp	.075	.74	.65	.56

LITTEL SWITCHES

These are momentary contact switches, no bigger than a small phone jack. Available in three circuits with red or black, one-piece push-button (non-locking only). All contacts are thoroughly insulated from panel bushing with interlocking phenolic washers. Springs are special nickel-silver alloy. Integral contacts; recommended for low current circuits only. Plastic button and shaft need not be removed for mounting. Mounts in 3/8" dia. hole in panels up to ¼". Complete with locknut and washer. Shpg. wt., 1 oz.

CONTACT CIRCUITS FOR LITTEL SWITCHES



BLACK BUTTON

Stock No.	Type	Circuit Figure	Switch Action	1-9	10-24	25-49	50-99
22F207	201	1-A	SPST NO	1.00	.75	.69	.63
22F208	202	1-B	SPST NC	1.00	.75	.69	.63
22F209	203	1-C	SPDT	1.24	.93	.86	.78

RED BUTTON

22F210	101	1-A	SPST NO	1.00	.75	.69	.63
22F211	102	1-B	SPST NC	1.00	.75	.69	.63
22F212	103	1-C	SPDT	1.24	.93	.86	.78

ILLUMINATED "LITTEL-LITE" SWITCHES

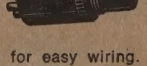
Momentary contact. One piece, clear plastic button and shaft is illuminated by a single miniature lamp. Includes kit of 4-color chips (red, amber, green, and yellow). Recommended for low level circuits. Switches with suffix "S" have fine silver contacts rated at 3 amps, 300 watts, max., AC, non-inductive load. Mounts on 3/8" centers, panels to ¼" thick.

Stock No.	Type	Circuit Figure	Switch Action	1-9	10-24	25-49	50-99
26F800	211	1-A	SPST NO	2.08	1.56	1.43	1.30
26F802	213	1-C	SPDT	2.56	1.92	1.76	1.60
26F803	211S	1-A	SPST NO	2.60	1.95	1.79	1.63
26F805	213S	1-C	SPDT	3.08	2.31	2.12	1.93
26F806	K106	...	Chip Kit	.36	.27	.25	.23

LAMPS FOR "LEVER-LITE" AND "LITTEL-LITE"

Stk. No.	Type	Volt.	Base	Current	10-99	100-Up
26F513	1768	6V	Screw	200 Ma	.89	.75
26F508	335	28V	Screw	40 Ma	1.51	1.27

SERIES DA SWITCH



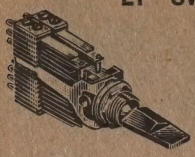
Miniature momentary action pushbutton switch. Meets Human Factor Engineering considerations. Mounts on 17/32" centers. Available in six colors for control panel coding. Body of anodized aluminum protects the contacts. Terminals come straight out in back for easy wiring. Data Switches provide an A-B arrangement, which may be wired externally to provide 1-C switching. Hard-gold contacts rated 500 ma., 50 watts max. A.C., non-inductive load.

Stock No.	Type No.	Color	1-9	10-24	25-49	50-99
27F000	DA-01-3	Red	2.68	2.01	1.84	1.68
27F001	DA-02-3	Black				
27F002	DA-03-3	Green				
27F003	DA-04-3	Blue				
27F004	DA-05-3	White				
27F005	DA-08-3	Yellow				

Switches

SWITCHCRAFT

"LT" SWITCH SERIES 41000



Telever telephone type lever switch. Features unique "U" shaped construction with a "Can't Cheat" detent guide which prevents accidental actuator bypass of a switching position. Welded cross bar palladium contacts rated at 3 amps., 200 watts max., A.C., non-inductive load are standard. Mounts on $^{23}/_{32}$" centers, in a $^{15}/_{32}$" dia. hole, in panels up to ¼". Insulation is paper base phenolic with plastic tubing through the stack assembly. Frame is steel, iridescent iridite finish over cadmium plating. With mtg. hdwe.

2-POSITION TYPE

Non-Lock.	Type	Locking	Type	Cont. Form	1-9	10-24	25-49	50-99
22F341	41203	22F345	41203L	1-C	4.68	3.51	3.22	2.93
22F342	41206	22F346	41206L	2-C	5.88	4.41	4.04	3.68
22F344	41212	22F348	41212L	4-C	7.96	5.97	5.47	4.98

3-POSITION TYPE

22F377	41306	22F381	41306L	1-C	5.88	4.41	4.04	3.68
22F379	41312	22F383	41312L	2-C	7.96	5.97	5.47	4.98
22F380	41324	22F384	41324L	4-C	11.68	8.76	8.03	7.30

LEVER LITE 25000 SERIES SWITCH

An illuminated switch to color code switching position. Available in 2 or 3 position models. Individual colors to indicate individual circuit. Requires only 2¼" behind panel. Ideal for multi-operation. Complete with 6 volt 200 Ma lamp and five color chips. 2¼ x $^{39}/_{64}$ x 1$^{11}/_{32}$". Wt. 5 oz. *Kit contains 5 colors: green, amber, yellow, blue, white and red.

2 POSITION TYPE

Non-Lock.	Type	Locking	Type	Cont. Form	1-9	10-24	25-49	50-99
26F704	25201	26F700	25201L	1-A	4.92	3.69	3.38	3.08
26F705	25203	26F701	25203L	1-C	5.20	3.90	3.58	3.25
26F706	25206	26F702	25206L	2-C	6.12	4.59	4.21	3.83

3 POSITION TYPE

26F712	25304	26F708	25304L	1-A	5.56	4.17	3.82	3.48
26F713	25306	26F709	25306L	1-C	6.12	4.59	4.21	3.83
26F715	25312	26F711	25312L	2-C	7.36	5.52	5.06	4.60
26F716	K-105	Color Chip Kit*			.44	.33	.31	.28
26F740	531	Escutcheon Plate			.24	.18	.17	.15

"LEVER LITE" SWITCH SERIES 27000

Same as 25000 Series except lever and filters. Mounts on ¾" centers, panels to $^{3}/_{32}$" thk., depth 2$^{3}/_{16}$". On 2 pos. AMBER in "Neutral"; GREEN in "Down." On 3 pos., RED in "Up"; AMBER in "Neutral"; GREEN in "Down." W/6V lamp. 2 oz.

2 POSITION TYPE

Non-Lock.	Type	Locking	Type	Cont. Form	1-9	10-24	25-49	50-99
26F832	27206	26F834	27206L	2-C	8.00	6.00	5.50	5.00
26F833	27212	26F835	27212L	4-C	9.80	7.35	6.74	6.13

3 POSITION TYPE (+ Each Section)

26F836	27306	26F839	27306L	+1-C	8.00	6.00	5.50	5.00
26F837	27307	26F840	27307L	+1-C	8.16	6.12	5.61	5.10
26F838	27312	26F841	27312L	+2-C	9.80	7.35	6.74	6.13
26F842	532	Escutcheon Plate			.32	.24	.22	.20
26F879	P1864	Light Shield for 532			.20	.15	.14	.13

SERIES 29000 FEATHER-LEVER SWITCH

Steel frame, nylon roller, silver contacts at 2 amps., 200 W. max., A.C., non-inductive load. Bushing mount in $^{4}/_{16}$; O.D., hole in panels to ⅛" thk. Depth behind panel, 1$^{9}/_{32}$", + n. o. cir. position off. ‡ InterCom "Talk-Listen" switch leverlock on one side of neutral and on-locking on other. 3 oz.

2 POSITION TYPE

Non-Lock.	Type	Locking	Type	Cont. Form	1-9	10-24	25-49	50-99
26F844	29203	26F848	29203L	1-C	2.68	2.01	1.84	1.68
26F846	29206	26F850	29206L	2-C	3.20	2.40	2.20	2.00

3 POSITION TYPE (+ Each Section)

26F853	29306	26F858	29306L	1-C	3.44	2.58	2.37	2.15
26F855	29312	26F860	29312L	2-C	4.48	3.36	3.08	2.80

INTERCOM SWITCHES‡

26F861	29303T	...	...	1-C	2.96	2.22	2.04	1.85
26F862	29307T	...	...	2-C	3.52	2.64	2.42	2.20
26F842	532	Escutcheon Plate			.32	.24	.22	.20

LEV-R SWITCHES SERIES 3000 and 13000

Fine silver contacts rated at 3 amps. 300 watts max. AC non-inductive load. Non-locking types have spring return. Series 3000 mounts in panels up to $^{3}/_{32}$" thick; series 13000 mounts in panels up to ¼" thick. Both series are ⅝" wide; requires 2¼" behind panel, mounts in single ½" dia. hole. No circuit center position off. ‡ "Talk-Listen" switches, lever locks on one side of neutral and non-locking on other side. 3 position switches have same contact for both sections on each side except 3033 and 13033 and have one form C only. Supplied with lock nut and screw-on black knob. Wt.: 3 oz.

2 POSITION TYPE

Non-Lock.	Type	Locking	Type	Cont. Form	1-9	10-24	25-49	50-99
22F300	3001	22F311	3001L	1-A	2.52	1.89	1.73	1.58
22F302	3003	22F313	3003L	1-C	3.04	2.28	2.09	1.90
22F305	3006	22F316	3006L	2-C	3.84	2.88	2.64	2.40
27F043	13001	27F051	13001L	1-A	2.76	2.07	1.90	1.73
27F044	13003	27F052	13003L	1-C	3.16	2.37	2.17	1.98
27F045	13006	27F053	13006L	2-C	3.84	2.88	2.64	2.40
27F046	13009	27F054	13009L	3-C	5.04	3.78	3.47	3.15

3 POSITION TYPE (+ Each Section)

22F306	3033	22F317	3033L	1-C‡	3.28	2.46	2.26	2.05
22F307	3034	22F318	3034L	+1-A	3.40	2.55	2.34	2.13
22F309	3036	22F320	3036L	+1-C	3.84	2.88	2.64	2.40
22F310	3037	22F321	3037L	+1-C‡	3.92	2.94	2.70	2.45
27F047	13033	27F055	13033L	1-C‡	3.52	2.64	2.42	2.20
27F048	13034	27F056	13034L	+1-A	3.60	2.70	2.48	2.25
27F049	13036	27F057	13036L	+1-C	4.20	3.15	2.89	2.63
27F050	13037	27F058	13037L	+1-C‡	4.20	3.15	2.89	2.63

SERIES 6000 TELEVER SWITCHES

Featuring "T-Beam" construction with Iridites finished steel frame. Palladium contacts rated at 3 A., 120 volts, non-inductive load. Size, 4$^{9}/_{32}$x1$^{5}/_{8}$x$^{7}/_{8}$". Wt. 3 oz.

2-POSITION TYPE

Non-Lock.	Type	Locking	Type	Cont. Form	1-9	10-24	25-49	50-99
22F322	6006	22F331	6006L	2-C	5.88	4.41	4.04	3.68
22F325	60012	22F334	60012L	4-C	7.84	5.88	5.39	4.90

3 POSITION TYPE (+ Each Section)

22F327	6036	22F336	6036L	+1-C	5.88	4.41	4.04	3.68
22F330	60324	22F339	60324L	+4-C	11.96	8.97	8.22	7.48
22F340	530	Escutcheon Plate			.92	.69	.64	.58
22F399	M-1178-2	Knob			.36	.27	.25	.23

SERIES 16000 TELEVER SWITCHES

Similar to the 6000 Series. Single hole mounting; mounts in ½" dia. hole for panels up to ¼" thick. Size: 4$^{7}/_{16}$ x 1$^{7}/_{8}$ x ⅞". Shpg. wt., 3 oz. **May be converted to "locking" by removing stop plate.**

2-POSITION TYPE

Non-locking Stk. No.	Type	Contact Form	1-9	10-24	25-49	50-99
22F215	16006	2-C	6.12	4.59	4.21	3.83
22F217	16008	4-AN.O.	6.88	5.16	4.73	4.30
22F218	16009	3-C	7.36	5.52	5.06	4.60
22F219	160012	4-C	8.36	6.27	5.75	5.23
22F221	160024	8-C	12.24	9.18	8.42	7.65

3-POSITION TYPE (+ Each Section)

22F222	16036	+1-C	6.12	4.59	4.21	3.83
22F224	16038	+2-AN.O.	6.88	5.16	4.73	4.30
22F225	160312	+2-C	8.36	6.27	5.75	5.23
22F226	160312D	+2-D	9.20	6.90	6.33	5.75
22F227	160316	+4-A	10.80	8.10	7.43	6.75
22F228	160324	+4-C	12.24	9.18	8.42	7.65

LAMPS FOR "LEVER-LITE" AND "LITTEL-LITE" SWITCHES

Stk. No.	Ind. Type	Volt.	Base	Current	10-99	100-499
26F513	1768	6V	Screw	200 Ma	.89	.75
26F508	335	28V	Screw	40 Ma	1.51	1.27

For Larger Quantities
Contact Your Nearest NEWARK Facility

Push, Paddle and Rocker Switches

SERIES PL-PUSHLIGHT SWITCH

MOMENTARY ACTION-SINGLE LAMP

Stock No.	Type	Contacts	EACH 1-9	10-24	25-49	50-99
39F2202	PL-1032-05	1-C	8.56	6.42	5.89	5.35
39F2203	PL-1062-05	2-C	8.76	6.57	6.02	5.48
39F2204	PL-1122-05	4-C	9.48	7.11	6.52	5.93

MOMENTARY ACTION-TWIN LAMP

39F2205	PL-2032-05	1-C	8.76	6.57	6.02	5.48
39F2206	PL-2062-05	2-C	9.04	6.78	6.22	5.65
39F2207	PL-2122-05	4-C	9.68	7.26	6.66	6.05

PUSH-LOCK/PUSH-RELEASE-SINGLE LAMP

39F2208	PL-1037-05	1-C	9.04	6.78	6.22	5.65
39F2209	PL-1067-05	2-C	9.24	6.93	6.35	5.78
39F2210	PL-1127-05	4-C	9.96	7.47	6.85	6.23

PUSH-LOCK/PUSH-RELEASE-TWIN LAMP

39F2211	PL-2037-05	1-C	9.96	7.47	6.85	6.23
39F2212	PL-2067-05	2-C	10.16	7.62	6.99	6.35
39F2213	PL-2127-05	4-C	10.88	8.16	7.48	6.80

LIGHT DIVIDER

39F2214	PL-551	..	.08	.06	.06	.05

Completely enclosed, lighted pushbutton switch which features long-life, highly-reliable leafspring switching. Available in momentary or PLPR functions; single or twin lamps; with or without barriers; full or split-face display; 1-C to 4-C switching; black switch housing. Standard pushbutton color is white. Molded crossbar palladium contacts rated at 2 amps, 200 watts, max; A.C. non-inductive load are standard. Mount with clamp-type bracket, no screws, washer or nuts needed. Flange mounting requires 1″ x .875″ panel cutout. Barrier mounting requires 1 3/16 x .875″ panel cutout. Can be mounted in vertical or horizontal rows and in matrixes. Depth behind panel only 1¾″. "Push-Lite" switch accepts std. T-1¾ flange base lamps (not furnished with switch) in either 6V or 28V. Light divider is used in "Push-Lite" switch pushbutton to separate lighting between twin-lamps for split-face lighting indication.

MOUNTING BARRIERS (BLACK)

Stock No.	Type	Description	Each 1-9	10-24	25-49	50-99
39F2200	PL-102	End Barrier	.12	.09	.09	.08
39F2201	PL-202	Center Barrier	.12	.09	.09	.08

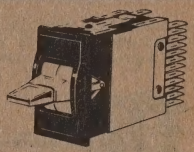
"LEVER-LITE" 111 SWITCHES SERIES 84000

SERIES 84000 NON-LOCKING

Stock No.	Type	No. Pos.	1-9	10-24	25-49	50-99
27F006	84206	2	8.24	6.18	5.67	5.15
27F007	84312	3	10.16	7.62	6.99	6.35

SERIES 84000 LOCKING

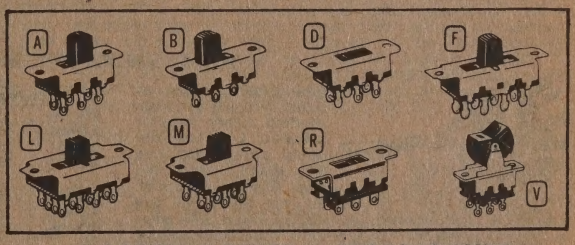
27F008	84206L	2	8.24	6.18	5.67	5.15
27F009	84312L	3	10.16	7.62	6.99	6.35



2 and 3 position types with locking, non-locking and talk listen functions. Contact springs are silver plated phosphor bronze. Contacts are welded crossbar palladium rated at 2 amps, 200 watts max. AC, non-inductive load. Lever illumination is multi-color. Uses one T-1¾ flange base lamp (not supplied). Lever-Lite 111 mounted, relamped, (without tools), terminated and removed from front panel. Color filters changeable from front. Solder lug terms. Also accept AMP 110 FASTON. ⅞″ x 1½″ mounting hole. Sz. 1⅜″ H x ¾″ W x 1 3/16″ D. 2C schematic circuit.

GENERAL PURPOSE SWITCHES

Series 46000, 49000 and 50000 are low-cost, precision "double wipe" slide switches with special U-shaped, bifurcated sliders to assure continuous wiping action. Contacts are rated at 0.5 ampere DC, 3 amperes AC, 125 volts, non-inductive load. Standard solder lug terminals have a 3/64″ diameter center hole and wrap-around notch for wiring ease. Black 1 1/32″ knob and .140″ diameter mounting holes. **Series 51000R** are rocker switches that feature the same high-reliability as the slide switches. Standard knob color is black. Terminal holes accept wires as large as #14 AWG. Unless otherwise noted, all switches are UL recognized.



2 AND 3 POSITION GENERAL PURPOSE TYPE

Series 46000R rated at 3 amps. A.C., 0.5 amp. D.C., 125 volts, non-inductive load. **Nos. 46206LFR and 46256LFR** feature a flush screwdriver slotted knob. All **Series 46000R** U.L. listed. **Series 46000E,** 2-position types with locking or momentary functions. U.L. and C.S.A. listed. Rated at 0.5 amp. D.C., 3 amps. A.C., 125 volts, non-inductive load. Unless otherwise indicated, switches have non-shorting contacts and black nylon knob with serrated crown. **Nos. 46256LFE** have flush actuators. Three position, positive center detent action. Shutter type dust cover. **Series 46300LDR** type — locking in all positions.

Stock No.	Type	Action	Fig.	1-9	10-24	25-49	50-99
26F902	46202LR	S.P.S.T. Locking	A	.52	.39	.36	.33
26F903	46203LR	S.P.D.T. Locking	A	.56	.42	.39	.35
26F906	46206LFR	D.P.D.T. Locking	D	.76	.57	.53	.48
26F905	46206LR	D.P.D.T. Locking	A	.68	.48	.44	.40
26F907	46206MR	D.P.D.T. Momentary	B	.88	.66	.61	.55
26F908	46256LFE	D.P.D.T. Locking	R	.88	.66	.61	.55
26F909	46256LFR	D.P.D.T. Locking	D	.80	.60	.55	.50

Stock No.	Type	Circuitry	Action Positions Center Locking #1	#2	Fig.	1-9	10-24	25-49	50-99
26F910	46311LDR	S.P.T.T.	L	L	F	.76	.57	.53	.48
26F911	46313LDR	D.P.T.T.	L	L	F	.80	.60	.55	.50

3 POSITION GENERAL PURPOSE TYPE

Series 49000L. Heavy duty 3 and 4 pole slide switches. Knob height ½″. Mtg. holes 9/64″. Non-shorting. U.L. listed as approved.

Stock No.	Type	Action	Fig.	1-9	10-24	25-49	50-99
27F010	49309L	3 P.D.T. Locking	L	1.72	1.29	1.18	1.08
27F011	49312L	4 P.D.T. Locking	L	1.76	1.32	1.21	1.10

2 POSITION GENERAL PURPOSE TYPE

Series 50000L, non-shorting contacts. U.L. listed.

26F851	50209L	3 P.D.T. Locking	M	1.12	.84	.77	.70
26F854	50212L	3 P.D.T. Momentary	M	1.16	.87	.80	.73

2 POSITION ROCKER SWITCHES

Series 51000R. Compact rocker switches offer same quality and dependability as standard slide switches. Black rocker knobs. Has rugged rocker bracket, precision welded to standard flush switch housing. U.L. listed. Black nylon rocker knobs have legend areas and serrations on operating faces. U.L. and C.S.A. listed.

27F012	51202LR	S.P.S.T. Locking	V	.96	.72	.66	.60
27F013	51204LR	D.P.S.T. Locking	V	1.04	.78	.72	.65
26F856	51206LR	D.P.D.T. Locking	V	1.08	.81	.75	.68

Centralab Switches

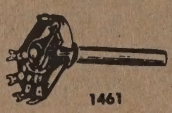
PSA SUB-MINIATURE ROTARY SWITCHES

Index mechanism with adjustable stops for extra switching arrangement and versatility. Bushing: ⅜". Index angle: positive 30°. Index stop strength: 10 inch pounds. Section spacing: 9/32" between front plate and clip surface of first section, 5/32" spacing between sections. Insulation: Diallyl Phthalate with high quality molded thermosetting plastic type SDG per MIL-M-14F. Resistive load: 0.550 amps at 28 volts VDC; 170 ma. at 115 VAC. Weight of each switch is less than one ounce. Uses P-120 knob.

Shorting		Non-Short							
Stk. No.	Type	Stk. No.	Type	Poles	Pos.	1-24	25-49	50-99	100-Up
22F700	PSA-200	22F712	PSA-201	1	2-12	5.02	4.49	4.02	3.18
22F701	PSA-202	22F713	PSA-203	2	2-6	5.22	4.72	4.19	3.32
....	....	22F714	PSA-205	2	2-12	7.25	6.53	5.80	4.59
22F703	PSA-206	22F715	PSA-207	3	2-5	5.33	4.81	4.27	3.38
....	....	22F716	PSA-209	3	2-12	9.51	8.55	7.61	6.02
22F705	PSA-210	22F717	PSA-211	4	2-6	7.70	6.93	6.16	4.86
....	....	22F718	PSA-215	5	2-3	5.74	5.16	4.59	3.63
....	....	22F719	PSA-221	6	2-5	8.11	7.31	6.49	5.13
....	....	22F720	PSA-223	6	2-6	10.40	9.42	8.13	6.42
....	....	22F721	PSA-229	9	2-5	11.52	10.49	9.30	7.35
....	....	22F722	PSA-231	10	2-3	8.46	7.63	6.77	5.30
....	....	22F723	PSA-239	15	2-3	11.39	10.18	8.95	7.06

GENERAL PURPOSE SWITCHES

1472

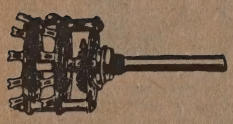


1461

Die-cast, one piece frame except 1463, 1464, 1465, stamped steel frames. Make and break resistive load; 230 mA@ 115 VAC-RMS; 1.5 amps @ 28VDC. Pos. Indexing exc. 1463 and 1464. Spring return. 1463, 1464 and 1472 non-shorting type, others shorting. Ship. wt., 5 oz. Uses P-120 knob.

Stk. No.	Type	Poles	Pos.	1-24	25-49	50-99	100-Up
22F574	1460	1	2	1.22	1.09	.98	.73
22F575	1461	1	3	1.28	1.15	1.03	.77
22F576	1462	2	2	1.73	1.55	1.39	1.03
22F577	1463	1	2	1.53	1.37	1.23	.91
22F578	1464	2	2	2.06	1.85	1.65	1.24
22F585	1472	2	3	1.42	1.27	1.14	.85
22F586	1473	2	3	1.38	1.24	1.11	.83
22F588	1484	1	3	1.38	1.24	1.11	.83

ROTARY SELECTOR SWITCHES—PHENOLIC INSULATION



Series 1400 offers compact design and quality construction. Laminated phenolic insulation. Mounting bushings ⅜ - 32, NEF-2A thread, ⅜" long. Shafts 1⅞" from end of bushing. Positive 30° index with adjustable stop. Size and current rating same as 2500 series. Breakdown voltage 1000 VAC. Shpg. wt., 4 oz. per section. Uses P-120 knob.

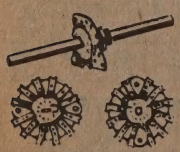
Shorting		Non-Short		Tot.	Tot.	No.				
Stk. No.	Type	Stk. No.	Type	Pls.	Sec.	Pos.	1-24	25-49	50-99	100-Up
22F422	1400	22F438	1401	1	1	2-6	2.83	2.55	2.27	1.68
22F423	1402	22F439	1403	1	1	2-11	2.83	2.55	2.27	1.68
22F424	1404	22F440	1405	2	1	2-5	2.78	2.50	2.22	1.65
....	....	22F441	1407	3	1	2-3	3.00	2.70	2.40	1.79
....	....	22F442	1409	4	1	2	3.08	2.78	2.47	1.84
....	....	22F443	1411	2	2	2-6	3.68	3.30	2.95	2.20
....	....	22F444	1413	2	2	2-11	4.07	3.66	3.27	2.43
....	....	22F445	1415	4	2	2-5	4.25	3.80	3.40	2.54
....	....	22F446	1417	6	2	2-3	4.60	4.13	3.69	2.75
....	....	22F447	1419	8	2	2	4.69	4.20	3.76	2.80
....	....	22F448	1421	3	3	2-6	4.78	4.28	3.83	2.85
....	....	22F449	1423	3	3	2-11	5.49	4.92	4.40	3.28
....	....	22F450	1425	6	3	2-5	5.70	5.11	4.57	3.41
....	....	22F451	1427	4	4	2-6	6.02	5.40	4.83	3.60
....	....	22F452	1429	4	4	2-11	7.12	6.41	5.70	3.99
....	....	22F453	1431	8	4	2-5	7.30	6.55	5.48	4.35

ROTARY SELECTOR SWITCHES—CERAMIC INSULATION

Series 2500. Compact, efficient, shorting and non-shorting rotary selector switches. Low loss ceramic wafers. Positive 30° index. Adjustable stop. Bushing ⅜"-32thd. ⅜" lg. Shaft ¼" full round, 1⅞" from bushing. Dia. 1.875". Rated 2.75 amps at 15 VDC, 350 ma. at 115 VAC. Breakdown voltage 1500 VAC. Shpg. wt., 4 oz. per section. Uses P-120 knob.

Shorting		Non-Short		Tot.	Tot.	No.				
Stk. No.	Type	Stk. No.	Type	Pls.	Sec.	Pos.	1-24	25-49	50-99	100-Up
22F400	2500	22F411	2501	1	1	2-6	3.52	3.15	2.82	2.10
22F401	2502	22F412	2503	1	1	2-11	3.68	3.30	2.94	2.20
22F402	2504	22F413	2505	2	1	2-5	3.79	3.40	3.06	2.26
....	....	22F414	2507	3	1	2-3	3.88	3.48	3.10	2.32
22F404	2510	22F415	2511	2	2	2-6	5.01	4.50	4.01	2.99
22F405	2512	22F416	2513	2	2	2-11	5.62	5.06	4.50	3.36
22F406	2514	22F417	2515	4	2	2-5	5.77	5.20	4.63	3.44
....	....	22F418	2517	6	2	2-3	6.05	5.43	4.85	3.62
22F408	2520	22F419	2521	3	3	2-6	6.95	6.26	5.56	4.15
....	....	22F420	2523	3	3	2-11	7.70	6.91	6.17	4.59
....	....	22F421	2525	6	3	2-5	8.10	7.26	6.50	4.82

SEPARATE CERAMIC SECTIONS



Separate sections. Use with index assemblies P-270, P-271 and P-272, below to assemble switches with special characteristics. Special section PISD, one off position, nine progressively shorting positions. Special sections GGD and FFD, 1 pole, 2-11 pos., all unused contacts connected and shorted. Wt., 4 oz.

		Shorting					Non-Shorting				
Poles	Pos.	Stk. No.	Type	1-24	25-49	50-99	Stk. No.	Type	1-24	25-49	50-99
1	2-6	22F482	TD	1.75	1.57	1.40	22F488	XD	1.75	1.57	1.40
1	2-11	22F483	UD	2.00	1.79	1.60	22F489	YD	1.80	1.62	1.44
2	2-5	22F484	RD	1.82	1.63	1.45	22F490	RRD	2.12	1.91	1.71
3	2-3	....	....	....	....	....	22F491	SSD	2.22	2.00	1.79
4	2	....	....	....	....	....	22F492	ZD	2.38	2.12	1.91
See Text	....	22F495	PISD	1.88	1.69	1.51	....	....	....	....	....
See Text	....	22F487	GGD	2.38	2.11	1.88	22F538	FFD	2.38	2.11	1.88

INDEX ASSEMBLIES

Use with above sections. Pos. 30- index, adjustable stop includes all hardware. Shipping weight, 3 oz.

Stk. No.	Type	No. Sec.	1-24	25-49	50-99	100-Up
22F540	P-270	1-3	2.14	1.91	1.71	1.59
22F541	P-271	3-5	2.50	2.24	2.00	1.85
22F542	P-272	5-10	3.76	3.38	3.01	2.79

Knob has pointer and one set-screw. Black. For ¼" diameter shafts.

MODEL P-120 KNOB

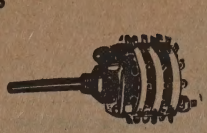
Stock No.	Type	Description	Each
22F646	P-120	Pointer knob with one set screw	.25

Centralab Switches

CENTRALAB

SUB-MINIATURE CERAMIC SWITCHES

Shorting		Non-Short			Total	No.		25-	50-	100-
Stk. No.	Type	Stk. No.	Type	Sec.	Poles	Pos.	1-24	49	99	Up
22F761	PS-100	22F773	PS-101	1	1	11	5.40	4.89	4.33	3.22
. . . .	. . . .	22F774	PS-103	2	2	11	8.17	7.36	6.55	4.87
. . . .	. . . .	22F775	PS-105	1	2	5	5.78	5.21	4.63	3.44
. . . .	. . . .	22F776	PS-107	3	3	11	10.56	9.56	8.50	6.34
22F765	PS-108	22F777	PS-109	1	3	3	5.83	5.25	4.67	3.47
22F766	PS-110	22F778	PS-111	2	4	5	8.35	7.51	6.67	4.96
. . . .	. . . .	22F779	PS-113	1	4	2	6.20	5.59	4.96	3.70
22F768	PS-114	22F780	PS-115	3	6	5	11.15	10.02	8.91	6.65
22F769	PS-116	22F781	PS-117	2	6	3	8.95	8.05	7.15	5.32
. . . .	. . . .	22F782	PS-119	2	8	2	9.75	8.80	7.81	5.80
. . . .	. . . .	22F783	PS-121	3	9	3	12.50	11.28	10.00	7.45

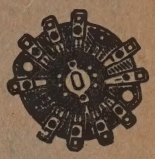


Ultra-small ceramic rotary switches ideal for use in transistor circuits, aircraft instruments, etc. Bolt construction with single hole bushing mount; locating lug on ⅜" radius; ⅛" D. shaft, cadmium plated steel, 1¼" long from mounting surface. Index angle positive 30° with index stop strength of 10 in.-pounds. 5/32" spacing between front plate and first section. Make, break, resistive load; .550 amps @ 28 VDC; 170 ma at 115 VAC (based on 10,000 cycles). Avg. initial resistance 5 milliohms. Uses P-106 Knob opposite. Wt., 2 oz. per section.

Stock No.	Type	Description	Each
22F648	P-106	Pointer knob with one setscrew	.25

SEPARATE ASSEMBLY SECTIONS FOR SUB-MINIATURE SWITCHES

Shorting		Non-Short		Tot. No.					100-
Stk. No.	Type	Stk. No.	Type	Pls.	Pos.	1-24	25-49	50-99	Up
22F785	PS-20	22F789	PS-21	1	2-11	2.43	2.19	1.95	1.80
22F786	PS-22	22F790	PS-23	2	2-5	2.63	2.37	2.10	1.95
22F787	PS-24	22F791	PS-25	3	2-3	2.93	2.64	2.35	2.19



These separate sub-miniature assembly sections are for use with shaft and index assemblies listed below—P-501 thru P-511, for fixed stop indexing and switching. Carry the same ratings as above switches. Shpg. wt. 2 oz.

SHAFT AND INDEX ASSEMBLIES

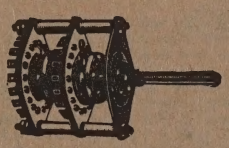
Stock No.	Type	Ind.	Pos.	1-24	25-49	50-99	100- Up
22F681	P-501	30°	2				
22F682	P-502	30°	3				
22F684	P-504	30°	5				
22F685	P-505	30°	6	2.55	2.29	2.04	1.89
22F686	P-506	30°	7				
22F690	P-510	30°	11				

INCLUDES INDEX, SHAFT ASSEMBLY AND HARDWARE

Hardware for sub-miniature switches. All index assemblies listed are designed for a maximum 3 section and contain one index and shaft assembly, instructions and hardware. Shipping weight 2 oz.

HEAVY DUTY ROTARY POWER SWITCHES

Shorting		Non-Short		Tol.	No.		1-	25-	50-	100-
Stk. No.	Type	Stk. No.	Type	Pol.	Sec.	Pos.	24	49	99	Up
22F731	JV9000	22F746	JV9001	1	1	2-17	13.52	11.57	10.51	8.60
22F732	JV9032	22F747	JV9033	2	1	2-8	14.41	12.52	11.18	9.13
22F733	JV9004	22F748	JV9005	2	2	2-17	22.91	19.58	17.54	14.54
. . . .	. . . .	22F749	JV9003	3	1	2-5	15.51	13.51	12.00	9.85
. . . .	. . . .	22F750	JV9009	3	3	2-17	35.35	31.05	27.30	21.81
22F736	JV9034	22F751	JV9035	4	2	2-8	24.19	21.10	18.53	15.35
. . . .	. . . .	22F752	JV9013	4	4	2-17	41.20	35.82	31.90	26.18
. . . .	. . . .	22F754	JV9007	6	2	2-5	26.30	23.20	20.60	16.56
. . . .	. . . .	22F755	JV9037	6	3	2-8	34.10	29.80	26.22	21.75
. . . .	. . . .	22F756	JV9021	6	6	2-17	59.90	51.95	46.20	37.60
. . . .	. . . .	22F758	JV9011	9	3	2-5	37.39	32.82	29.10	23.81
. . . .	. . . .	22F759	JV9015	12	4	2-5	49.10	42.70	37.95	30.62
. . . .	. . . .	22F760	JV9019	15	5	2-5	59.95	52.00	46.25	37.90



Ceramic insulation; ⅜" bushing mounted; ¼" D shaft, double flat steel. 2¼" L. from mounting surface. Index angle is 20° with 2 adjustable stops. 1" spacing between front plate and first section. Make and break res. load; 9 amps @ 110 VAC-RMS; 15mA @ 2500 VAC-RMS; 30 amps @ 5 VDC, 20 amps @ 12 VDC; 11 amp. @ 28 VDC. Contact resistance 7 milliohms with rotational life 25,000 hz. min. Comes with adjustable stop pin and nut and instruction sheet. Uses P-168 Knob. Shpg. wt., 6 oz.

Stock No.	Type	Description	Each
22F649	P-168	Pointer knob w/brass insert and 2 set screws	.88

PA-3000 SERIES 18 POSITION SWITCH

Shorting		Non-Short								100-
Stk. No.	Type	Stk. No.	Type	Pol.	Pos.	Sec.	1-24	25-49	50-99	Up
57F922	PA-3000	57F923	PA-3001	1	2-17	1	4.36	3.79	3.37	2.67
57F924	PA-3002	57F925	PA-3003	2	2-17	2	7.26	6.33	5.62	4.44
. . . .	. . . .	57F927	PA-3005	3	2-17	3	9.04	8.15	7.24	5.70
57F928	PA-3006	57F929	PA-3007	4	2-17	4	11.59	10.55	9.55	7.55

Phenolic insulation per MIL-P-3115B. Voltage breakdown between parts 1000 VAC. Sections 2 5/16" high × 2 11/64" wide, 1/16" thick. Rated 2.25 amps @ 28 VDC; .350 amps @ 115 VAC. Adjustable stop or continuous rotation. Uses P-120 Knob. Wt., 4 oz. per sect.

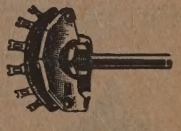
PA-4000 SERIES 24-POSITION PHENOLIC SWITCH

Shorting		Non-Short								100-
Stk. No.	Type	Stk. No.	Type	Pol.	Pos.	Sec.	1-24	25-49	50-99	Up
57F930	PA-4000	57F931	PA-4001	1	2-23	1	3.42	3.08	2.74	2.17
57F932	PA-4002	57F933	PA-4003	2	2-23	2	5.46	4.92	4.37	3.46
. . . .	. . . .	57F935	PA-4005	3	2-23	3	7.04	6.33	5.63	4.44
57F936	PA-4006	57F937	PA-4007	4	2-23	4	9.19	8.25	7.35	5.80

High quality laminated phenolic insulation, meets MIL-P-3115B. Sections: 2 5/16" H, 1 31/32" W, 1/16" thick. Rated 5.5 amps @ 6 VDC; 2.75 amps @ 15 VDC; .230 amps @ 115 VAC. Uses P-120 Knob. Shpg. wt., 4 oz. per section

ROTARY SPRING RETURN SWITCHES

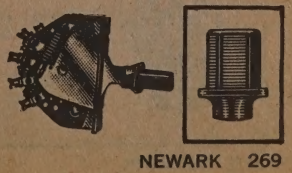
Stock No.	Type	Poles	Pos.	Index	1-24	25-49	50-99	100- Up
22F571	1451	4	2	S.R.	3.70	3.32	2.97	2.21
22F991	1488	6	3	S.R.	4.40	3.96	3.53	2.64
57F992	1489	6	3	Pos. & S.R.	4.40	3.96	3.53	2.64



Rated 1.5 amps at 28 VDC 230 mA at 115 VAC. Phenolic insulation. Bushing ⅜-32, ⅜" L. Shaft 1⅞ lg. from bushing. Includes hardware. 4 oz.

LEVER SWITCHES

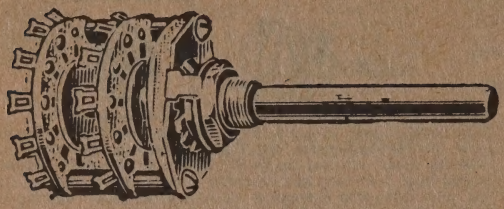
Shorting		Non-Short								100-
No.	Type	No.	Type	Poles	Pos.	Index	1-24	25-49	50-99	Up
22F550	1452	22F555	1454	2	3	Pos.	2.10	1.89	1.68	1.25
. . . .	. . . .	22F556	1455	2	3	S.R.	2.27	2.03	1.82	1.35
. . . .	. . . .	22F557	1457	4	2	S.R.	2.50	2.24	2.00	1.49
22F553	1459	22F558	1458	4	2	Pos.	2.42	2.17	1.94	1.44
22F554	1466	22F559	1467	2	3	P&S.R.	2.10	1.89	1.68	1.25



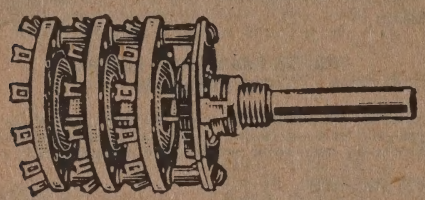
Coil spring index design. Phenolic insulation Single switch. 1⅞H×9/16" W ×1½"D behind panel. 1.5 amps @28 VDC. 230 mA @ 115 volts AC. 3 oz. uses P-193 knob.

Stock No.	Type	Description	Each
22F647	P-193	Oval Knob (push on)	.25

Centralab Switches



Laminated phenolic insulated rotary switches with low intercircuit capacitance. Bushing ⅜" L.; Shaft ¼" D. full round—cadmium - plated steel, 2¼" L. from mtg. surface. Index angle pos. 30°. ⅜" spacing between front plate and section; ½" space between sections. Brass silver-plated clips and rotor contacts; other metal parts cadmium-plated steel. Make and break res. load; 5.5 amp. @6 VDC- 2.75 amp. 15 VDC, 230 mA @115 VAC; based on 10,000 cycles. Avg. initial res. 3.5 milliohms. Includes mtg. nut, lock-washer. 3 oz. per section. Uses P-120 knob.



Offers maximum voltage flash-over with high-Q-Low loss steatite body. Bolted construction with single hole bushing mount. Bushing is ⅜" L. cad-plated steel and locating lug on 7/16" R. ¼" D. shaft 2¼" L. from mounting surface. Index angle is 30° adjustable stop or continuous rotation. ⅜" spacing between front plate and first section; ½" spacing between sections. Voltage breakdown: 1500 VAC-RMS. Clips and rotor contacts are brass, silver plated. Make and break res. load; 5.5 amp @6 VDC; 2.75 A @ 15 VDC; 1.5 amp. 28 VDC; 230 mA @ 115 VAC; based on 10,000 cycles life test. Avg. initial res. 3.5 milliohms. Rotational life 25,000 cycles minimum. Includes mtg. nut, lock-washer. 3 oz. per section. Uses P-120 knob below.

MINIATURE INDEX ASSEMBLIES

Use with PA sections. Includes all hardware.

30° INDEXING

Stock No.	Type	For Switches	Rear Shaft	1-24	25-49	50-99	100-Up
22F650	PA-300	1 to 3 sec.	2"	1.59	1.48	1.28	1.19
22F651	PA-301	4 to 6 sec.	4"	2.33	2.10	1.87	1.73
22F652	PA-302	7 to 9 sec.	6"	3.28	2.95	2.63	2.43

60° INDEXING

Stock No.	Type	For Switches	Rear Shaft	1-24	25-49	50-99	100-Up
22F654	PA-304	1 to 3 sec.	2"	1.59	1.48	1.28	1.19
22F655	PA-305	4 to 6 sec.	4"	2.33	2.10	1.87	1.73

Intersection shield

22F680	P-320	....	.30

MODEL P-120 KNOB

Pointer knob. Has one setscrew. For ¼" diameter shafts.

Stk. No.	Type	Each
22F646	P-120	.25

MINIATURE PHENOLIC SWITCHES

Shorting Stk. No.	Shorting PA-	Non-Short. Stk. No.	Non-Short. PA-	Tot. Pol.	Tot. Sec.	No. Pos.	1-24	25-49	50-99	100-Up
22F800	1000	22F801	1001	1	1	2-11	2.44	2.19	1.96	1.45
22F802	1002	22F803	1003	2	1	2-5	2.50	2.24	2.00	1.49
22F804	1004	22F805	1005	2	2	2-11	3.35	3.00	2.68	1.99
22F806	1006	22F807	1007	3	1	2-3	2.52	2.26	2.02	1.50
22F808	1008	22F809	1009	3	3	2-11	4.36	3.93	3.49	2.60
....	....	22F811	1011	4	1	2	2.70	2.43	2.17	1.60
22F812	1012	22F813	1013	4	2	2-5	3.49	3.12	2.79	2.08
22F814	1014	22F815	1015	4	4	2-11	5.52	4.97	4.42	3.29
22F816	1016	22F817	1017	5	5	2-11	6.54	5.88	5.23	3.90
22F818	1018	22F819	1019	6	2	2-3	3.60	3.23	2.88	2.14
22F820	1020	22F821	1021	6	3	2-5	4.52	4.09	3.63	2.70
....	....	22F823	1023	6	6	2-11	7.19	6.46	5.75	4.29
....	....	22F825	1025	8	2	2	3.66	3.27	2.92	2.18
22F826	1026	22F827	1027	8	4	2-5	5.52	4.97	4.42	3.29
....	....	22F829	1029	12	3	2	4.80	4.32	3.85	2.87
....	....	22F831	1031	10	5	2-5	6.89	6.20	5.50	4.10
....	....	22F833	1033	12	6	2-5	7.55	6.76	6.04	4.50
....	....	22F835	1035	1	1	2-6	2.47	2.22	1.98	1.47
....	....	22F837	1037	2	2	2-6	3.49	3.12	2.79	2.08

MINIATURE CERAMIC ROTARY SWITCHES

Shorting Stk. No.	Shorting Type	Non-Short. Stk. No.	Non-Short. Type	Tot. Pol.	Tot. Sec.	No. Pos.	1-24	25-49	50-99	100-Up
22F600	PA2000	22F601	PA2001	1	1	2-12	2.89	2.60	2.31	1.83
22F602	PA2002	22F603	PA2003	2	1	2-6	3.11	2.79	2.48	1.97
22F604	PA2004	22F605	PA2005	2	2	2-12	4.44	3.98	3.55	2.80
22F606	PA2006	22F607	PA2007	3	1	2-5	3.21	2.89	2.56	2.03
22F608	PA2008	22F609	PA2009	3	3	2-12	6.12	5.51	4.90	3.90
22F610	PA2010	22F611	PA2011	4	2	2-6	4.90	4.42	3.92	3.10
22F612	PA2012	22F613	PA2013	4	4	2-12	7.64	6.89	6.10	4.83
22F614	PA2014	22F615	PA2015	5	1	2-3	3.39	3.05	2.72	2.14
22F616	PA2016	22F617	PA2017	5	5	2-12	9.20	8.28	7.36	5.84
22F618	PA2018	22F619	PA2019	6	1	2	3.22	2.90	2.57	2.04
22F620	PA2020	22F621	PA2021	6	2	2-5	5.41	4.87	4.33	3.43
22F622	PA2022	22F623	PA2023	6	3	2-6	6.70	6.04	5.36	4.24
22F624	PA2024	22F625	PA2025	6	6	2-12	10.60	9.80	8.70	6.92
22F626	PA2026	22F627	PA2027	8	4	2-6	8.59	7.73	6.86	5.44
....	....	22F629	PA2029	9	3	2-5	6.95	6.27	5.56	4.40
22F630	PA2030	22F631	PA2031	10	2	2-3	5.45	4.92	4.37	3.44
....	....	22F633	PA2033	10	5	2-6	9.50	8.55	7.60	6.02
....	....	22F635	PA2035	12	2	2	5.23	4.72	4.19	3.32
....	....	22F637	PA2037	12	6	2-6	12.60	11.18	9.84	7.80
....	....	22F639	PA2039	15	3	2-3	7.25	6.53	5.80	4.59
22F640	PA2040	22F641	PA2041	18	3	2	7.65	6.88	6.11	4.84
22F642	PA2042	....	....	1	1	2-10	2.72	2.45	2.18	1.76
....	....	22F643	PA2043	1	1	2-6	2.72	2.45	2.18	1.76
....	....	22F645	PA2045	2	2	2-6	4.00	3.61	3.21	2.54

SEPARATE MINIATURE CERAMIC SECTIONS

For use with index assemblies PA-300, PA-301, PA-302 for assembly of special units of your own design. Sections are .100" thick ceramic (steatite). *Unused contacts one side of common connected and shorted out. (†)All unused contacts connected and shorted out. (‡)Progressively shorting with clockwise rotation. (**) Progressively shorting with counter-clockwise rotation. ††60 indexing, use with PA-304 and 305 indexes. Shpg. wt. 3 oz.

Shorting Stk. No.	Shorting Type	Non-Short Stk. No.	Non-Short Type	Fls.	Pos.	1-24	25-49	50-99	100-Up
22F660	PA-0	22F661	PA-1	1	2-12	1.75	1.57	1.40	1.30
22F662	PA-2	22F663	PA-3	2	2-6	2.00	1.79	1.60	1.48
22F664	PA-4	22F665	PA-5	3	2-5	2.20	1.97	1.76	1.64
22F666	PA-6	22F667	PA-7	5	2-3	2.45	2.20	1.96	1.81
....	....	22F669	PA-9	6	2	2.42	2.17	1.93	1.79
22F670*	PA-10	....	....	1	2-5	1.43	1.28	1.15	1.06
....	....	22F679*	PA-19	1	2-5	1.40	1.25	1.12	1.04
22F671†	PA-11	22F678†	PA-18	2	2-11	2.45	2.20	1.96	1.81
22F672‡	PA-12	....	....	1	2-10	1.62	1.45	1.29	1.20
22F673**	PA-13	....	....	1	2-10	1.62	1.45	1.29	1.20
22F674‡	PA-20	22F677††	PA-17	1	2-6	1.43	1.28	1.15	1.06

SEPARATE MINIATURE PHENOLIC SECTIONS

For use with index assemblies PA-300, PA-301, PA-302 for assembly of special switches to meet your requirements. Meet rigorous commercial or military applications. Sections are of 1/16" thick phenolic. (*)All unused contacts one side of common connected and shorted out. (#)Active contacts all shorted to common contact in full CCW progressively opened and dropped with CW rotation. PA-45 is 60° indexing section, use with PA-304. 305 indexes. Shpg. wt., 2 oz.

Shorting Stk. No.	Shorting Type	Non-Short Stk. No.	Non-Short Type	Total Poles	Indes	Positions	1-24	24-49	50-99	100-Up
22F840	PA-30	22F841	PA-31	1	30°	2-11	1.02	.91	.81	.75
22F842	PA-32	22F843	PA-33	2	30°	2-5	1.05	.94	.84	.78
22F844	PA-34	22F845	PA-35	3	30°	2-3	1.12	1.00	.89	.83
22F846	PA-36	22F847	PA-37	4	30°	2	1.27	1.13	1.01	.94
....	....	22F849	PA-39*	1	30°	2-5	.92	.82	.73	.68
22F850	PA-40†	22F851	PA-41#	2	30°	2-11	1.82	1.63	1.45	1.35
....	....	22F853	PA-45	1	60°	2-6	.95	.85	.76	.71

Control Switches

MALLORY

JUNIOR. Momentary contact switch for lightest pressure contact. Use as Single Pole, normally open or closed. Rated 20 amps at 125-250 VAC. Size, 5½x3¼x1¼". Shpg. wt. 1 lb.

Stk. No.	Type	1-9	10-19	20-49
24F161	121-S	9.65	8.69	7.72

EXECUTIVE. Two switches in one using the teeter-totter principle to operate only one circuit at a time. SPDT. 15 A at 125-250 VAC. 4x4⅝x1⅛". 1¼ lbs.

Stk. No.	Type	1-9	10-19	20-49
24F169	72	9.00	8.10	7.20

DUPLEX. Two SPDT switches in double-pressure housing. Light spring for seated operation. May be wired as Single Pole, normally open or closed. Size, 8½x3½x2". Shpg. wt. 1¾ lbs.

Stk. No.	Type	1-9	10-19	20-49
24F166	476S	15.30	13.77	12.24

LEKTRO-LOK. Has mechanical interlock that prevents both circuits from being operative at the same time. SPDT. Can be wired normally open or normally closed. 15 A at 125-250 VAC. 5x2¼x1⅛". 10 oz.

Stk. No.	Type	1-9	10-19	20-49
24F168	L-2-S	6.65	5.99	5.32

CLIPPER. Designed for operation under heavy loads. Rated 20 amps at 125-250 VAC. SPDT. 4⅛x3½x1½". Type 632-S has momentary contact, type 632-D has maintained contact. Shpg. wt. 2¼ lbs.

Stk. No.	Type	1-9	10-19	20-49
24F170	632-S	9.00	8.10	7.20
24F171	632-D	12.10	10.90	9.68

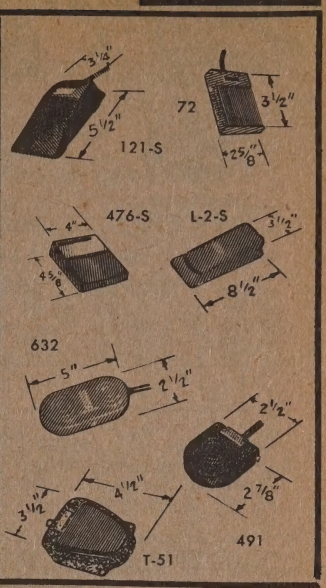
LINEMASTER FOOT SWITCHES

TREADLITE. A small yet versatile and rugged foot switch designed to give instantaneous and accurate control at low amperage loads. Less cord and plug set. Rated 7 Amps at 125-250 VAC. 3½x2⅝x1". Shpg. wt. 8 oz.
Model T-51-S. Single pole, double throw, momentary contact only. Can be used normally open or closed as desired.
Model T-51-SC. As above but SP-NO with 2-prong series plug and 6' cord set.
Model T-51-SC3. As above but SP-NO with 3-prong series plug and 6' cord set.
Model T-51-SC36. As above but SP-NO with 6' 18/3 SJ cord. No plug. Green lead grounded.
Model T-51-S1. Replacement interior for T-51-S.
Model T-52-S. Interior constructed so that a partial downward stroke of treadle actuates one interior and either opens or closes a circuit. Continued heavier pressure will open or close a second circuit. Both are SPDT.

Stk. No.	Type	1-9	10-19	20-49
24F163	T-51-S	3.30	2.97	2.64
24F155	T-51-SC	5.05	4.55	4.04
24F156	T-51-SC3	6.55	5.90	5.24
24F180	T-51-SC36	5.55	5.00	4.44
24F175	T-51-S1	1.20	1.08	.96
24F167	T-52-S	5.20	4.68	4.16

COMPACT. Lightweight SPDT switch, precision made for accurate operation and long life. Steel housing. Skidproof rubber base pad. Rated 10 amps at 125-250 VAC. Wt. 7 oz.
Model 491-S. Less cord and plug.
Model 491-SC. As above but with 2-prong series plug and 6' cord.
Model 491-S1. Replacement interior for above.
Model 491-SC3. As above but with 3-prong series plug and 8' cord.
Model 491-SC36. As above with 6-ft. 18/3 SJ cord. No plug. Green lead grounded.

Stk. No.	Type	1-9	10-19	20-49
24F165	491-S	4.05	3.65	3.24
24F162	491-SC	6.40	5.76	5.12
24F174	491-S1	2.70	2.43	2.16
24F154	491-SC3	7.90	7.11	6.32
24F181	491-SC36	6.90	6.21	5.52



CONTROL KNOBS WITH ¼" SHAFT

Type 365-1. 2¼" black bar.
22F013. NET.....66
Type 366-1. 1¼" black bar.
22F198. NET.....28

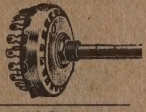
MALLORY QUALITY SWITCHES

1300L SERIES GANG SWITCHES

One fixed, one adjustable stop, silver-plated contacts and phosphor-bronze springs. 3-and 4-gang spaced 1"; all others, ½". 2" notched shaft. *Has additional "off" position with all circuits open. Wt. av., 8 oz.

NON-SHORTING Stk. No.	Type	Gangs	Total Poles	Pos. per Pole	EACH 1-4	5-9	10-24	25-49
22F016	1311L	1	1	11	3.70	3.08	2.76	2.61
22F020	1321L	2	1	11	4.52	3.78	3.39	3.21
22F021	1325L*	2	2	5	4.68	3.91	3.51	3.32
22F025	1335L*	3	2	5	5.69	4.76	4.26	4.03
22F026	1341L	4	1	11	6.69	5.58	4.96	4.76
22F027	1345L*	4	2	5	6.69	5.58	4.96	4.76
22F030	1361L	6	1	11	8.50	7.10	6.36	6.04

SINGLE GANG SWITCHES



Compact, enclosed switches with 2" notched shaft; ⅜" threaded bushing ⅜" long. All have adjustable stops. Use plates listed at right. 1¼" dia. 30°; 1 1/16 dia. 20°. Shpg. wt., 4 oz.

SHORTING Stk. No.	Type	NON-SHORTING Stk. No.	Type	Poles	Pos.	Base Dia.	EACH 1-4	5-9	10-24	25-49
22F040	3115J	22F052	3215J	1	5	1¼"	1.88	1.58	1.42	1.33
22F041	31112J	22F053	32112J	1	12	1¼"	1.80	1.51	1.36	1.28
.....	.....	22F054	3222J	2	2	1¼"	1.88	1.58	1.42	1.33
.....	.....	22F055	3223J	2	3	1¼"	1.88	1.58	1.42	1.33
22F044	3126J	22F056	3226J	2	6	1¼"	1.88	1.58	1.42	1.33
22F045	3134J	22F057	3234J	3	4	1¼"	1.94	1.62	1.46	1.39
22F046	3142J	22F058	3242J	4	2	1¼"	1.94	1.62	1.46	1.39
22F047	3143J	22F059	3243J	4	3	1¼"	1.94	1.62	1.46	1.39
.....	.....	22F060	32117J	1	17	1 1/16"	2.87	2.39	2.15	2.04
.....	.....	22F061	3229J	2	9	1 1/16"	2.87	2.39	2.15	2.04
22F050	3136J	22F062	3236J	3	6	1 1/16"	3.02	2.52	2.27	2.15
.....	.....	22F063	3263J	6	3	1 1/16"	3.02	2.52	2.27	2.15

Type 13124L. Tap Switch. 24-position non-shorting switch. Continuous-rotation. ⅜" bushing. 2" notched shaft. Wt. 6 oz.
Type 1400L. Circuit Opening Switch. Opens any one of 12 "lines" maintains circuit on other 11 lines. Wt., 6 oz.

CERAMIC WAFER SELECTOR SWITCHES

Ceramic-section switches with low RF losses. Adjustable stop. 2 gang spaced ½"; 3 gang, 1". *Has 1 circuit and 11 positions. †Has 2 circuits and 5 positions. ‡Has 3 circuits and 3 positions per gang. # additional "off" pos. Wt. 8 oz.

Stk. No.	Types	Gang	1-4	5-9	10-24	25-49
22F070	172C	1*	4.17	3.47	3.13	2.95
22F072	174C#	1‡	4.17	3.47	3.13	2.95
22F073	176C#	2*	5.96	4.98	4.47	4.24
22F074	177C#	2†	5.96	4.98	4.47	4.24

DIAL PLATES FOR ROTARY SWITCHES

Types 372 to 390 for switches 1200L. 1300L and 1¼" base 3100J, 3200J types. Others are designed for 1 1/4" base 3100 Jand 3200J types. All are etched aluminum. Shpt. wt., 1 oz.

PLATES FOR 1¼" BASE SWITCHES 30° SPACING

Stk. No.	Type	Mark
22F150	372	1 to 2
22F151	373	1 to 3
22F152	374	1 to 4
22F153	375	1 to 5
22F154	376	1 to 6
22F155	377	1 to 7
22F156	378	1 to 8
22F157	379	1 to 9
22F158	380	1 to 10
22F159	381	1 to 11
22F160	382	1 to 12
22F161	383	off 1 to 3
22F162	384	off 1 to 4
22F163	385	off 1 to 5
22F164	386	off 1 to 6
22F166	388	off 1 to 8
22F167	389	off 1 to 9
22F168	390	off 1 to 10

NET EACH.....**.35**

PLATES FOR 1 1/16" BASE SWITCHES 20° SPACING

Stk. No.	Type	Mark	Each
22F179	467	1 to 17	.35

ACCESSORIES

22F188. Type 369. 0-100 plate for either type switch. EA...66
22F190. Type 395. 0-10 plate for standard controls. EA.....66

MALLORY "HAMSWITCHES"

Stk. No.	Type	1-4	5-9	10-24	25-49
22F085	13124L	4.85	4.06	3.65	3.46
22F086	1400L	8.20	6.65	6.16	5.84

DIALIGHT Lighted Pushbutton Switches PANEL MOUNT

Switch with Round Lens

Switch with Square Lens

Indicator light with Fixed Flange

Indicator light with Knurled Flange

513 SERIES

Switches and matching lights are designed for single hole (keyed) mounting in panels up to 3/16" thick. 1250 VAC breakdown voltage. Matching indicator lights use same pushbutton caps; may be used as companions of switches, or independently. Switch bases may be mounted on subpanel and cap inserted through overlay panel for low-profile appearance. Lamp is inserted and replaced without use of tools: pull out cap to replace lamp. Accomodates T-1¾ bulb with midget flanged base, incandescent.

STANDARD SWITCHES

Stock No.	Type	Contact	Action	Contact Rating (Amps) 125VAC Res.	125VAC Ind.	30VAC Res.	30VAC Ind.	1-9	10-24	25-99
60F1000	513-0101-604	SPST N.O.	Mom. Non-snap	3	—	3	—	4.95	4.24	3.91
60F1001	513-0201-604	SPST N.C.	Mom. Non-snap	3	—	3	—	4.95	4.24	3.91
60F1002	513-0301-604	2-Circuit	Mom. Non-snap	3	—	3	—	5.47	4.68	4.28
57F3702	513-1401-604	SPDT	Alternate	5	2	5	2	8.13	6.94	6.36
57F3701	513-1501-604	2-Circuit	Alternate	5	2	5	2	8.13	6.94	6.36

LOW LEVEL SWITCHES

Stock No.	Type	Contact	Action	Low Level Contact Ratings (mA.) 3-12 VDC Resistive	1-9	10-24	25-99
60F1003	513-0401-604	SPST N.O.	Mom. Non-snap	5-100	5.47	4.68	4.28
60F1004	513-0501-604	SPST N.C.	Mom. Non-snap	5-100	5.47	4.68	4.28
60F1005	513-0601-604	2-Circuit	Mom. Non-snap	5-100	5.96	5.13	4.71

MATCHING INDICATOR LIGHTS

Companion series designed to match pushbutton switches. Incorporates unique anti-rotation (locked) feature for secure locking of socket terminal assembly in the mounting bushing and of the center terminal to the insulating disc. Insulation 1250 VAC breakdown. Base with fixed flange for front mounting in 13/32" clearance hole.

Stock No.	Type 183	1-9	10-24	25-99
60F1006	9730-14-602	1.60	1.35	1.25

Base with movable knurled flange nut for front or rear mounting in ½" clearance hole.

60F1007	9830-14-604	1.60	1.35	1.25

LENS CAP ½" ROUND ROTATABLE

Stk. No.	Type	Color	1-9	10-24	25-99
60F1047	183-1471	Red	.90	.80	.72
60F1048	183-1472	Green			
60F1051	183-1475	White			

LENS CAPS ¾" ROUND NON-ROTATABLE

Stk. No.	Type	Color	1-9	10-24	25-99
60F1138	188-1471	Red	1.25	1.13	1.03
60F1139	188-1472	Green			
60F1142	188-1475	White			

LENS CAP ½" SQUARE NON-ROTATABLE

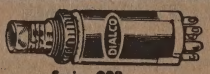
60F1068	184-1871	Red	.90	.80	.72
60F1069	184-1872	Green			
60F1072	184-1875	White			

LENS CAPS ¾" SQUARE NON-ROTATABLE

60F1152	187-1871	Red	1.25	1.13	1.03
60F1153	187-1872	Green			
60F1156	187-1875	White			

Series 913

NEON ILLUMINATED PUSHBUTTON



Series 922

Series 913. 0.1 amp @125 VAC and @ 30 VDC (non-inductive). Bright C2A (NE-2H) neon lamp, non-replaceable. Min. 20,000 hrs. Use in 110-125 VAC circuits. Integral 33K resistor, gold plated contact parts. Mts. from back of panel in 3/8" clearance hole for 1/8" panel thickness.

SPST

Stock No.	Type 913	Lens Color	Action	1-9	10-24	25-99
60F1235	1156-1631-525	Red	SPST N.O.	4.20	3.76	3.45
60F1236	1156-1633-525	Amber	SPST N.O			
60F1239	1430-1631-525	Red	SPST N.C.			
60F1240	1430-1633-525	Amber	SPST N.C.			

SPDT — TWO CIRCUITS — N.O., N.C.

Stk. No.	Type 913	Lens Color	1-9	10-24	25-99	100-249
60F1243	1436-1631-525	Red	4.54	4.05	3.70	3.30
60F1244	1436-1633-525	Amber				

SERIES 922 SWITCHES

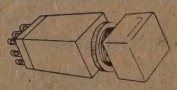
SPST momentary, N.O. 0.1 amps @125 VAC and @30 VDC non-inductive. Over 1,000,000 operations at rated values. Gold plated cont. parts. Mounts from back of panel in 3/8" clearance hole for 1/8" panel thickness. Lens replaceable. Less T-1¾ incand. lamp. Complete unit: one base and one cap.

BASES

Stock No.	Type	Contact	1-9	10-24	25-99	100-249
45F733	922-1524-525	N.O.	4.38	3.92	3.59	3.17
45F734	922-1525-525	N.C.	4.38	3.92	3.59	3.17
45F735	922-1526-525	2-Circuit	4.81	4.29	3.93	3.47

CAPS FOR ABOVE BASES

Stock No.	Type	Lens Color	1-9	10-24	25-99	100-249
45F736	908-1631	Red	.97	.79	.69	.58
45F737	908-1632	Green				
45F738	908-1633	Amber				
45F739	908-1634	Blue				
45F740	908-1635	White				



554 SERIES

UL/CSA listed. Operating life: 250,000 operations momentary, 100,000 operations alternate. Contact resistance 50 milliohms maximum. Insulation resistance 1000 megohms @500 VDC minimum. Dielectric withstanding: 1250 VAC. Current ratings below are at 30 VDC, 125 VAC max. Switch travel .110" typical. Circuit diagram and terminals labeled on switch. Uses T-1¾ bulb with midget flanged base, incandescent. Operating force: 12 oz. momentary, 24 oz. alternate. Lens caps appear on next page.

MOMENTARY ACTION SWITCHES

Stk. No.	Type	Amps	Circuit	1-9	10-24	25-99
57F3000	554-1121	500 ma to 7	SPDT	2.88	2.72	2.31
57F3002	554-1221	500 ma to 7	DPDT	3.41	3.21	2.73
25F999	554-2121	15 ma to 1	SPDT	3.32	3.13	2.66
25F1000	554-2221	15 ma to 1	DPDT	3.93	3.71	3.15

ALTERNATE ACTION SWITCHES

57F3001	554-1131	500 ma to 7	SPDT	3.32	3.13	2.66
57F3003	554-1231	500 ma to 7	DPDT	3.93	3.71	3.15
25F1001	554-2131	15 ma to 1	SPDT	3.85	3.62	3.08
25F1002	554-2231	15 ma to 1	DPDT	4.55	4.29	3.64

MATCHING INDICATOR BASE

Panel-mounted. Solder blade termination.

Stk. No.	Type	1-9	10-24	25-99
57F3004	554-0001	1.58	1.48	1.26

NO-MAR MOUNTING WRENCHES

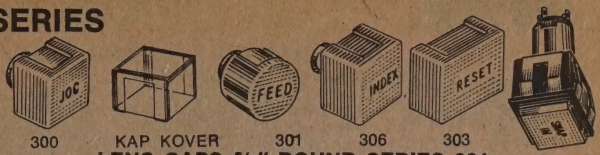
506-0375 for Ser. 913, 922, 915 mtg. panel. 506-0500 for base assem. sub. min. 513 and 554 Series.

Stk. No.	Type	Each
60F1046	506-0375	6.87
60F1215	506-0500	

Lighted Pushbutton Switches—Bezel Mount *DIALIGHT*

513 SERIES

UL listed. Insulation resistance: more than 1000 megohms @ 500 VDC. Contact ratings below are at 125VAC, 30VDC. Mounting bushing: aluminum, clear anodize finish. Coin silver, gold-plated contacts. Heat resistant plastic black bezel. Stainless steel clip.



300 KAP KOVER 301 306 303 533

LENS CAPS ⅝" SQUARE SERIES 300

Stk. No.	Type	Color	1-9	10-24	25-99
45F652	300-1871	Red	1.25	1.13	1.03
45F653	300-1872	White			
45F656	300-1875	Green			

SWITCHES FOR SERIES 300

Stk. No.	Type	Contact	Rating Res.	Rating Ind.	1-9	10-24	25-99
45F628	513-0106-001	SPST N.O.	3	—	5.96	5.09	4.70
45F632	513-0206-001	SPST N.C.	3	—	5.96	5.09	4.70
45F636	513-0306-001	2-Circuit	3	—	6.49	5.52	5.10
45F640	513-1406-001	SPDT	5	2	9.18	6.81	7.16
45F644	513-1506-001	2-Circuit	5	2	9.18	7.81	7.16

LENS CAPS ¾" SQUARE SERIES 306

Stk. No.	Type	Color	1-9	10-24	25-99
25F1003	306-1871	Red	1.25	1.13	1.03
25F1004	306-1872	Green			
25F1005	306-1875	White			

KAP KOVER

Fits over Series 300 push button cap, is accommodated by square bezel for snap-in mounting. Clear colorless. Dim. .746" H x .746" W x .513" D. For use with both switches and matching indicators.

Stock No.	Type	1-9	10-24	25-99
45F742	515-0300	.54	.48	.43

SWITCHES FOR SERIES 300 WITH KAP KOVER AND 306

Stk. No.	Type	Contact	Rating Res.	Rating Ind.	1-9	10-24	25-99
45F722	513-0111-001	SPST N.O.	3A	—	5.96	5.09	4.70
45F723	513-0211-001	SPST N.C.	3A	—	5.96	5.09	4.70
45F724	513-0311-001	2-Circuit	3A	—	6.49	5.52	5.10
45F728	513-1411-001	SPDT	5A	2	9.18	7.81	7.16
45F729	513-1511-001	2-Circuit	5A	2	9.18	7.81	7.16

LENS CAPS ⅝" ROUND SERIES 301

Stk. No.	Type	Color	1-9	10-24	25-99	100-249
45F658	301-1471	Red	1.25	1.13	1.03	.83
45F659	301-1472	Green				
45F662	301-1475	White				

SWITCHES FOR SERIES 301

Stk. No.	Type	Contact	Rating Res.	Rating Ind.	1-9	10-24	25-99
45F629	513-0107-001	SPST N.O.	3	—	5.96	5.09	4.70
45F633	513-0207-001	SPST N.C.	3	—	5.96	5.09	4.70
45F637	513-0307-001	2-Circuit	3	—	6.49	5.52	5.10
45F641	513-1407-001	SPDT	5	2	9.18	7.81	7.16
45F645	513-1507-091	2-Circuit	5	2	9.18	7.81	7.16

LENS CAPS ¾" X 1" RECTANGULAR SERIES 303

Stk. No.	Type	Color	1-9	10-24	25-99
45F664	303-3471	Red	1.40	1.25	1.13
45F665	303-3472	Green			
45F668	303-3475	White			

SWITCHES FOR SERIES 303 (*with Barrier)

Stk. No.	Type	Contact	Rating Res.	Rating Ind.	1-9	10-24	25-99
45F638	513-0309-001	2-Circuit	3	—	6.49	5.52	5.10
45F642	513-1409-001	SPDT	5	2	9.18	7.81	7.16
45F646	513-1509-001	2-Circuit	5	2	9.18	7.81	7.16
45F630	513-0110-001	*SPST N.O.	3	—	5.96	5.09	4.70
45F639	513-0310-001	*2-Circuit	3	—	6.49	5.52	5.10
45F643	513-1410-001	*SPDT	5	2	9.18	7.81	7.16
45F647	513-1510-001	*2-Circuit	5	2	9.18	7.81	7.16

MATCHING INDICATOR BASE ASSEMBLIES

Aluminum, clear anodize finish mtg. bushing, black bezel heat resistant plastic brass term. Overall size: 1.080" (x) with barrier.

Stock No.	Type No.	Accept Cap Size	1-9	10-24	25-99	100-249
45F648	533-0601	⅝" Sq.	2.64	2.27	2.03	1.77
45F649	533-0701	⅝" Rd.				
45F650	533-0901	¾x1"				
45F651	*533-1001	¾" Sq.				

554 SERIES

Contact Res. 50 milliohms. Insulation Res. 1000 megohms @ 500V DC. Max. voltage 30V DC or 125V AC. Solder Blade Quick Connect Termination. Snap action switching mechanism insures contact force and res. are independent of switch actuation speed. UL listed & CSA approved.

MOMENTARY ACTION SWITCHES

Stk. No.	Type	Accepts Cap Size	Descript.	1-9	10-24
57F3035	554-1121-211	⅝" square	SPDT 500 ma to 7A	3.32	3.13
57F3036	554-1121-311	⅝ x ¾"			
25F1006	554-1121-411	¾" square			
57F3039	554-1221-211	⅝" square	DPDT 500 ma to 7A	3.85	3.62
57F3040	554-1221-31	⅝ x ¾"			
25F1007	554-1221-41	¾" square			
25F1008	554-2121-211	⅝" square	SPDT 15 ma to 1A	3.76	3.54
25F1009	554-2121-311	⅝ x ¾"			
25F1010	554-2121-411	¾" square			
25F1011	554-2221-211	⅝" square	DPDT 15 ma to 1A	4.37	4.12
25F1012	554-2221-311	⅝ x ¾"			
25F1013	554-2221-411	¾" square			

ALTERNATE ACTION SWITCHES

57F3037	554-1131-211	⅝" square	SPDT 500 ma to 7A	3.76	3.54
57F3038	554-1131-311	⅝ x ¾"			
25F1014	554-1131-411	¾" square			
57F3041	554-1131-211	⅝" square	DPDT 500 ma to 7A	4.37	4.12
57F3042	554-1231-311	⅝ x ¾"			
25F1015	554-1231-411	¾" square			
25F1016	554-2131-211	⅝" square	SPDT 15 ma to 1A	4.29	4.03
25F1017	554-2131-311	⅝ x ¾"			
25F1018	554-2131-411	¾" square			
25F1019	554-2231-211	⅝" square	DPDT 15 ma to 1A	4.99	4.70
25F1020	554-2231-311	⅝ x ¾"			
25F1021	554-2231-411	¾" square			

MATCHING INDICATORS

Stk. No.	Type	1-9	10-24	25-99
57F3043	554-0001-211	2.02	1.89	1.61
57F3044	554-0001-311			
25F1022	554-0001-411			

LENS CAPS FOR PANEL OR BEZEL MOUNT SWITCHES ⅝" SQUARE

Stk. No.	Type	Color	1-9	10-24	25-99
57F3008	325-0071	Red	.60	.50	.45
57F3009	325L0072	Green			
57F3012	325-0075	White			
57F3014	325-0061	Wht. Translct. w/red fltr.	.75	.60	.55
57F3015	325-0062	Wht. Translct. w/grn. fltr.			
57F3016	325-0063	Wht. Translct. w/ylw. fltr.			

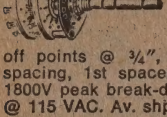
⅝" X ¾" RECTANGULAR

57F3017	326-0071	Red	.60	.50	.45
57F3018	326-0072	Green			
47F3021	326-0075	White			
57F3023	326-0061	Wht. Translct. w/ red filter	.75	.60	.55
57F3024	326-0062	Wht. Translct. w/grn. filter			
57F3025	326-0063	Wht. Trnslct. w/ylw. filter			

¾" SQUARE

25F1023	327-0071	Red	.60	.50	.45
25F1024	327-0072	Green			
25F1025	327-0075	White			
25F1026	327-0061	Wht. Trnslct. w/red filter	.75	.60	.55
25F1027	327-0062	Wht. Trnslct. w/grn. filter			
25F1028	327-0063	Wht. Trnslct. w/ylw. filter			

OAK Oak Rotary Switches



CERAMIC MULTI-SECTION SWITCHES

Series JC. Single ball, 30° indexing. Meet MIL-S3786, 50-Hr. salt spray finishes. Frame dim. 1 7/32" H. x 1 3/8" W., 1 1/2" over clips. 1/4" dia. x 2 3/8" L., shaft break-off points @ 3/4", 1 1/8" 1 7/8" from mtg. surf., adj. stop. Sect. spacing, 1st spaces 3/8", 2nd 7/16", 3rd 15/32", 4th 15/32"; approx. 1800V peak break-down voltage; break 1 amp @ 28 VDC, .5 amp @ 115 VAC. Av. shpg. wt., 5 oz.

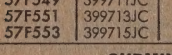
SHORTING TYPES JC

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49
57F666	399468JC	1	1	2-12	4.09	3.44	3.07	2.91
57F668	399470JC	2	2	2-12	6.46	5.42	4.85	4.58

NON-SHORTING TYPES JC

57F667	399469JC	1	1	2-12	4.09	3.44	3.07	2.91
57F669	399471JC	2	2	2-12	6.46	5.42	4.85	4.58
57F671	399473JC	3	3	2-12	7.85	6.60	5.89	5.57
57F673	399475JC	4	4	2-12	10.51	8.83	7.89	7.46
57F675	399477JC	1	2	2-6	4.09	3.44	3.07	2.91
57F677	399479JC	2	4	2-6	6.46	5.42	4.85	4.58
57F679	399481JC	3	6	2-6	8.46	7.11	6.35	6.01
57F681	399485JC	1	6	2	4.09	3.44	3.07	2.91
57F543	399705JC	1	3	2-5	4.09	3.44	3.07	2.91
57F549	399711JC	2	10	2-3	6.46	5.42	4.85	4.58
57F551	399713JC	5	10	2-6	12.71	10.67	9.54	9.02
57F553	399715JC	6	12	2-6	14.76	12.39	11.07	10.47

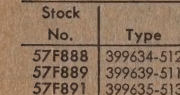
SUBMINIATURE ROTARY SWITCHES



Ultra-compact switches provide superior insulating quality, with dimensional stability even under severe environmental conditions For all applications where extremely small size is essential. Long-life silver alloy contacts are gold plated to prevent tarnish. Double-wiping design, with frame components of materials and finishes to withstand 50-hour salt spray. Exclusive Tri-Ball detente mechanism, with helical spring provides approximately 16 in-oz. torque. Offers negligible contact noise and circuit resistance thruout 10,000 cycle life. All are non-shorting.

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49
57F888	399634-512	2	2	2-12	10.06	8.45	7.54	7.14
57F889	399639-511	1	2	2-6	7.38	6.21	5.54	5.24
57F891	399635-513	3	3	2-12	12.85	10.80	9.64	9.12
57F895	399641-513	3	6	2-6	12.85	10.80	9.64	9.12

PHENOLIC MULTI-SECTION SWITCHES



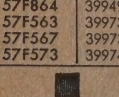
Series K. Meet MIL S-3786. Single ball 30° indexing. 1 9/16" over clips; 1/4" dia. x 2 3/8" L., bushing 3/8"-32 thread, 3/8" L. nut & washer. 1st spacer 3/8", 2nd, 3rd, 4th 1/2" ea. 1800 V, peak breakdown voltage; break 1 amp. @ 28 VDC, 0.5 amp. @ 115VAC. Av. shpg. wt. 4 oz.

SHORTING TYPE "K"

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49
57F648	399418K	1	1	2-12	3.11	2.61	2.33	2.20
57F656	399426K	1	2	2-6	3.11	2.61	2.33	2.20
57F658	399428K	2	4	2-6	4.32	3.62	3.24	3.06
57F654	399424K	4	4	2-12	6.91	5.81	5.18	4.90

NON-SHORTING TYPE "K"

57F649	399419K	1	1	2-12	3.11	2.61	2.33	2.20
57F651	399421K	2	2	2-12	4.32	3.62	3.24	3.06
57F653	399423K	3	3	2-12	5.68	4.77	4.26	4.02
57F655	399425K	4	4	2-12	6.91	5.81	5.18	4.90
57F657	399427K	1	2	2-6	3.11	2.61	2.33	2.20
57F659	399429K	2	4	2-6	4.32	3.62	3.24	3.06
57F661	399431K	3	6	2-6	5.68	4.77	4.26	4.02
57F663	399433K	1	6	2	3.11	2.61	2.33	2.20
57F665	399435K	2	12	2	4.32	3.62	3.24	3.06
57F862	399493K	2	6	2-5	4.77	4.00	3.58	3.39
57F864	399495K	3	9	2-5	6.22	5.22	4.66	4.41
57F563	399733K	5	5	2-11	7.04	5.91	5.28	5.00
57F567	399737K	6	6	2-11	7.94	6.67	5.96	5.64
57F573	399743K	5	10	2-5	7.04	5.91	5.28	5.00

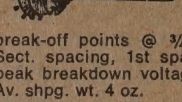


TYPE 200 SERIES SLIDE SWITCHES

30% narrower than ordinary slide switches; gold-plated, Double-Wiping contacts which are self-cleaning. Rated 3 amps at 125 VAC operation. Non-Shorting.

Stk. No.	Type	Funct.	Cont.	1-4	5-9	10-24	25-49
57F816	399275-275	SPST	2	.29	.28	.27	.26
57F818	399277-277	SPDT	3	.32	.31	.30	.29
57F819	399278-278	DPDT	6	.36	.35	.34	.33

MINIATURE SILICONE SWITCHES



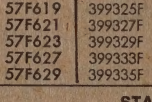
Series A. Dual ball, 30° indexing. Fi ishes meet MIL-S-3786, 200-hr. sa spray finishes. Frame dim. 1"Hx15/16"W 1 3/16" over clips; 1/4" dia. x 2 3/8"L sha break-off points @ 3/4", 1 1/8", 1 7/8" from mtg. surf., Adj. sto Sect. spacing, 1st spacer 1 7/64", 2nd 3/32", 3rd 5/32" approx. 750 peak breakdown voltage 1 amp @ 28 VDC, .5 amp. @115 VA Av. shpg. wt. 4 oz.

SHORTING—TYPE "A"

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49
57F600	399216A	1	1	2-12	6.26	5.25	4.69	4.4
57F602	399218A	2	2	2-12	7.40	6.22	5.56	5.2
57F608	399224A	2	4	2-6	7.40	6.22	5.56	5.2

NON-SHORTING TYPE "A"

57F601	399217A	1	1	2-12	6.26	5.25	4.69	4.4
57F603	399219A	2	2	2-12	7.40	6.22	5.56	5.2
57F605	399221A	3	3	2-12	9.18	7.71	6.89	6.5
57F607	399223A	1	2	2-6	6.26	5.25	4.69	4.4
57F609	399225A	2	4	2-6	7.40	6.22	5.56	5.2
57F611	399227A	3	6	2-6	9.18	7.71	6.89	6.5
57F615	399237A	2	8	2	7.99	6.71	5.99	5.6



SUB MINIATURE PHENOLIC SWITCH

Series F. Dual ball, 30° indexing. Meet MI S3786, 50-Hr. salt spray finishes. Fran dim. 1 5/16" H. x 1 1/4" W; 1 3/16" over clip 1/4" dia. x 2 3/8" L., shaft break-off points @ 3/4", 1 1/8" from mt surf., adj. stop, except 2-pos. fixed stop. Sect. spacing, 1 spacer 5/16", 2nd 3/8" approx. 1000V peak breakdown voltag break 1 amp @ 28 VDC, 0.5 amp @ 115 VAC, Av. shpg. wt. 3 o

SHORTING TYPE "F"

57F616	399322F	1	1	2-11	3.06	2.58	2.30	2.1
57F620	399326F	1	2	2-5	3.08	2.59	2.32	2.1
57F622	399328F	2	4	2-5	4.19	3.52	3.14	2.9

NON-SHORTING TYPE "F"

57F617	399323F	1	1	2-11	3.06	2.58	2.30	2.1
57F619	399325F	2	2	2-11	4.16	3.49	3.13	2.9
57F621	399327F	1	2	2-5	3.08	2.59	2.32	2.1
57F623	399329F	2	4	2-5	4.19	3.52	3.14	2.9
57F627	399333F	2	6	2-3	4.23	3.55	3.17	3.0
57F629	399335F	1	4	2	3.13	2.63	2.35	2.2

STANDARD PHENOLIC SWITCHES

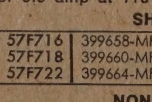
Series H. Dual ball, 30° indexing. Meet MIL-S-3786, 50-Hr. s spray finishes. Frame dim. 1 7/8"H. x 1 13/32"W., 1 13/16" over clip 1/4" dia. x 2 3/8"L.,. shaft breakoff points @ 3/4", 1 1/8", 1 7/8" fro mounting surface. Adj. stop. Sect. spacing 1st spacer 1/2"; 2 1"; 3rd 1". Approx. 2500V peak break-down voltage. 1 amp 28 VDC, .5 amp @ 115 VAC. Av. shpg. wt. 4 oz.

SHORTING TYPES "H"

57F686	399514H	2	2	2-11	3.90	3.28	2.93	2.7
57F692	399520H	2	4	2-5	3.90	3.28	2.93	2.7

NON-SHORTING TYPES "H"

57F687	399515H	2	2	2-11	3.90	3.28	2.93	2.7
57F689	399517H	3	3	2-11	5.37	4.51	4.03	3.8
57F691	399519H	1	2	2-5	2.82	2.37	2.12	2.0
57F693	399521H	2	4	2-5	3.90	3.28	2.93	2.7
57F597	399529H	4	4	2-11	6.58	5.52	4.94	4.6



PHENOLIC 17 POS. SWITCHES

Series I. Single ball, 20° indexing. Me MIL-S-3786 50-Hr. salt spray finishe Frame dim. 2 3/16"Hx1 31/32"W. 2 1/8 over clip 1/4" dia. x 2 3/8"L., shaft, break-off poi @ 3/4, 1 1/8, 1 7/8, from mounting surf. Adj. stop 2-17 pos. adju able. Sect. spacing all 1/2". Approx. 1000V. peak break-do voltage 1 amp @ 28VDC, 5 amps @ 115 VAC. Av. shpg. wt., 4 o

NON-SHORTING TYPES "L"

57F709	399609L	1	1	2-17	4.03	3.39	3.03	2.8
57F713	399613L	3	3	2-17	7.90	6.64	5.92	5.6
57F715	399615L	4	4	2-17	9.65	8.11	7.24	6.8

PHENOLIC 23 POS. SWITCHES

Series MF. 50 hour salt spray. MIL-P-3115. Ball type indexing, o fixed and adjustable stop per switch. Break one amp at 28 VDC or 0.5 amp at 110 VAC, resistive. Carry 5 amps.

SHORTING TYPE "MF" SERIES

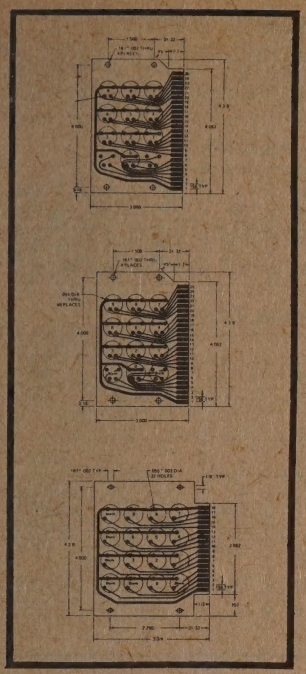
57F716	399658-MF	1	1	2-23	4.19	3.52	3.14	2.9
57F718	399660-MF	2	2	2-23	6.11	5.13	4.59	4.3
57F722	399664-MF	4	4	2-23	10.17	8.54	7.63	7.2

NON SHORTING TYPE "MF" SERIES

57F717	399659-MF	1	1	2-23	4.19	3.52	3.14	2.9
57F719	399661-MF	2	2	2-23	6.11	5.13	4.59	4.3
57F721	399663-MF	3	3	2-23	8.25	6.93	6.18	5.8
57F723	399665-MF	4	4	2-23	10.17	8.54	7.63	7.2

Keyboard Switches

OAK



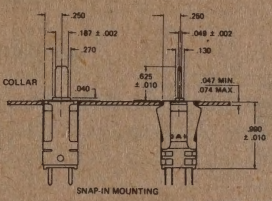
SERIES 400 KEYBOARD SWITCHES

- **Operating life: more than 20,000,000 operations**
- **Less than 100 milliohms contact resis.**
- **Gold-alloy contacts, nickel base**
- **Temp. range 0-85°C**

Breakdown voltage: over 500 VAC. Contact resistance less than 100 milliohms throughout switch life. Contact rating 5 VDC, resistive load, 100mA. Housing—0.50″ x 0.50″ x 1.00″ high. Snap-in clip for panel mtg. Contact bounce less than 3 millisec., N.O. only. Tested for 20 million operations, per key at rated load. Temp. range 0 to 85°C. Operating force 3 oz. ±½ oz. (85 gm. ±15 gm.) Key travel 0.125″ ±0.010″ total, pre-travel 0.070″ nominal. Contacts: gold-alloy crown on nickel base, crossbar wiping. Copper alloy contact leaves. Terminals: 0.050″ (±0.002) x 0.008″ x 0.240″ long (below standoffs on housing. Terminal ends tinned to facilitate soldering.

Stk. No.	Type	1-4	5-9
57F508	399578-KB	18.38	17.44
57F509	399579-KB	19.13	17.81
57F510	399580-KB	20.40	19.39

SERIES 400 SINGLE SWITCHES



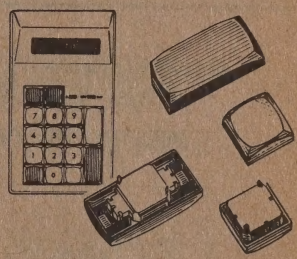
Single switches furnished with one blank button. Stainless steel plunger.

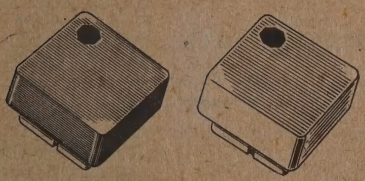
Stk. No.	Type	Action	1-24	25-49
57F511	399576-KS	SPST N.O.	1.90	1.52
57F512	399582-KS	DPST N.O.	2.25	1.80
57F513	399577-KS	SPDT	2.25	1.80
57F514	399583-KS	SPST N.O.	2.60	2.08

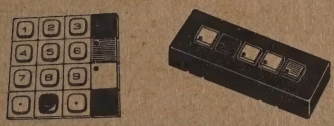
LOW PROFILE 415 SERIES

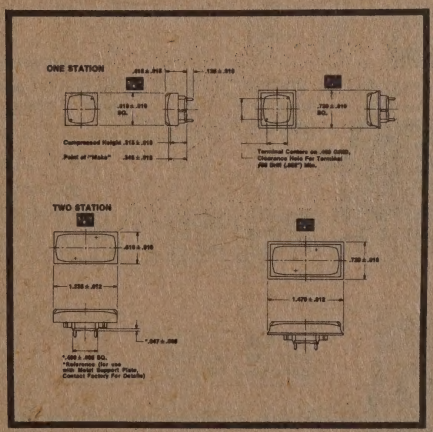
- **PC board mtg.**
- **Range —20 to +75°C**

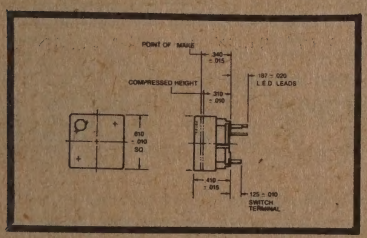
Tested to 10 million operations. Switch action SPST/N.O. Contact resistance 100 milliohms maximum. Height .415″ (incl. terminals, which are 0.125″ long on .400″ grid). Temp. range —20 to +75°C. PC board mtg. Travel 0.100″ approx., pre-travel 0.070″ nom. Operating force 70 gm. (+20 gm., —15 gm.). Contact bounce 3 millisec. max.











LOW-PROFILE LED SERIES 415

Tested to 10 million operations. Enclosed switching, SPST/N.O. Contact resis. 100 milliohms max. Temp. range —20 to +75°C. Terms. 0.125″ L. on 0.400″ grid. LED avble. in flat key top only, indicates red on, no color off. LED terms. 0.187″ L. Fwd. volt. 1.65V, fwd. curr. 20 mA, rev. curr. @ 3V is 5.0 nA. White 5-61913-109, Gray 5-61913-108, Blue 5-61913-106, Black 5-61913-100.

Stk. No.	Type	1-49	50-99
57F533	5-61613-109	2.60	2.34
57F534	5-61913-108		
57F535	5-61913-106		
57F536	5-61913-100		

⅝″ KEYTOP

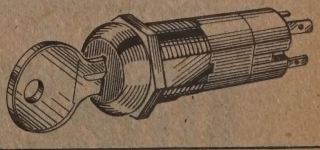
Stk. No.	Type 399-	Each
57F515	591-LP Single Blk.	1.00
57F516	592-LP Single Red	
57F517	593-LP Dble. Blk.	
57F518	594-LP Dble. Red	
57F519	595-LP Set 0-9 Wh.	
57F520	596-LP Single Wh.	
57F521	597-LP Single Blk.	
57F522	598-LP Dble. Wh.	
57F523	599-LP Dble. Blk.	

¾″ KEYTOP

Stk. No.	Type 399-	Each
57F524	535-LP Set 0-9 Wh.	1.00
57F525	536-LP Single Blk.	
57F526	537-LP Single Red	
57F527	538-LP Single Wh.	
57F528	539-LP Single Blk.	
57F529	540-LP Dble. Blk.	
57F530	541-LP Dble. Red	
57F531	542-LP Dble. Wh.	
57F532	543-LP Dble. Blk.	

ANTI-STATIC KEYLOCK SWITCH

Designed to protect sensitive electronic circuitry from inadvertent static discharge up to 20,000 volts. 90° throw, SP switching. Positions: *-501,* OFF-ON(CW); *-601:* ctr. OFF, ON(CW) and ON(CCW); *-701:* ctr. OFF-ON-ON-ON cont. rotn. Rated 1.0A @ 28VDC, 3.0A @ 120VAC. Cont. resis. 10 milliohms. ¾″ dia. x 2 1/16″ dp. Up to 10,000 operations. UL/CSA recgnzd.



Stk. No.	Type	1-49	50-99
57F537	5-51115-501	9.42	6.28
57F538	5-51115-601	10.00	6.69
57F539	5-51115-701	10.00	7.12

Series 5701
Magnetic
Actuator

MAGNETICALLY ACTUATED REED PROXIMITY SWITCHES

Offer the long life and high reliability of reed switches. Include all the advantages of magnetic reed switches but come packaged ready for mounting. Epoxy package resists most solvents, acids and salts. Safe for use in hazardous environments. Shock and vibration characteristics comparable with the basic reed switch.

FOR A & C TYPES FOR AC & DC OPERATION

Stock No.	Mfr's Type	Form	Contact Rating Watts	Switching Voltage VDC	Current AMPS	Break-Down Voltage	1-24	25-49	50-99	100-249
33F1208	5801	A	10	200DC/240AC	.500	400 V	3.75	3.40	3.00	2.60
33F1209	5802	C	3	100DC/120AC	.250	200 V	7.75	7.00	6.20	5.35
33F1073	5804	A	10	120AC	.500	250 V	1.45	1.30	1.15	1.00

Series 5801
SPST-Form A

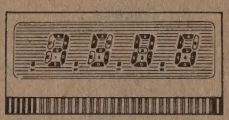
- High reliability and long life
- Come packaged for mounting in any position
- Hermetic seals—for safe use in hazardous environments

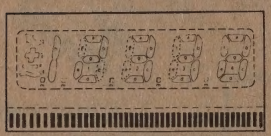
FORM A 1½ AMP REED/TRIAC COMBINATION AC ONLY

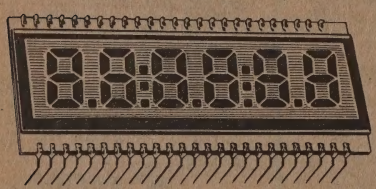
Stock No.	Mfr's Type	Form	Current Rating	Voltage Rating	Break-Down Voltage	1-24	25-49	50-99	100-249
33F1210	5901	A	1.5 AMPS	120-240 VAC 50-60Hz	400 V	7.75	7.00	6.20	5.35

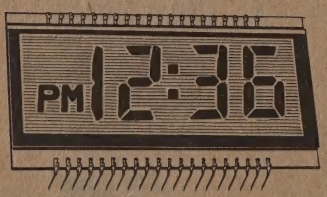
MAGNETIC ACTUATOR

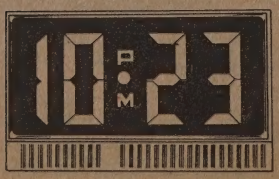
Stock No.	Mfr's Type	Operating Distance	Differential	Release Distance	1-24	25-49	50-99	100-249
33F1211	5701	To 5/8"	1/8" to 1/4"	9/16" to 13/16"	2.00	1.80	1.60	1.40
33F1076	5805	To 29/32"	1/32" to 7/16"	3 3/4" to 1"	1.30	1.10	.95	.85











LIQUID CRYSTAL DISPLAYS

- Field Effect
- Distortion-free Image
- Wide Viewing Cone
- Thermoplastic Bonding

Field effect liquid crystal displays. Distortion-free image throughout a wide viewing cone. Thermoplastic bonding provides maximum seal integrity over the recommended temperature range. Operating voltage is five volts RMS in the 30-100 Hz range, for all displays. Order connectors separately below.

ALPHA-NUMERIC 16-SEGMENT

Stock No.	Type	Character Height	No. of Digits	Display Height	Display Length	Conn. Part No.	1-9	10-24	25-49
33F1044	3702-312	1"	1	1.75"	1.00"	3152-400	16.45	13.15	11.50

3½ AND 4½ DIGIT INSTRUMENT

33F1045	3607-312	.5"	3½	1.25"	2.50"	3152-250	21.80	17.50	15.25
33F1047	3612-312	.4"	4½	1.10"	2.50"	3152-250	20.60	16.50	14.45
33F1046	3902-312	.5"	3½	1.20"	2.00"	DIP	22.00	17.60	15.40

2, 4, AND 6 DIGIT NUMERIC

33F1048	3803-312	.5"	2	1.25"	1.50"	3152-250	16.45	13.15	11.50
33F1049	3805-312	.3"	4	.95"	2.00"	3152-250	18.00	14.40	12.60
33F1054	3918-312	.6"	6	1.20"	2.75"	DIP	24.95	19.95	17.45

12 AND 24 HOUR CLOCK

33F1055	3402-312	1.12"	3½	1.90"	3.25"	3112-325	26.95	21.55	18.85
33F1056	3404-312	.6"	4	1.35"	2.50"	3152-250	19.40	15.55	13.60
33F1059	3927-312	.7"	3½	1.48"	2.70"	DIP	20.00	17.60	15.40

CONNECTORS

Stock No.	Type	1-24	25-49	50-99
33F1062	3152-400	5.50	3.45	2.36
33F1063	3152-250	4.30	2.70	1.81
33F1065	3152-150	3.50	2.10	1.45
33F1069	3152-200	3.90	2.56	1.63
33F1070	3112-325	3.40	2.04	1.45

Magnetic Reed Switches

HAMLIN

Dry and mercury wetted magnetic switches are precision created for reliable operation under most critical conditions. They offer excellent flexibility in a broad range of applications. These switches are hermetically sealed for safe, dependable use in any atmosphere—even under explosive conditions and are unaffected by high or low temperatures or pressure. They offer long life with high sensitivity and their rapid cycling rate make these ideal for a wide variety of uses. Applications include position indicators, counting devices, limiting switches, flow meters, communication instruments and reed relays. Actuating time: 1 millisecond or less. Life Expectancy; Dry reed switches—50 million operations. Mercury Wetted switches—1 billion operations. Contacts: Form A (SPST-NO). Form B (SPST-NC), Form C (SPDT). These switches may be actuated by permanent magnets, shown below, or electro magnets. Average shipping weight 1 oz. each.

MINIATURE MAGNETIC REED SWITCHES

Stock No.	Type	Size	Form	Maximum Cont. Ratg. Watts	Maximum Amps.	Maximum DC Volts	Maximum Cont. Rests.	Amp. Turn Pull In	Use Mag.	1-24	25-99	100-999	SPECIAL FEATURES
33F1051	MRR-2-185	11	A	10	.500	200	.100	30±7.5	H-33	**1.25**	**.94**	**.69**	Miniature Form A—Rhodium Contacts
33F1053	MRH-15-185	11	A	10	.500	50	.150	30±7.5	H-33	**2.50**	**1.87**	**1.50**	High Insulation Rev.—10^{15} OHMS
33F1201	MLC-2-186	10	A	10	.500	100	.250	30±10	H-33	**1.10**	**.83**	**.61**	Economy Form A

SUB-MINIATURE MAGNETIC REED SWITCHES

33F1057	MSRR-2-185	9	A	10	.500	200	.100	30±7.5	H-33	**1.25**	**.94**	**.69**	Sub-Mini. Form A—Rhodium Contacts
33F1058	MSRR-2CD-155	9	A	3	.500	200	.200	25±7.5	H-33	**1.75**	**1.31**	**1.05**	Close Differential

TINY MAGNETIC REED SWITCHES

Stock No.	Type	Size	Form	Maximum Cont. Ratg. Watts	Maximum Amps.	Maximum DC Volts	Maximum Cont. Rests.	Amp. Turn Pull In	Use Mag.	1-24	25-99	100-999	SPECIAL FEATURES
33F1061	MTRR-2-185	6	A	10	.250	100	.150	30±7.5	H-33	**1.50**	**1.12**	**.83**	Off Center Cap—Moderate Cur/Volt.
33F1064	MRG-DT-175	7	C	3	.250	28	.150	27.5±7.5	H-33	**4.25**	**3.39**	**2.55**	Form C—Moderate Current/Voltage
33F1203	MLC-DT-186	7	C	3	.250	28	.150	30±10	H-33	**3.25**	**2.64**	**1.95**	Economy Form A

MICRO AND MINI MAGNETIC REED SWITCHES

33F1066	MMRR-2-185	1	A	.3	.010	28	.200	30±7.5	H-31	**2.00**	**1.50**	**1.20**	The "Grain of Wheat"
33F1067	MINI-2-115	2	A	3	.110	28	.200	20±7.5	H-31	**1.75**	**1.31**	**.96**	The "Mini Reed"

HIGH CURRENT MAGNETIC REED SWITCHES

Stock No.	Type	Size	Form	Maximum Cont. Ratg. Watts	Maximum Amps.	Maximum DC Volts	Maximum Cont. Rests.	Amp. Turn Pull In	Use Mag.	1-24	25-99	100-999	SPECIAL FEATURES
33F1078	SRT-2-455	15	A	110VA	1.0	28	.500	7.5±7.5	H-32	**2.50**	**2.00**	**1.63**	Power Switch—1 Amp

STANDARD MAGNETIC REED SWITCHES

33F1072	DRR-1-425	14	A	15	1.0	400	.060	70±7.5	H-34	**1.50**	**1.12**	**.83**	Standard Form A—Rhodium Contacts
33F1074	DRR-5-425	14	A	25	1.0	1,000	.060	70±7.5	H-34	**1.60**	**1.28**	**1.04**	High Breakdown Voltage
33F1075	DRT-5-425	14	A	50	3.0	1,000	.100	70±7.5	H-34	**3.00**	**2.50**	**2.15**	Inductive Load

COMPACT MAGNETIC REED SWITCHES

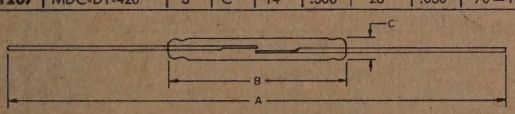
33F1077	SRR-2-425	12	A	15	1.0	400	.060	70±7.5	H-32	**1.50**	**1.12**	**.83**	Off Center Gap—Moderate Cur/Volt
33F1080	DRR-DTH-445	13	C	10	.5	250	.075	72.5±7.5	H-32	**2.75**	**2.20**	**1.65**	High Breakdown Voltage
33F1081	DRT-DTH-445	13	C	20	1.5	500	.150	72.5±7.5	H-34	**5.00**	**4.25**	**3.55**	Inductive Loads
33F1205	DLC-DT-327	13	C	10	.5	200	.100	55±15	H-32	**1.75**	**1.15**	**1.00**	Economy Form C

HIGH VOLTAGE MAGNETIC REED SWITCHES

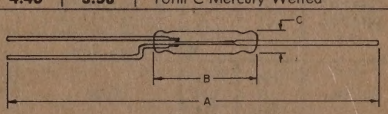
Stock No.	Type	Size	Form	Maximum Cont. Ratg. Watts	Maximum Amps.	Maximum DC Volts	Maximum Cont. Rests.	Amp. Turn Pull In	Use Mag.	1-24	25-99	100-999	SPECIAL FEATURES
33F1084	DRVT-10-658	14	A	50	3.0	7,500	.080	120±20	H-34	**4.50**	**4.15**	**3.97**	Form A Breakdown Voltage 10 KVDC

MERCURY WETTED MAGNETIC REED SWITCHES

33F1088	MDC-1-387	50	A	20	100	.050	65±15	H-33	**4.25**	**3.29**	**2.75**	Miniature Form A Mercury Wetted
33F1207	MDC-DT-420	3	C	14	.500	28	.050	70±15	H-33	**5.50**	**4.40**	**3.58**	Form C Mercury Wetted



Form A



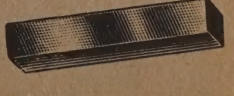
Form C

DIMENSION CHART FOR SWITCHES

Size Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A Overall Length—Nominal	2.000	2.000	1.600	2.076	1.500	2.125	2.125	.950	2.250	2.250	2.250	3.375	3.375	3.250	3.465
B Glass Length—Maximum	.375	.500	.600	.562	.850	.750	.610	.800	.800	.800	.800	1.610	1.562	1.950	1.640
C Glass Diameter—Maximum	.090	.070	.130	.105	.214	.092	.130	.145	.090	.105	.130	.195	.218	.218	.212

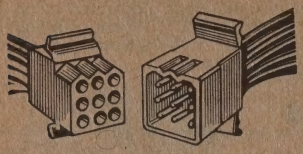
ALNICO V PERMANENT MAGNETS

Stock No.	Magnetic Type	Dimensions	1-24	25-99
33F1090	H31-604	1/16x1/16x1/2"	**.30**	**.30**
33F1091	H32-605	3/16x3/16x1"	**.35**	**.35**
33F1092	H33-606	1/8x1/8x3/4"	**.30**	**.30**
33F1093	H34-607	1/4x1/4x1"	**.40**	**.40**

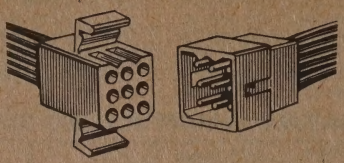


waldom ELECTRONICS, INC.

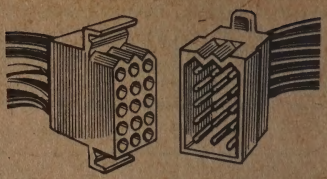
Molex Nylon Connectors



Mistake-Proof Polarity—Noted for great flexibility. Pin terminals easily removed individually from housing for circuit changes & reinserted. Housing is polarized; but possible to interchange female pins in male housings and to install male pins individually in female housings to achieve unlimited polarization.



Miniature connectors .062" pin terminals, 250 volts per circuit, up to 5 Amps per circuit; standard nylon connectors (using .093" pin terminals) from 1 to 15 circuits (250 volts per circuit, up to 12 Amps per circuit).



Most housings have integrally molded mounting ears for ease of panel mounting. These units are basically designed for terminals to be crimped easily to wire leads.

MINIATURE NYLON CONNECTOR HOUSINGS .062" PIN DIA.—250 VOLTS PER CIRCUIT

PLUG OR RECEPTACLE — PLUG CONFIGURATION ONLY With Mounting Ears

Stk. No.	No. of Ckts.	Amps per Ckt.	Type	Price Per Pkg. Pkg. of 5	Price Per Pkg. Pkg. of 10
31F1002	3	5	P (03-06-2031)	.....	1.70
31F1004	4	5	P (03-06-2041)	.....	3.85
31F1006	5	5	P (03-06-2054)	1.25	.....
31F1008	6	5	P (03-06-2062)	1.20	.....
31F1012	9	5	P (03-06-2091)	1.30	.....
31F1014	12	5	P (03-06-2121)	1.35	.....
31F1016	15	5	P (03-06-2151)	2.20	.....
43F735	24	4	P (03-06-2241)	3.30	.....
31F1018	36	4	P (03-06-2361)	3.75	.....

Without Mtg. Ears

Stk. No.	No. of Ckts.	Amps per Ckt.	Type	Price Per Pkg. Pkg. of 5	Price Per Pkg. Pkg. of 10
31F1000	1	5	P (03-06-2011)	.....	1.00
59F1786	3	5	P1 (03-06-2032)	.....	1.70
59F1787	4	5	P1 (03-06-2042)	.....	3.85
59F1788	5	5	P1 (03-06-2055)	1.25	.....
59F1789	6	5	P1 (03-06-2061)	1.20	.....
31F1010	8	5	P (03-06-2081)	1.00	.....
59F1790	9	5	P1 (03-06-2092)	1.30	.....
59F1791	12	5	P1 (03-06-2122)	1.35	.....
59F1792	15	5	P1 (03-06-2152)	2.20	.....
59F1793	24	4	P1 (03-06-2242)	3.30	.....
59F1794	36	4	P1 (03-06-2362)	3.75	.....

RECEPTACLE CONFIGURATION ONLY With Holding Tabs

Stk. No.	No. of Ckts.	Amps per Ckt.	Type	Price Per Pkg. Pkg. of 5	Price Per Pkg. Pkg. of 10
31F1001	1	5	R (03-06-1011)	.....	.85
59F1780	3	5	R1 (03-06-1032)	.....	1.95
59F1781	4	5	R1 (03-06-1042)	.....	3.80
59F1782	9	5	R1 (03-06-1092)	1.50	.....
59F1783	12	5	R1 (03-06-1122)	1.55	.....
59F1784	15	5	R1 (03-06-1152)	2.55	.....
59F1785	24	4	R1 (03-06-1242)	3.45	.....

With Mtg. Ears & Hldg. Tabs

Stk. No.	No. of Ckts.	Amps per Ckt.	Type	Price Per Pkg. Pkg. of 5	Price Per Pkg. Pkg. of 10
31F1003	3	5	R (03-06-1031)	.....	1.95
31F1005	4	5	R (03-06-1041)	.....	3.80
31F1007	5	5	R (03-06-1055)	1.65	.....
31F1009	6	5	R (03-06-1061)	1.40	.....
31F1011	8	5	R (03-06-1081)	1.25	.....
31F1013	9	5	R (03-06-1091)	1.50	.....
31F1015	12	5	R (03-06-1121)	1.55	.....
31F1017	15	5	R (03-06-1151)	2.55	.....
43F736	24	4	R (03-06-1241)	3.45	.....
31F1019	36	4	R (03-06-1361)	3.90	.....

WALDOM STANDARD NYLON CONNECTOR HOUSINGS .093" PIN DIA.—250 VOLTS PER CIRCUIT

With Mtg. Ears

Stk. No.	No. of Ckts.	Amps per Ckt.	Type	Price Per Pkg. Pkg. of 5	Price Per Pkg. Pkg. of 10
31F1032	1	12	P (03-09-2021)	.....	1.95
31F1034	3	12	P (03-09-2031)	.....	1.70
31F1036	4	9	P (03-09-2041)	.....	2.40
31F1040	6	9	P (03-09-2061)	1.55	.....
31F1042	9	9	P (03-09-2091)	1.65	.....
59F1795	12	7.5	P1 (03-09-2122)	1.65	.....
59F1796	15	7.5	P2 (03-09-2152)	2.60	.....

Without Mtg. Ears

Stk. No.	No. of Ckts.	Amps per Ckt.	Type	Price Per Pkg. Pkg. of 5	Price Per Pkg. Pkg. of 10
31F1030	1	12	P (03-09-2011)	.....	1.00
59F1802	2	12	P1 (03-09-2022)	.....	1.95
59F1803	3	12	P1 (03-09-2032)	.....	1.70
59F1804	4	9	P1 (03-09-2042)	.....	2.40
31F1038	5	9	P (03-09-2052)	1.40	.....
59F1805	6	9	P1 (03-09-2062)	1.55	.....
59F1806	9	9	P1 (03-09-2092)	1.65	.....
31F1044	12	7.5	P (03-09-2121)	1.65	.....
31F1046	15	7.5	P (03-09-2151)*	2.60	.....

*With Pull Tabs Only

With Holding Tabs

Stk. No.	No. of Ckts.	Amps per Ckt.	Type	Price Per Pkg. Pkg. of 5	Price Per Pkg. Pkg. of 10
31F1031	1	12	R (03-09-1011)	.....	.85
59F1797	2	12	R1 (03-09-1022)	.....	2.00
59F1798	3	12	R1 (03-09-1032)	.....	1.70
59F1799	4	9	R1 (02-09-1042)	.....	2.45
31F1052	5	9	R (03-09-1052)	1.75	.....
59F1800	6	9	R2 (03-09-1063)	1.60	.....
59F1801	9	9	R3 (03-09-1094)	1.70	.....

With Mtg. Ears & Hldg. Tabs

Stk. No.	No. of Ckts.	Amps per Ckt.	Type	Price Per Pkg. Pkg. of 5	Price Per Pkg. Pkg. of 10
31F1033	2	12	R (03-09-1021)	.....	2.00
31F1035	3	12	R (03-09-1031)	.....	1.70
31F1037	4	9	R (03-09-1041)	.....	2.45
31F1041	6	9	R (03-09-1061)	1.60	.....
31F1043	9	9	R (03-09-1091)	1.70	.....
31F1045	12	7.5	R (03-09-1121)	1.85	.....
31F1047	15	7.5	R (03-09-1151)	2.95	.....

STRAIN RELIEF (2 PCS. REQUIRED PER PLUG OR RECEPTACLE)

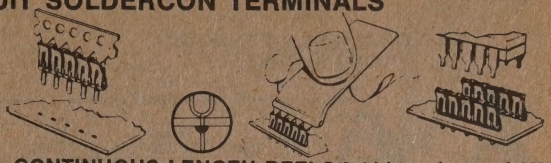
Stk. No.	Type	Used With	"A" I.D.	Price Per Pkg. of 10
59F1807	15-04-0201	15 cir. .062"	.230"	3.50
59F1808	15-04-0202	36 cir. .062"	.500"	3.75

IC, PC & Crimp Terminals

waldom

WALDOM INTEGRATED CIRCUIT SOLDERCON TERMINALS

Waldom 1938-4 Soldercon terminals advance the state of the art by providing manufacturers with the advantages of plug-in packages for connecting integrated circuits at affordable prices. Available in pre-cut strips to fit your exact I.C. requirements. Provide excellent electrical contact and sturdy mechanical support. Their use speeds assembly, testing and servicing. Gives new flexibility to your entire PC assembly. Standard material: 70/30 spring tempered tin plated brass—.010" thick. Available on special order: gold plated (over nickel) brass, or phosphor bronze.



SPECIFICATIONS

1. Height above board—.180".
2. Hole required.
   - A. Drilled—.032/.030 dia.
   - B. Punched—.032/.030 dia. with .037 diameter maximum breakout.
   - C. Plated through—.037/.029 diameter.
3. Minimum spacing—.100 on centers per row; .200 row spacing.
4. Insertion—1oz. minimum per terminal.
5. Withdraw—¾ oz. minimum per terminal.
6. Lead size range—.007"/.011" x .018"/.030".

CONTINUOUS LENGTH REELS Sold in packages of 1000.

Stock No.	Type No.	Contacts	Per Pkg.
30F325	05-30-0001	....	12.75

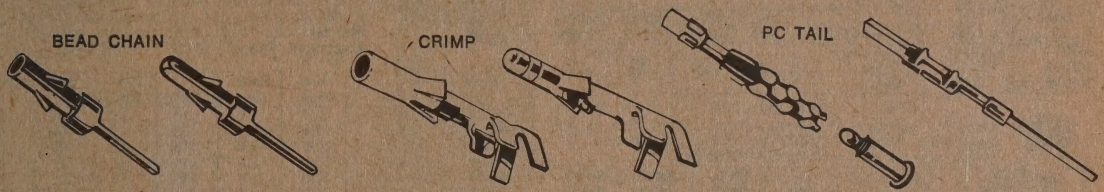
CUT TO LENGTH STRIPS Sold in packages of 50 except (†) 25.

30F332	05-30-0007	7	5.50
30F341	05-30-0008	8	5.90
30F337	05-30-0010	10	7.90
30F344	05-30-0012	12	9.50
30F335	05-30-0014†	14	5.55†

CARRIER BREAK-OFF TOOLS

Stock No.	Type No.	Contacts	Each
30F326	HT-2369-1	7-8	.90
30F333	HT-2369-2	10-12	1.15
30F340	HT-2369-3	14-18	1.25

WALDOM CRIMP & PC TERMINALS FOR NYLON CONNECTORS



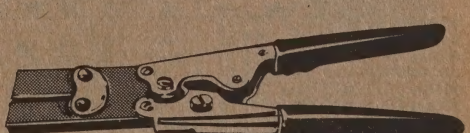
Waldom/Molex connectors are being designed into man's most exciting circuitry. They offer incomparable reliability, versatility and economy. UL and CSA recognized. Connectors are noted for their great flexibility. Provide a better mode of connection than soldering. Will withstand the toughest environment. Pin terminals can easily be removed individually from their housings for circuit changes at any time, and reinserted. Polarized housings.

Stock No.	Type No.	Type	Mating Dia."	Style	Wire Range	Crimp Tool	Per Pkg.*
31F1020	02-09-1103	F	.093	Crimp	18-14	HT-1919 & HTR-1031-C	4.20
31F1021	02-09-2103	M	.093	Crimp	18-14	HT-1919 & HTR-1031-C	4.20
31F1023	02-09-1118	F	.093	Crimp	24-18	HT-1919 & HTR-1031-C	4.20
31F1022	02-09-2118	M	.093	Crimp	24-18	HT-1919 & HTR-1031-C	4.20
31F1024	02-09-1143	F	.093	Crimp	30-22	HT-1921 & HTR-2262	4.20
31F1025	02-09-2143	M	.093	Crimp	30-22	HT-1921 & HTR-2262	4.20
43F741	02-09-1133	F	.093	PC Tail	....	...	3.25
43F742	02-09-2133	M	.093	PC Tail	....	...	3.25
30F327	02-08-1102	F	.093	Crimp	28-16	HT-1919 & HTR-1031-C	4.60
31F1027	02-06-1103	F	.062	Crimp	22-18	HT-1921 & HTR-2262	4.65
31F1026	02-06-2103	M	.062	Crimp	22-18	HT-1921 & HTR-2262	4.65
31F1029	02-06-1132	F	.062	Crimp	30-22	HT-1921 & HTR-2262	4.65
31F1028	02-06-2132	M	.062	Crimp	30-22	HT-1921 & HTR-2262	4.65
30F339	02-05-1105	F	.062	Crimp	22-18	HT-1921 & HTR-2262	4.00
30F328	M-93-102	F	.093	Bead Chain	....	...	1.80
30F329	R-93-12	M	.093	Bead Chain	....	...	1.80
30F342	R-93-31	M	.093	Bead Chain	....	...	1.80
30F336	M-118-95A	F	.093	Bead Chain	....	...	1.85
30F330	R-62-3	M	.062	Bead Chain	....	...	1.80
30F343	R-62-4	M	.062	Bead Chain	....	...	1.85
30F334	R-62-5	M	.062	Bead Chain	....	...	1.80

*Sold in packages of 100

TOOLING

For Crimping Pin Terminals



PROTOTYPE HAND TOOLS

Limited production runs. To select the proper crimping tool refer to Crimp Tool column above.

Stock No.	Type	Description	Each
31F1048	HT-1919	for .093" pin dia.	7.95
31F1049	HT-1921	for .062" pin dia.	7.95

PRODUCTION TOOLS

To select the proper crimping tool refer to Crimp Tool column above.

Stock No.	Type	Description	Each
30F331	HTR-1031-C	for .093" pin dia.	75.00
30F338	HTR-2262	for .062" pin dia.	75.00

Component Seals/Pilot Light Filters

HIGH PRESSURE SEALS FOR STANDARD TOGGLE SWITCHES

N-1030A

N-1030B

Size Chart

Type	Throat or I.D.	Height	Flats
N-1030	1/8"	7/8"	5/8"
N-1030A	7/32"	7/8"	5/8"
N-1030B	1/8"	27/64"	5/8"
N-5030	3/64"	7/16"	3/8"

Silicone rubber chemically and mechanically bonded to nut, make these boots impervious to salt water, acids, and ozone. Flexible from—160°F to +500°F. Meets MIL-B-5423. Pressure Range: 15 PSI Bush mtg. Wt. approx. 1 oz. per 5.

Stock No.	Type	Thread Size	Description	1-249	250-999	1000-3999	4000-9999
30F000	N1030	15/32-32	Enclosed	.91	.73	.62	.56
30F001	N1030A	15/32-32	Metal Cap	1.57	1.25	1.07	.96
30F002	N1030B	15/32-32	Open Top	.91	.73	.62	.56
30F011	N5030	¼-40	enclosed	1.29	.93	.83	.63

SNAPSEELS

Designed to make standard push-button, toggle, and rotary switches both water-tight and dust-proof. Material: Neoprene. Color: Black. Operating Temperatures:—40°F to +225 F. Bushing dia. for type 1211/5 & 1312/7: ⅜"; type 1111/4: 15/32". Push, toggle & rotary dia.: ¼".

Stock No.	Type	To Switch	1-999	1000-2999	3000-9999	10,000-19,999
30F097	1211/5	Push-button	.29	.26	.22	.19
30F098	1111/4	Toggle				
30F099	1312/7	Rotary				

HEXSEAL

Seats for locking type potentiometers and variable capacitors. Temp. Range: —160°F to +500°F. Shaft size: ¼". Thread size: ⅜-32". Ht. 17/32". Width ⅝".

Stock No.	Type No.	1-999	1000-2999	3000-9999	10,000-19,999
30F060	NLK-9030-¼	1.50	1.20	1.02	.92

HIGH PRESSURE SEALS

Designed for shafts which pass through panels or housings. Meets MIL-B-5423/9. For standard rotary switches. Wt. approx. 1 oz. per 5.

Stock No.	Type	Thread Size	Hex Size	1-249	250-999	1000-3999	4000-9999
30F013	N-9030-¼	⅜-32	½"	.75	.60	.51	.46
30F014	N-9040-⅛	¼-32	7/16"	.80	.64	.55	.49
30F015	N-9060-¼	15/32-32	¾"	1.39	1.02	.88	.73

BLADED POWER CONNECTORS

Type UP120M Miniature. Rated 125V, 15 amps to 250V, 10 amps. Meets MIL-C-3767/3. High impact glass-filled melamine insert. 2 parallel blades.
Type UP121M or UP221M. 3 blades gnd. Type MIL-C-3767/13.

Stock No.	Type	1-99	100-499	500-999	1000-2499
30F016	UP120M	1.41	1.36	1.23	1.10
30F017	UP121M, UP221M	1.53	1.47	1.33	1.19

HIGH PRESSURE SEALS FOR STANDARD PUSHBUTTON SWITCHES

N-3030
NH-3030

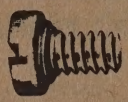
NC-3030

N-5040

4080 Series

*Dial light seal (trans.)
Meet MIL-B-5423. High pressure sealing is maintained by a gasket rib, which seats firmly against any panel surface to keep out moisture, dust, or combustible vapors. Temp. Range: —160° to +500°F

Stock No.	Type	Thread Size	Description	1-249	250-999	1000-3,999	4,000-9999
30F006	N-3030	15/32,32	Bush, Mtg.	.83	.66	.57	.51
30F007	NC-3030	15/32,32	Bush. Mtg.	.83	.66	.57	.51
30F008	NH-3030	½-32	Bush. Mtg.	.91	.73	.62	.56
30F009	4080	⅝-24	*	1.62	1.46	1.31	1.18
30F010	4082	15/32-32	*	1.62	1.46	1.31	1.18
30F012	N-50-40	¼-40	Bush. Mtg.	1.29	.93	.83	.63
30F065	N-5040G	¼-32	Bush. Mtg.	1.29	.93	.83	.63
30F066	N-5040R	¼-40	Bush. Mtg.	1.29	.93	.83	.63



SLOTTED PAN-HEAD SEELSCREWS

Single unit fasteners which form an absolute seal against any surface. Grooved under head and have a silicone rubber O-ring pressed into the groove. Maintain seal even after frequent removal from equipment. Range: —160°F to +500°F

Stock No.	Size	Head Depth	Head Dia.	1-199	200-999	1,000-3,999	4,000-14,999
30F018	S4/40x¼"	.069	.220	.16	.12	.09	.07
30F019	S4/40x⅜"	.069	.220	.16	.12	.09	.07
30F020	S4/40x½"	.069	.220	.16	.12	.09	.07
30F039	S4/40x1"	.069	.220	.19	.14	.11	.08
30F021	S6/32x¼"	.083	.271	.15	.11	.08	.07
30F022	S6/32x⅜"	.083	.271	.15	.11	.09	.07
30F023	S6/32x½"	.083	.271	.16	.12	.09	.07
30F040	S6/32x⅝"	.083	.271	.16	.12	.09	.07
30F042	S6/32x⅞"	.083	.271	.18	.13	.10	.08
30F043	S6/32x1"	.083	.271	.18	.14	.10	.08
30F024	S8/32x⅜"	.097	.323	.16	.12	.09	.07
30F025	S8/32x½"	.097	.323	.17	.13	.09	.08
30F044	S8/32x⅝"	.097	.323	.18	.13	.10	.08
30F045	S8/32x¾"	.097	.323	.18	.14	.10	.08
30F047	S8/32x1"	.097	.323	.20	.15	.11	.09
30F027	S10/32x⅜"	.113	.374	.18	.13	.10	.08
30F028	S10/32x½"	.113	.374	.19	.14	.10	.08
30F048	S10/32x⅝"	.113	.374	.20	.15	.11	.10
30F029	S10/32x¾"	.113	.374	.22	.16	.12	.10
30F051	S10/32x1"	.113	.374	.26	.19	.14	.12
30F030	S10/24x⅜"	.113	.374	.18	.13	.10	.08
30F055	S10/24x1"	.113	.374	.26	.19	.14	.12
30F056	S¼/20x¾"	.148	.493	.28	.21	.16	.12
30F033	S¼/20x½"	.148	.493	.29	.22	.16	.13
30F057	S¼/20x⅝"	.148	.493	.31	.23	.17	.14
30F058	S¼/20x⅞"	.148	.493	.36	.27	.20	.16
30F035	¼/20x1"	.148	.493	.39	.29	.22	.18
30F059	¼/20x1¼"	.148	.493	.43	.32	.24	.19

SILIKROME COLORED FILTERS FOR INCANDESCENT LAMPS

1813/2

1813/8

1813/14

1813/15

1813/27

Change colors of clear incandescent miniature lamps. Operate at 500° for 1000 hours without appreciable change in color. Temperature range: —160°F to 500°F. Resistant to environmental conditions. Mil. Spec. models available on special order.

Stock No.	Type	Color	Lamp Size	Overall Ht.	O.D.	1-199	200-999	1000-3999	4000-9999
30F805	1813/15-R5	Red	T-2	13/64"	9/32"	.22	.18	.14	.11
30F807	1813/15-B1	Blue	T-2	13/64"	9/32"				
30F806	1813/15-G1	Green	T-2	13/64"	9/32"				
30F808	1813/15-A2	Amber	T-2	13/64"	9/32"				
30F809	1813/20-R5	Red	T-2	27/64"	9/32"	.25	.20	.16	.13
30F811	1813/20-B1	Blue	T-2	27/64"	9/32"				
30F810	1813/20-G1	Green	T-2	27/64"	9/32"				
30F812	1813/20-A2	Amber	T-2	27/64"	9/32"				
30F801	1813/14-R-5	Red	T-2	13/64"	9/32"	.22	.18	.14	.11
30F803	1813/14-B-1	Blue	T-2	13/64"	9/32"				
30F802	1813/14-G-1	Green	T-2	13/64"	9/32"				
30F804	1813/14-A-2	Amber	T-2	13/64"	9/32"				

Stock No.	Type	Color	Lamp Size	Overall Ht.	O.D.	1-199	200-999	1000-3999	4000-9999
30F781	1813/2-R-2	Red	T-1¾	5/16"	¼"	.19	.15	.12	.10
30F793	1813/2-B-1	Blue	T-1¾	5/16"	¼"				
30F782	1813/2-G-1	Green	T-1¾	5/16"	¼"				
30F794	1813/2-A-2	Amber	T-1¾	5/16"	¼"				
30F795	1813/8-R-2	Red	T-3¼	11/16"	7/16"	.24	.19	.15	.12
30F786	1813/8-B-1	Blue	T-3¼	11/16"	7/16"				
30F788	1813/8-G-1	Green	T-3¼	11/16"	7/16"				
30F796	1813/8-A-2	Amber	T-3¼	11/16"	7/16"				
30F797	1813/27-R-5	Red	T-3¼	11/16"	7/16"	.24	.19	.15	.12
30F799	1813/27-B-1	Blue	T-3¼	11/16"	7/16"				
30F798	1813/27-G-1	Green	T-3¼	11/16"	7/16"				
30F800	1813/27-A-2	Amber	T-3¼	11/16"	7/16"				

ATTENTION INDUSTRIAL BUYERS
NEWARK carries complete lines of top quality electronic components.
Newark can supply all your needs.

Timers and Photo Controls

Intermatic

GENERAL PURPOSE TIMERS

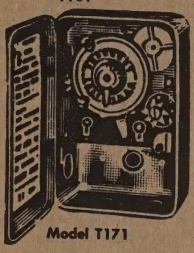
Model T101. Turns device on and off for any period over 1 hour . . . once every 24 hours. May be set up for more operations with additional tripper sets (below). Can be manually operated without upsetting automatic sequence. SPST switch. U-Beam blades, high-power switching mechanism, and tungsten rating of 40 amps to carry incandescent lighting loads. Size, 7¾"x5x3". For 125 V, 60 Hz AC. 3 lbs.
24F978. EACH **14.24**

Model T103. Same as above, but DPST.
24F977. EACH **15.77**
24F982. Set of extra trippers . . . . . **.33**

T101

7-DAY "SKIPPER" TIME SWITCHES

Model T171, T173, T175. Provides a program of operations for most commercial or industrial needs. For use where it is desired to skip operations on weekends or other selected days. Has 24-hour time dial and 7-day skipper dial. Small skipping screws are merely inserted into respective day holes for skipping operation. Contacts rated up to 40 amps per pole. 3 skipping screws, one cutout, one off tripper included. 125 VAC, 60 Hz. Drawn steel case, gray finish. 7¾x5x3". 3 lbs.



Model T171

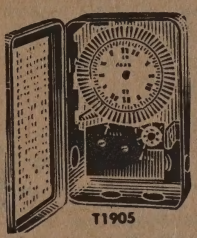
Model T173. DPST.
24F1890. EACH **20.81**
Model T175. SPDT.
24F1891. EACH **20.81**
Model T171. SPST.
24F1892. EACH **19.34**
Model P171-30. SPST portable unit with plug-in cord set. Rated 15 amps, 125 VAC.
24F1899 EACH **21.68**

T173, T175

PROGRAM TIME SWITCH

Type T1975. Provides up to 96 on and off operations in 15-minute steps every 24 hours! Ideal for devices requiring frequent control. Permanently attached trippers are spotted every 15 minutes around the dial . . . slide easily, and can't get lost. 20-amp. contacts can be set up for: SPST normally open or closed, or SPDT. Knockout box, 7¾"x5x3". For 125v, 60 hz. AC. 4 lbs. With "skipper" feature.

24F980. EACH **27.88**



T1905

TIME-ALL TIMERS

EA Series. The automatic way to turn lights on and off, discourage burglers, make appliances automatic. Low angle face for easy viewing. Color-coded on-off trippers. Outlet and 5-ft. cord at back. Minimum On time: ½ hour. Maximum On time: 22½ hours. 2 lbs.
24F2429. Model EA11. 1875 watts, 15 amps. Champagne white case; burl panel **8.64**

EA11

Model D111. Turns lights, radio, and TV on. Durable compact construction. Easy to read dial. Precision easy to set color coded trippers with 24 hour on/off timing and special manual control. UL listed. One year Warranty. 15 amps, 1875 watts. Cordless Plug-in.
24F263 NET **5.67**

D111

PHOTO CONTROL ON STEM

Series K1100. Adjustable stem permits mounting at almost any angle up to 80° (mount lens in northerly direction for best results). Relay type; CSA Listed. For 105-130 VAC, 50/60 Hz. Activation: 1-3 FC ON; 3-7 FC OFF. Three 8" color-coded leads. White epoxy. Size, 2½" w. x 5¾" h. Wt. ½ lb.
24F2418. Model K1111. 650 watts **13.31**
24F2419. Model K1121. 1500 watts **14.64**

K1111

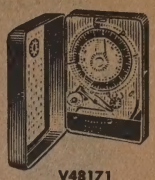
THERMAL PHOTO CONTROLS

Model K2011-9. Hermetically sealed in a die cast epoxy coated aluminum housing for humidity and weather protection. T-rated to carry incandescent loads to 3000 watts. Fail safe operation. Lighting load will remain "ON" if control circuit should fail. Equipped w/6" color coated leads. UL and CSA Listed. Face lens in northerly direction for best results.
24F247. 1800 watts. 105-130 volts **8.30**

K2011-9

SCHEDULER

Provides 1 to 288 short interval operations per day. Operates for periods of from 4-60 second durations of 5 min. intervals. Has skipper feature which allows signals to be omitted for any 12 or 24 hour period. Furnished with 9 skipper trippers, 8 advance warning and 24 signal trippers. For 120 VAC, 60 Hz. Size, 10⅞" x 7⅜" x 3⅝". Wt. 8½ lbs.
Model V48171. 1 Circuit, 24 hour.
43F042. EACH **87.71**
Model V49177. 2 Circuit, 24 hour
43F043. EACH **92.98**



V48171

SEVEN DAY PROGRAMMERS

Model V46401. Provides different programs for every day of the week. Up to 4 operations per day, with minimum of 3 hours between operations. 40 amp tungsten rated contacts. For 120 VAC, 60 Hz. Gray steel case, 10⅞" x 7⅜" x 3⅝". Shpg. wt., 6¼ lbs.
24F1897. 4PST switch **31.58**
Model V46107. Same as above, but with DPDT switch. Shpg. wt. 6½ lbs.
24F1898 . . . . . **31.58**

V4640

SUPERVISOR DELUXE

Ideal for control of background music, industrial process operations, heating systems. Periods of operation can be varied in multiples of 5 minutes. Repeats program every 24 hours and skips any days desired. Includes toggle switches for testing signal and cutting off automatic operations. Gray steel case 10⅞" x 7⅜" x 3⅝". 125 V, 60 Hz. AC. Weight 8½ lbs.
24F1893. Model V47171 One Circuit. **82.21**
24F1894. Model V47177 Two Circuit **87.71**

V47171

IN-WALL TIME SWITCH

Series E1000. Built-in wall switch and outlet timer. Automatic timing control of hall, ceiling, porch and outdoor lights. Small size (2x3x2") for installation into wall switch or electrical outlet box. Two grounded outlets: one timed, one continuous. Rated 12 amps. SPST; 1875 watts. 3¼x5⅛". 2 lbs.
24F2424 Model E1012. 24-hour dial divided in ½ hour increments with permanently attached On and Off tripper **12.31**
24F2425. Model E1022. Accommodates 12 On and Off trippers (2 sets included) **12.64**

E1022

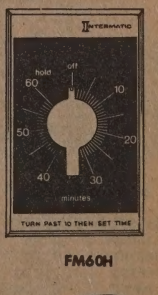
MULTIPLE PROGRAM TIMER

Model EB11. Multiple program trippers turn lights on and off automatically one or more times, repeat the cycle(s) every 24 hours. Rated 15 amps, 1875 watts at 125 VAC, 60 Hz. With 2 On and 2 Off trippers. 3x4¼x3⅝". 2 lbs.
24F2426 . . . . . **9.30**
24F2427. Extra set of trippers. (2 On and 2 Off)
NET EACH . . . . . **.50**

EB11

ENERGY SAVER SPRING WOUND SWITCH

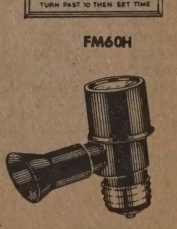
Single plate. Switch, single pole, single throw (SPST) "OFF" type-breaks circuit at end of timing cycle. Rated 1 H.P. at 125 V AC, 20 amps, 125V AC, 10 amps, 250V AC. Switch is open in "Off" position and closed in "Hold" or timing cycle positions. Ambient temperature range 40°F-120°F. UL and CSA Listed. Dimensions: width: 2¾", height: 4½", maximum depth 1 11/16".
24F248. F60MH. 0-60 Min. w/hold. **NET** **6.64**
24F249. F5M. 0-5 Min. **NET** **6.64**
24F258. F15M. 0-15 Min. **NET** **6.64**
24F259. F30M. 0-30 Min. **NET** **6.64**
24F260. F60M. 0-60 Min **NET** **6.64**
24F261. F12H. 0-12 Hrs. **NET** **6.97**



FM60H

THERMAL PHOTO CONTROL

Model K2211. "Lite-all" socket type for post light. Easy-to-install. Screws into standard medium base socket. Bulb or par light is then screwed directly into the photo control unit, no wiring necessary. With telescoping "eye" shield prevents lamp from reflecting into the "eye" of the photo control.
24F262. K2211. 150 watts. 105-130 volts . . . **6.30**



K2211

INDUSTRIAL TIMER
A UNIT OF ESTERLINE CORPORATION

Industrial Timer Controls

AUTOMATIC RESET TIME DELAY SERIES TDAB AND TDAF

TDAB

TDAF

Have SPDT switches rated 10 amps, 115 V, 60 Hz. TDAF, panel mount. TDAB, behind panel mount. Shpg. wt. 4 lbs. TDAB is UL approved.

BACK MOUNT

Stk. No.	Type
24F302	TDAB-15S
24F1811	TDAB-60S
24F1812	TDAB-15M
24F303	TDAB-30M
24F304	TDAB-60M
24F1871	Type K Steel Housing Enclosure for TDAB
Type TDAB	Each 46.00
Type K	Each 6.50

PANEL MOUNT

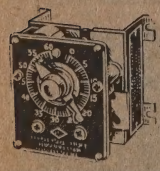
Stk. No.	Type	Time Cy.	Calibration
24F305	TDAF-6S	6 sec.	1/10 sec.
24F1806	TDAF-15S	15 sec.	¼ sec.
24F1807	TDAF-30S	30 sec.	½ sec.
24F1838	TDAF-60S	60 sec.	1 sec.
24F1808	TDAF-15M	15 min.	15 sec.
24F1809	TDAF-30M	30 min.	30 sec.
24F1839	TDAF-60M	60 min.	60 sec.
Type TDAF			Each 46.00

AUTOMATIC RESET SERIES TD AND CTD

Designed for "through the panel" mounting. 3" dia. extra strong bakelite case with terminals at rear. 115V. 60 Hz Wt. 1½ lbs. (*) 3½", (†) 5" depth. UL recognized C.S.A. approved.

Stock No.	Type No.	Time Cycle	Calibration
24F1851	TD-6S*	6 sec.	1/10 sec.
24F275	TD-15S*	15 sec.	¼ sec.
24F276	CTD-1M†	60 sec.	1 sec.
24F277	CTD-3M†	3 min	3 sec.
Type TD			Each 30.50
Type CTD			Each 35.00

AUTOMATIC RESET SERIES SF AND CSF



Designed for back of panel or chassis installation. 115V. 60 Hz. UL recognized C.S.A. approved. SF dimensions: 2¾ x 3 1/16 x 2⅝". CSF dimensions: 2¾ x 3 1/16 x 2 29/32".

Stock No.	Type No.	Time Cycle	Calibration
24F279	SF-6S	6 sec.	1/10 sec.
24F1853	SF-15S	15 sec.	¼ sec.
24F1854	SF-30S	30 sec.	½ sec.
24F280	CSF-1M	60 sec.	1 sec.
24F281	CSF-3M	3 min.	3 sec.
24F282	CSF-5M	5 min.	5 sec.
Type SF			Each 26.00
Type CSF			Each 28.00

AUTOMATIC RESET H AND CH SERIES

Designed for panel mounting. Four screws hold timer in place. Terminals at rear. 115V, 60 Hz. 3-9/16x3-7/16x (*) 3-11/16" (†) 3-7/8". UL recognized. C.S.A. approved. Shpg. wt. 1½ lbs.

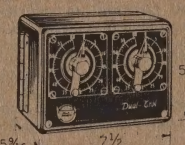
Stk. No.	Type	Time Cy	Calibration
24F1855	H-6S*	6 sec.	1/10 sec.
24F296	H-15S*	15 sec.	¼ sec.
24F1856	H-30S*	30 sec.	½ sec.
24F297	CH-1M†	60 sec.	1 sec.
24F298	CH-3M†	3 min.	3 sec.
24F299	CH-5M†	5 min.	5 sec.
Type H			Each 27.50
Type CH			Each 30.00

SERIES 90 DELAY TIMERS

Requires little or no field adjustments. No calibrated dial is supplied with it. Time cycle changed by offsetting one cam arm. Contacts are SPDT, 10 amps. Rated at 115/60. Dimensions: 2⅝x2¼x2¼". UL recognized and C.S.A. approved. Shpg. wt. 1 lb.

Stk. No.	Type	Time Cycle	Calibration
24F1843	90-6S	6 sec.	½ sec.
24F1844	90-15S	15 sec.	1½ sec.
24F1845	90-30S	30 sec.	3 sec.
24F1846	90-60S	60 sec.	6 sec.
24F1847	90-90S	90 sec.	9 sec.
Series 90			Each 18.50

SERIES "DUAL TROL" RECYCLING TIMERS

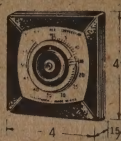


Dual-Trol is a compact recycling timer that continuously closes and opens a SPDT load switch. A complete unit consists of two TM timer modules-one to set the ON interval. Second to set the OFF interval-and a control cabinet. Any two modules from listing below may be used to achieve the desired combination of time cycles. TM modules are complete timing mechanisms with 4-prong plugs that match receptacles within cabinet, for easy installation. Isolated SPDT load switch connects to terminal strip within cabinet; switch is rated 10A non-inductive at 115 VAC. 115 VAC/60 hz. 5⅛×5 9/16×7½" Wt. 2 lbs.

TIMING ELEMENTS (2 REQUIRED)

Stock No.	Type	Max. Time	Min. Time
24F1861	TM-15S	15 sec.	¼ sec.
24F1862	TM-30S	30 sec.	½ sec.
24F1863	TM-60S	60 sec.	1 sec.
24F1864	TM-3M	3 min.	3 sec.
24F1865	TM-5M	5 min.	5 sec.
24F1866	TM-15M	15 min.	15 sec.
24F1867	TM-30M	30 min.	30 sec.
24F1868	TM-60M	60 min.	1 min.
24F1869	TM-3H	3 hours	3 min.
24F1870	DTH Cabinet	...	...
Type TM			Each 29.00
Cabinet			Each 47.00

NEW SERIES MPB AUTOMATIC RESET INTERVAL TIMER PANEL MOUNT



The Series MPB is an automatic reset, push-button operated interval timer. The MPB features an attractive bezel framed dial with time selector ring and start button combined into a single assembly.

Time interval indication is viewed by a moving white pointer located within the selector ring. Repeat accuracy is ±½ of 1% of full scale with a reset time of ½ second at maximum dial setting. **Mounting:** Mounted through a 3½" diameter hole and is secured to the panel with four screws. **Electrical Specifications: Load switch rating:** SPDT snap action, 15 amp. non-inductive at 125/250 VAC. **Motor Voltage:** 120 v, 60 Hz. **Terminations:** ¼" push-on terminals. **Dimensions:** 4" L x 2-15/32" D x 4-3/8" H. **Shipping Weight** 3 lbs.

TIME CYCLES AND PRICES

Stk. No.	Model	Min. Setting	Max. Setting	Key
24F1756	MPB-60S	1 sec.	60 sec.	A
24F1757	MPB-5M	5 sec.	5 min.	B
24F1758	MPB-15M	15 sec.	15 min.	B
24F1759	MPB-60M	1 min.	60 min.	B
24F1760	MPB-3H	3 min.	3 hours	B
Key A				Each 17.50
Key B				Each 19.50

AUTOMATIC RESET TIME DELAY TIMER MTD.

Timing cycle begins when power is applied to timer, motor; contacts transfer when progress indicator reaches zero point on timer dial. Operates from 115V, 60 Hz. SPDT contacts rated 10A/115V. Underwriters lab recognized.

Stock No.	Model No.	Max. Setting	Min. Setting
62F2036	MTD-15S	15 sec.	¼ sec.
62F2037	MTD-60S	60 sec.	1 sec.
62F2038	MTD-5M	5 min.	5 sec.
62F2039	MTD-60M	60 min.	1 min.
TYPE MTD			Each 42.00

SERIES ESC ELECTRONIC STOP CLOCK

- **Four Range Timing From 0 To 9999 Sec.**
- **0.3" Led Display With Red Filter**
- **Accuracy Typically 0.005%**
- **Operat. Temp.: 0°C To 70°C.**

The Series **ESC** digital electronic stop clock ulitizes a crystal time base and LSI CMOS circuitry. Moving decimal allows max. timing from 9.999 to 9999 sec. in four ranges: 9.999, 99.99, 999.9, 9999 sec. Pushbutton controls for start, stop, and reset are located on front panel. Remote start and reset receptacles and plugs provided. Wall or table mounting. Oper. voltage: 105-125 VAC, 50 or 60 Hz.

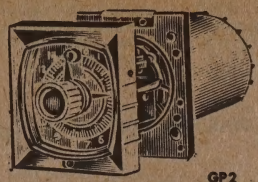
Stock No.	Type	Each
24F246	ESC	255.00

Make NEWARK Your One-Stop Source for All Your Industrial Electronic Needs

Industrial Timer Controls

INDUSTRIAL TIMER
A UNIT OF ESTERLINE CORPORATION

For applications where dependable one-unit timers are required. Feature positive adjustments automatic reset. These units are all manufactured to high standards of quality and will stand up under hard usage. Heavy-duty synchronous motors operate on 115 volts-60 hz. Type PAB and Type P contacts rated at 15 amps non-inductive load, all others 10 amps.


GP2

Series PC

SC-100

INSTANTANEOUS RESET PAB

Designed for process control where longevity and trouble-free operation is essential. Features automatic reset. In steel enclosure, 7⅛ x 5⅛ x 4¼". Two ½" knockouts for easy access to internal terminal strip. Shpg. wt., 6 lbs.

Stock No.	Type No.	Time Cycle	Calibration
24F283	PAB6S	6 sec.	1/10 second
24F1802	PAB3M	3 min.	3 seconds
24F1803	PAB15M	15 min.	15 seconds
24F1804	PAB30M	30 min.	30 seconds
24F1873	PAB60M	60 min.	60 seconds

PAB ..... **Each 60.00**

ECONOMY SERIES P

Low-cost timing units complete with AC line cord, built-in actuating start button and two receptacles on side of case for load and remote control circuits. 5 × 5 × 3¾". Shpg. wt., 3 lbs.

Stock No.	Type No.	Time Cycle	Calibration
24F269	P4R	15 sec.	¼ second
24F1813	P2R	30 sec.	½ second
24F256	P1M	60 sec.	1 second
24F274	P3M	3 min.	3 seconds
24F257	P5M	5 min.	5 seconds

Type P ..... **Each 44.00**

MANUAL RESET SERIES — "S"

Manual reset signaling timers are designed to command visual and audible attention when a time interval is completed. Sockets on side of timer provide for connection of additional lights, alarms or controlled circuits 115v 60 hz operation. 5 × 5 × 3⁹⁄₁₆". Wt., 3 lbs.

Stock No.	Type No.	Time Cycle	Calibration
24F1837	S-5M	5 min.	5 seconds
24F1814	S-15M	15 min.	15 seconds
24F1815	S-30M	30 min.	30 seconds
24F266	S-1H	1 hr.	1 minute
24F267	S-3H	3 hrs.	3 minutes

TYPE S ..... **Each 32.00**

SERIES GP2 PLUG-IN AUTOMATIC RESET DELAY/INTERNAL TIMER WITH SPIDER CLUTCH

The GP2 is an automatic reset, synchronous motor driven plug-in timing control and is completely interchangeable with all popular plug-in timers. In its primary function the timer provides two delayed sets of contacts and two sets of instantaneous contacts with rating of 10 amps. Non-inductive at 125/250 VAC. The patented Spider Clutch is a new and unique concept that incorporates the high accuracy of infinite engagement clutches with the mechanical integrity of toothed clutches. Accuracy ¼ of 1%. Reset time — less than ½ sec. for full scale. For 120 VAC 60 Hz. Wt. 2 lb. 7 oz.

Stock No.	Type	Max. Time Cyc.	Dial Cal.	EACH
62F1991	GP2-15S	15 sec.	¼ sec.	
62F1993	GP2-60S	60 sec.	1 sec.	
62F1995	GP2-5M	5 min.	5 sec.	53.00
62F1996	GP2-15M	15 min.	15 sec.	
62F1997	GP2-30M	30 min.	30 sec.	
62F1998	GP2-60M	60 min.	60 sec.	

PERCENTAGE TIMERS

Series PC. Calibrated in percentage of a given time delay. Designed to close an electrical circuit within any desired percentage of rated time cycle for timer. Knob for setting of "on" time from 3% to 97%, with 100% position for continuous circuit operation. Cam operated snap switch rated at 15 amps. 3⅝ dia. × 4¹¹⁄₁₆ deep. 115 V., AC. 60 hz. 12 oz.

Stock No.	Type	Time Cycle	EACH
24F244	PC-30S	30 seconds	33.00
24F245	PC-60S	60 seconds	

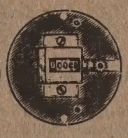
ELECTRIC STOP-CLOCK

Model SC-100. Provides functions of mechanical stopwatch with advantage of electrical control. Measures intervals from .01 to 60 seconds; ideal for research, time-and-motion study, sporting events. Remote-control provision permits start/stop with pushbutton on cord, etc.; reset with button unit or remotely with a series switch. Compound dial has 2 pointers measuring 1-60 sec. in 1-sec increments and .01-1 sec. in .01 sec increments respectively. Synchronous motor, automatic wear compensation. 115V 60 hz AC only. 5x5x4²⁵⁄₃₂". Shpg. wt. 5 lbs.

24F300 ..... **Each 72.00**

ELAPSED TIME METERS

Type C-2


Type C-4

Type C-5

Provide exact record of operating hours of AC machines and appliances. Longlife synchronous self-lubricating motors, connected to counters. Series C-2A enclosed in a 3½" bakelite meter case; requires a 2⅞" diameter hole in panel for mounting. Series C-5 is resettable to zero, has a ¾" square flange and requires a 2¾" diameter mounting hole. Series C-4 open type 2½" round flange. 2" diam. mtg. holes. All 115 V 60 hz except C-2* which is 230 volts. Shpg. wt., 1 lb. Max. no. of minutes.

Stk. No.	Type	Max. Hrs.	Calib.	EACH
55F670	C-2	10,000	1/10 hr.	24.00
55F671	C-2*	10,000	1/10 hr.	26.50
55F680	C-5	10,000	1/10 hr.	46.00
24F1817	C-4	10,000	1/10 hr.	20.00

SIGNALLING TIMER—AUTOMATIC RESET SERIES SAR

Provides an audible signal at the end of a pre-set time cycle. Load receptacles are provided on the side of the case for either a load to be operated during the time cycle or at the end of the time cycle. Toggle switch on front of unit. SPDT switching action. SPDT contacts rated at 10 amps. 115 volt 60 hz. Shipping weight: 3 lbs.

Stock No.	Type	Time Cycle	Calibration	EACH
24F344	SAR-5M	5 min.	5 sec.	
24F345	SAR-15M	15 min.	15 sec.	
24F346	SAR-30M	30 min.	30 sec.	49.00
24F347	SAR-1H	1 hr.	1 min.	
24F348	SAR-3H	3 hr.	3 min.	

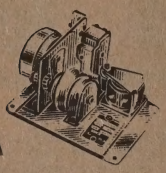
LARGE QUANTITY PRICES AVAILABLE UPON REQUEST
CONTACT YOUR NEAREST NEWARK BRANCH

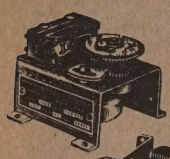
INDUSTRIAL TIMER
A UNIT OF ESTERLINE CORPORATION

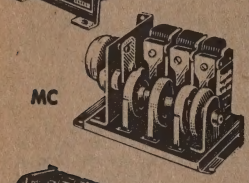
Industrial Timer Controls

HOW TO ORDER CAM TIMERS

Locate desired time cycle duration in "Gear Assemblies" chart below, order gear-and-rack assembly listed in left-hand column. Appropriate foundation (motor-switch) units appear at top of "Time Cycle" columns. Example: 4 circuits are to be controlled, with a 30-second time cycle, recycling. Order gear-and-rack assembly. A12, stk. no. 24F315, and note that foundation unit MC2 is required. At bottom of page, locate MC2 under heading "4 SWITCH CHASSIS". Order stk. no. 62F2010. U/L & CSA approved.


RA


CM


MC

RC

GEAR ASSEMBLIES—TOTAL TIME CYCLE*

Stock No.	Mfrs. Type	CMO	MC1 CM1 RC1	CM2 MC2 RC2	CM3 MC3 RC3	CM4 MC4 RC4	CM5 RC5 MC5	CM6 MC6 RC6	CM7 MC7 RC7	CM8 MC8 RC8	CM9 MC9 RC9	CM10 MC10 RC10	CM12 MC12 RC12	NET
24F306	E12	40c	4S	10S	20S	40S	2M	3M20S	10M	20M	40M	2H	8H	
24F307	E15	50c	5S	12.5S	25S	50S	2M30S	4M10S	12M30S	25M	50M	2H30M	10H	
24F308	C12	1S	6S	15S	30S	60S	3M	5M	15M	30M	60M	3H	12H	
24F309	C14	70c	7S	17.5S	35S	70S	3M30S	5M50S	17M30S	35M	70M	3H30M	14H	
24F310	C15	75c	7.5S	18.75S	37.5S	75S	3M45S	6M15S	18M45S	37M30S	75M	3H45M	15H	
24F311	B12	80c	8S	20S	40S	80S	4M	6M40S	20M	40M	80M	4H	16H	
24F312	C18	90c	9S	22.5S	45S	90S	4M30S	7M30S	22M30S	45M	90M	4H30M	18H	
24F313	B15	100c	10S	25S	50S	100S	5M	8M20S	25M	50M	100M	5H	20H	
24F314	C22	110c	11S	27.5S	55S	110S	5M30S	9M10S	27M30S	55M	110M	5H30M	22H	
24F315	A12	2S	12S	30S	60S	2M	6M	10M	30M	60M	2H	6H	24H	
24F316	C26	2S10c	13S	32.5S	65S	130S	6M30S	10M50S	32M30S	65M	2H10M	6H30M	26H	
24F317	A14	2S20c	14S	35S	70S	140S	7M	11M40S	35M	70M	2H20M	7H	28H	
24F318	A15	2S30c	15S	37.5S	75S	150S	12M30S	12M30S	37M30S	75M	2H30M	7H30M	30H	2.00
24F319	A16	2S40c	16S	40S	80S	160S	8M	13M20S	40M	80M	2H40M	8H	32H	
24F320	G34	2S50c	17S	42.5S	85S	170S	8M30S	14M10S	42M30S	85M	2H50M	8H30M	34H	
24F321	A18	3S	18S	45S	90S	3M	9M	15M	45M	90M	3H	9H	36H	
24F322	A20	3S20c	20S	50S	100S	200S	10M	16M40S	50M	100M	3H20M	10H	40H	
24F323	A22	3S40c	22S	55S	110S	220S	11M	18M20S	55M	110M	3H40M	11H	44H	
24F324	A24	4S	24S	60S	2M	4M	12M	20M	60M	2H	4H	12H	48H	
24F325	A26	4S20c	26S	65S	130S	260S	13M	21M40S	65M	2H10M	4H20M	13H	52H	
24F326	A28	4S40c	28S	70S	140S	280S	14M	23M20S	70M	2H20M	4H40M	14H	56H	
24F327	A30	5S	30S	75S	150S	5M	15M	25M	75M	2H30M	5H	15H	60H	
24F328	A32	5S20c	32S	80S	160S	320S	16M	26M40S	80M	2H40M	5H20M	16H	64H	
24F329	A34	5S40c	34S	85S	170S	340S	17M	28M20S	85M	2H50M	5H40M	17H	68H	
24F330	A36	6S	36S	90S	3M	6M	18M	30M	90M	3H	6H	18H	72H	

*c=cycles (refers to 60 cps current; e.g. 50 c=5/6 sec), S=seconds, M=minutes, H=hours.

SERIES RA SINGLE-CAM SINGLE-CYCLE TIMER

Performs a single electrical cycle upon momentary actuation from a remote position. 115V 60 Hz. Order with any gear assembly (above) for time cycles from 2 to 18 minutes. Wt., 1 lb.

RA5 Single-cam timer
62F2000. NET 32.00

SERIES CM SINGLE-CAM RECYCLING TIMER

Snap action totally-enclosed, dustproof SPDT switch. Rated 10A-115V, 10A-220V, non-inductive AC, Cam and gear train interchangeable for longer or shorter time cycle, attach to motor chassis by single 6-32 screw. Can be set so switch is actuated from 2% to 98% of total time cycle; each cycle automatically repeats until power is turned off. 3-1/16x2-13/16x2¼". 115 volts 60 Hz operation. Order motor switch chassis covering required time range, and gear assemblies for specific time cycles. Wt., 1 lb.

Stock No.	Type	Stock No.	Type	Each
24F1827	CM0	24F1829	CM3	22.50
24F1828	CM1	24F250	CM4	
24F268	CM2	24F251	CM5	

Stock No.	Type	Stock No.	Type	Each
24F252	CM6	24F1820	CM9	22.50
24F1819	CM7	24F254	CM10	
24F253	CM8	24F255	CM12	

SERIES MC MULTI-CAM RECYCLING TIMER

Recycling type identical in operation to CM timer but with multiple cams to operate more than one switch. The cams are mounted on a single driving shaft, coupled to the motor by a gear and rack assembly (see gear assembly chart above). Cams can be adjusted in any combination of timed sequences. Each cam is individually adjustable from 2 to 98% of the total time cycle. Order Motor-Switch chassis plus any gear assembly to achieve required time cycle. For 115 v.-60 Hz.

SERIES RC SINGLE CYCLE MULTI-CAM TIMER

Similar to MC series, except operates one cycle only. See "How to Order," above. For 115VAC, 60 HZ.

2 SWITCH CHASSIS

Stk. No.	Type	Stk. No.	Type	Each
...	...	62F2052	MC6	37.00
62F2050	MC1	62F2053	MC7	
62F2002	MC2	62F2054	MC8	
62F2051	MC3	62F2055	MC9	
62F2005	MC4	62F2056	MC10	
62F2006	MC5	62F2057	MC12	
...	...	62F2061	RC6	53.00
62F2004	RC1	62F2062	RC7	
62F2007	RC2	62F2008	RC8	
62F2058	RC3	62F2063	RC9	
62F2059	RC4	62F2064	RC10	
62F2060	RC5	62F2065	RC12	

4 SWITCH CHASSIS

Stk. No.	Type	Stk. No.	Type	Each
...	...	62F2068	MC6	55.00
62F2066	MC1	62F2069	MC7	
62F2010	MC2	62F2070	MC8	
62F2067	MC3	62F2071	MC9	
62F2013	MC4	62F2072	MC10	
62F2014	MC5	62F2073	MC12	
...	...	62F2077	RC6	71.00
62F2012	RC1	62F2078	RC7	
62F2015	RC2	62F2016	RC8	
62F2074	RC3	62F2079	RC9	
62F2075	RC4	62F2080	RC10	
62F2076	RC5	62F2081	RC12	

6 SWITCH CHASSIS

Stk. No.	Type	Stk. NO.	Type	Each
...	...	62F2084	MC6	71.00
62F2082	MC1	62F2085	MC7	
62F2018	MC2	62F2086	MC8	
62F2083	MC3	62F2087	MC9	
62F2021	MC4	62F2088	MC10	
62F2022	MC5	62F2089	MC12	
...	...	62F2093	RC6	89.00
62F2020	RC1	62F2094	RC7	
62F2023	RC2	62F2024	RC8	
62F2090	RC3	62F2095	RC9	
62F2091	RC4	62F2096	RC10	
62F2092	RC5	62F2097	RC12	

8 SWITCH CHASSIS

Stock No.	Type	Each
...	...	89.00
62F2098	MC1	
62F2026	MC2	
62F2099	MC3	
62F2029	MC4	
62F2030	MC5	
62F2100	MC6	
62F2101	MC7	

Stock No.	Type	Each
62F2102	MC8	89.00
62F2103	MC9	
62F2104	MC10	
62F2105	MC12	
...	...	107.00
62F2028	RC1	
62F2110	RC2	
62F2106	RC3	

Stock No.	Type	Each
62F2107	RC4	107.00
62F2108	RC5	
62F2109	RC6	
62F2031	RC7	
62F2032	RC8	
62F2111	RC9	
62F2112	RC10	
62F2113	RC12	

You Can Depend on NEWARK for Everything in Industrial Electronics

Timers and Time Delays

635 AND 636 ELAPSED TIME INDICATORS

Type 635. Compact, non-resettable indicators with 1" diameter number wheels for excellent readability. Quick stop and start induction motor. Six-digit register. **Type 636.** Similar to 635, but has unique pushbutton reset with no danger of overshoot; 5-digit register. For 115 VAC, 60 Hz. Case Styles: E has 3½" round bezel; S has 3½" square bezel; G is utility type with 2½" round bezel; X is 2½" round bezel; Y, 2½" square bezel; K, utility type with 2½" square bezel. 3½" units mount in 2.82" dia. panel cutout; 2½" units mount in 2.22" cutout.

TYPE 635 SIX-DIGIT

Stock No.	Type	Case Style	Total Count	1-9	10-24	25-49	50-99
55F4396	10052	E	999,999 minutes	18.00	17.10	16.20	15.30
55F4397	10053	E	99,999.9 minutes				
55F4398	10054	E	999,999 hours				
55F4399	10055	E	99,999.9 hours				
55F3140	10060	S	999,999 minutes				
55F3141	10061	S	99,999.9 minutes				
55F3142	10062	S	999,999 hours				
55F3143	10063	S	99,999.9 hours				
55F3145	10068	G	999,999 minutes	13.50	12.83	12.15	11.48
55F3146	10069	G	99,999.9 minutes				
55F3147	10070	G	999,999 hours				
55F3148	10071	G	99,999.9 hours				
55F3802	10183	K	999,999 minutes	13.50	12.83	12.15	11.48
55F3803	10184	K	99,999.9 minutes				
55F3804	10185	K	999,999 hours				
55F3805	10186	K	99,999.9 hours				

TYPE 636 FIVE-DIGIT

Stock No.	Type	Case Style	Total Count	1-9	10-24	25-49	50-99
55F4444	10072	X	9,999.9 seconds	31.75	30.16	28.58	26.99
55F4447	10074	X	9,999.9 minutes				
55F4450	10075	X	9,999.9 hours				
55F4460	10076	E	9,999.9 seconds				
55F4463	10078	E	9,999.9 minutes				
55F4466	10079	E	9,999.9 hours				
55F4452	10080	Y	9,999.9 seconds				
55F4455	10082	Y	9,999.9 minutes				
55F4458	10083	Y	9,999.9 hours				
55F4468	10084	S	9,999.9 seconds				
55F4471	10086	S	9,999.9 minutes				
55F4474	10087	S	9,999.9 hours				

TYPE 241 AUTOMATIC RESET INTERVAL TIMER

- **High Visibility 300° Dial**
- **Silver-Cadmium Load Contacts**
- **Repeat Accuracy: ±0.25%**

Start button integral with setting knob turns on load and starts timer. SPDT contacts rated 15 amps at 115 VAC, 60 Hz; 10 amps at 250V, non-inductive. Repeat accuracy: ±0.25% except 15 second time range ±0.5%. Three-hole mounting on 1.687" radius. Silver-cadmium oxide snap-action load contacts. High visibility dial with 300° scale. 115 VAC.

Stk. No.	Type	Time Range	Calibration	1-9	10-24	25-49	50-99
55F351	10000	60 seconds	1 second	37.00	35.15	33.30	31.45
35F3800	10001	5 minutes	5 seconds				
55F352	10002	15 minutes	15 seconds				
55F378	20001	30 minutes	30 seconds				
55F353	10003	60 minutes	1 minute				
35F3801	10004	5 hours	5 minutes				
55F4476	10005	24 hours	30 minutes				

MAKE NEWARK YOUR SOURCE FOR ALL CRAMER TIMERS

RESET AND CYCLE TIMERS

360

561

SERIES 402 PLUG-IN RESET TIMER WITH PILOT LIGHT

Accurate, adjustable interval or timing delay between operation of a control circuit and closing of load circuits. Repeat accuracy: ±0.4%. Motor voltage: 115 VAC, 60 Hz. Power input: motor 3.0 watts, clutch 5 watts. Snap-action SPDT switches rated 10 amps res. Size, 3⅞" sq. x 4⅝" deep.

Stock No.	Type	Time Range	1-9	10-24	25-49	50-99
35F3806	10006	6 seconds	58.25	55.34	52.43	49.51
35F3807	20002	15 seconds				
35F3808	10007	30 seconds				
35F3809	10008	60 seconds				
35F3810	10009	5 minutes				
35F3811	10010	60 minutes				
35F3812	10011	5 hours				

SERIES 360 LOW-COST RESET TIMER

Adjusts easily by moving arm around notched dial. Interval or delay timing, without external relay. Slip clutch. Repeat accuracy: ±0.75%. Motor voltage: 115 VAC, 60 Hz. SPDT switches rated 10 amps res. Size, 3.312 x 2.750 x 2 1/16".

35F3813	10175	5.5 seconds	21.25	20.19	19.12	18.06
35F3814	10176	15 seconds				
35F3815	10177	60 seconds				
35F3816	10178	5.25 minutes				

SERIES 561 PERCENTAGE CYCLE TIMER

Fully adjustable, continuous repeating. On or off time may be set at any portion of total cycle between 4% and 96%. Repeat accuracy within 1%. Load switch rated 20 amps at 115/220 VAC, resistive, 50/60 Hz. 3.750" dia. x 3.093" behind panel.

Stk. No.	Type	Time Range	1-9	10-24	25-49	50-99
35F3817	10179	15 seconds	31.75	30.16	28.58	26.99
35F3818	10180	30 seconds				
35F3819	10181	60 seconds				
35F3820	10182	5 minutes				

SERIES 3800 SOLID STATE TIME DELAY RELAYS

Compact, adjustable timer plugs into octal socket. Solid state timing circuit activates DPDT relay output contacts at end of set time, resets when control power is removed. Repeat accuracy: within 2%. Recycle time: 150 msec nom. Contacts: 10A with resistive load. 115 VAC, 50/60 Hz.

Stk. No.	Type	Time Range	1-9	10-24	25-49	50-99
35F3821	10097	1 second	25.50	24.23	22.95	21.68
35F3822	10098	10 seconds				
35F3823	10099	30 seconds				
35F3824	10100	60 seconds				
35F3825	10101	5 minutes				

SERIES 3801 SOLID STATE INTERVAL TIMER

Provides control of load during timed interval. Application of momentary start signal transfers load contacts and initiates timing. Contacts retransfer and timer resets automatically at end of set time. 11-pin plug-in base. Repeat accuracy within 2%. Recycle: 50 msec nom. DPDT contacts; 10 amps resis. 115 VAC, 50/60 Hz.

35F3826	10194	1 second	29.75	28.26	26.78	25.29
35F3827	10195	10 seconds				
35F3828	10196	30 seconds				
35F3829	10197	60 seconds				
35F3830	10198	5 minutes				

SERIES 3810 SOLID STATE TIME DELAY RELAY

Bracket mount, low-cost delay relay. Sustained control signal initiates timing; contacts transfer at end of delay and timer resets upon removal of control voltage. Repeat accuracy: ±4%. Recycle time: 150 msec nom. DPDT contacts rated 10 amps resis. 3.312x2.750x2.125". 115 VAC, 50/60 Hz.

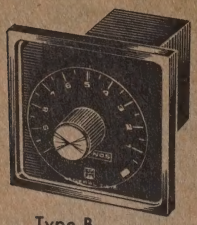
Stk. No.	Type	Time Range	1-9	10-24	25-49	50-99
55F1900	10102	1 second	25.50	24.23	22.95	21.68
55F1901	10103	10 seconds				
55F1902	10104	30 seconds				
55F1903	10105	60 seconds				
55F1904	10106	5 minutes				

SERIES 3811 SOLID STATE INTERVAL TIMER

Bracket mount. Provides control of load during timed interval. Application of momentary start signal transfers load contacts and initiates timing. Repeat accuracy within 4%. Recycle: 50 msec nom. DPDT contacts, 10 amps res. For 115 VAC, 50/60 Hz.

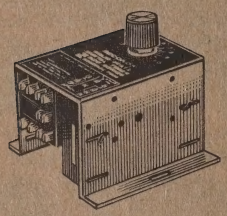
35F3831	10199	1 second	29.75	28.26	26.78	25.29
35F3832	10200	10 seconds				
35F3833	10201	30 seconds				
35F3834	10202	60 seconds				
35F3835	10203	5 minutes				

DIGITAL ELECTRONIC TIMERS, SERIES Q-20



Type B

Type A



Type C

Provides typical repeat accuracy of ±0.5% in all time ranges, including those as long as 60 minutes. Operate over an input voltage range of ±12.5% of nominal voltage. Life expectancy is limited only by the output relay which has a forecast mechanical life of over 10 million operations, and a full load life expectancy of 100,000 operations. Operation is possible at settings as low as 10% of maximum time setting. Electronic latch prevents false energization due to transients and unwanted feedback. Heavy duty contacts switch high loads such as ⅛ hp motors or 1¹ KVA heating elements. Type numbers in which the Q20 is followed by an **A** are of the plug-in configuration to be used with a spade-terminal-type socket. **B** indicates a panel mount configuration, and **C** indicates a chassis mount package. **On Delay** types begin timing operations as soon as power is applied. **Interval** and **Off Delay** types require an external switch for initiation of operation. 117VAC, 50/60 Hz.

ON DELAY

Stk. No.	Type	Max. Time Set	1-4	5-9	10-24
57F3800	Q20-A-01-A-2-A	1 sec	25.10	23.80	22.55
57F3801	Q20-A-05-A-2-A	5 sec			
57F3802	Q20-A-15-A-2-A	15 sec			
57F3803	Q20-A-60-A-2-A	60 sec			
57F3804	Q20-A-65-A-2-A	5 min			
57F3805	Q20-A-75-A-2-A	15 min	25.80	24.50	23.50
57F3806	Q20-A-77-A-2-A	60 min			
57F3807	Q20-B-01-A-2-A	1 sec	31.35	29.80	28.25
57F3808	Q20-B-10-A-2-A	10 sec			
57F3809	Q20-B-60-A-2-A	1 min			
57F3810	Q20-B-70-A-2-A	10 min			
57F3811	Q20-B-77-A-2-A	60 min	**32.05**	**30.50**	**28.95**
57F3812	Q20-C-03-A-2-A	3 sec	23.20	22.05	20.90
57F3813	Q20-C-10-A-2-A	10 sec			
57F3814	Q20-C-30-A-2-A	30 sec			
57F3815	Q20-C-63-A-2-A	3 min			
57F3816	Q20-C-70-A-2-A	10 min			
57F3817	Q20-C-76-A-2-A	30 min	**23.90**	**22.75**	**21.60**

INTERVAL

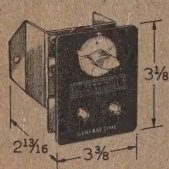
Stk. No.	Type	Max. Time Set	1-4	5-9	10-24
57F3818	Q20-A-01-B-2-A	1 sec	25.10	23.80	22.55
57F3819	Q20-A-10-B-2-A	10 sec			
57F3820	Q20-A-60-B-2-A	60 sec			
57F3821	Q20-A-70-B-2-A	10 min			
57F3822	Q20-A-77-B-2-A	60 min	**25.80**	**24.50**	**23.50**
57F3823	Q20-B-03-B-2-A	3 sec	31.35	29.80	28.25
57F3824	Q20-B-10-B-2-A	10 sec			
57F3825	Q20-B-30-B-2-A	30 sec			
57F3826	Q20-B-63-B-2-A	3 min			
57F3827	Q20-B-70-B-2-A	10 min			
57F3828	Q20-B-76-B-2-A	30 min	**32.05**	**30.50**	**28.95**
57F3829	Q20-C-01-B-2-A	1 sec	23.20	22.05	20.90
57F3830	Q20-C-05-B-2-A	5 sec			
57F3831	Q20-C-15-B-2-A	15 sec			
57F3832	Q20-C-60-B-2-A	60 sec			
57F3833	Q20-C-65-B-2-A	5 min			
57F3834	Q20-C-75-B-2-A	15 min	23.90	22.75	21.60
57F3835	Q20-C-77-B-2-A	60 min			

OFF DELAY

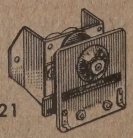
Stk. No.	Type	Max. Time Set	1-4	5-9	10-24
57F3836	Q20-A-01-C-2-A	1 sec	25.10	23.80	22.55
57F3837	Q20-A-15-C-2-A	15 sec			
57F3838	Q20-A-65-C-2-A	5 min			
57F3839	Q20-A-77-C-2-A	60 min	**25.80**	**24.50**	**23.50**
57F3840	Q20-B-03-C-2-A	3 sec	**31.35**	**29.80**	**28.25**
57F3841	Q20-B-60-C-2-A	60 sec	**31.35**	**29.80**	**28.25**
57F3842	Q20-B-76-C-2-A	30 min	**32.05**	**30.50**	**28.95**
57F3843	Q20-C-03-C-2-A	3 sec	23.20	22.05	20.90
57F3844	Q20-C-60-C-2-A	60 sec			
57F3845	Q20-C-76-C-2-A	30 min	**23.50**	**22.75**	**21.60**

Uses P & B Socket #27R043 (9KU1).

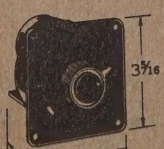
SERIES DA11 AND DA21 RESET TIMERS



DA11



DA21



DP11

Type DA11. For use where delay, interval, or repeat cycle time functions are required for adjustable time periods. Repeat cycle requires two units. Resets to start when power removed. Manual knob adjustment. Rear mounted. SPDT switch, 20 Amps. Solder lug terminals. 5 watt motor. Repeat Acc: ±¾%. Min. Time Setting: 0 sec. UL recognized. CSA listed. 3⅜x3⅛x2¹³⁄₁₆". Shpg. wt.: 1 lb. **DA21.** Same as DA11 exc. locknut adjustment. UL recognized, CSA listed. Use with external relay.

120 VOLTS AC

Maximum Setting	Reset	DA11 Stk. No.	DA11 Type	DA21 Stk. No.	DA21 Type	1-4	5-9	10-24	25-49
5.7 Sec.	.25 Sec.	**54F000**	DA11-036			23.40	22.25	21.10	19.90
14 Sec.	1.0 Sec.	**54F001**	DA11-031	**54F006**	DA21-001				
57 Sec.	1.5 Sec.	**54F002**	DA11-032	**54F007**	DA21-002				
4.5 Min.	15 Sec.	**54F004**	DA11-033	**54F009**	DA21-003				
9.5 Min.	120 Sec.	**54F005**	DA11-034	**54F010**	DA21-004				

240 VOLTS AC

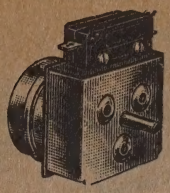
57 Sec.	1.5 Sec.	**54F076**	DA11-032			25.95	24.65	23.35	22.05
4.5 Min.	15 Sec.	**54F078**	DA11-033						
9.5 Min.	120 Sec.	**54F079**	DA11-034						

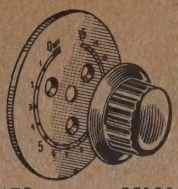
SERIES DP11 PANEL MOUNT RESET TIMERS

Apply wherever delay, interval, or repeat cycle timing (requires two timers) are needed. Simple pointer knob for timing adjustment. Reset to start position when power is removed. Time elapse readout in center of adjustment knob. SPDT switch, 10 amps, 5 watt timing motor, 120 VAC 60 Hz. Repeat accuracy, +1% of total time. Screw term. Size: 3⁹⁄₁₆ sq. x 3³⁹⁄₃₂" depth. Requires 3⁹⁄₁₆" dia. mounting hole. Use with external relay.

Stk. No.	Type DP11-	Time Setting Max	Time Setting Min.	Maximum Reset Time	Dial Grads. Maj.	Dial Grads. Min.	1-4	5-9	10-24	25-49
54F072	007	6 Sec.	0.3 Sec.	.5 Sec.	1 Sec.	1 Sec.	28.80	27.35	25.90	24.50
54F011	001	15 Sec.	0.8 Sec.	1.0 Sec.	1 Sec.	.2 Sec.				
54F012	006	30 Sec.	1.5 Sec.	1.5 Sec.	5 Sec.	.5 Sec.				
54F013	002	60 Sec.	3.0 Sec.	1.5 Sec.	10 Sec.	1 Sec.				
54F015	003	5 Min.	0.2 Sec.	15 Sec.	1 Min.	.1 Min.				
54F016	004	10 Min.	0.4 Sec.	120 Sec.	1 Min.	.2 Min.				

SERIES A HAND SET INTERVAL TIMER





Type AB51. Rotation energizes load and timing motor. On release motor drives timer to zero; motor and load then energized. Setting changeable during cycle without damage. Behind panel mount: 3, .180 dia. tapped holes on .562 R. Setting shaft: ¼" dia., flattened to .156 for ½". Flat located 180° from "0" time. SPDT switch rated 25 amps. 125/250 VAC resistive. Spade terminals. Motor 120 VAC, 60 Hz. Size: 2¼" x 3⁹⁄₁₆" x 3". Weight: 1 lb. UL recognized. CSA listed.

Stock No.	Type	Time Range	1-4	5-9	10-24	25-49
54F145	AB51-001	1 Min.				
54F146	AB51-002	6 Min.				
54F147	AB51-003	15 Min.				
54F148	AB51-004	30 Min.				
54F149	AB51-005	60 Min.	10.65	10.10	9.60	9.05
54F150	AB51-006	2 Hrs.				
54F151	AB51-007	6 Hrs.				
54F152	AB51-008	8 Hrs.				
54F153	AB51-010	12 Hrs.				
54F154	AB51-016	24 Hrs.				

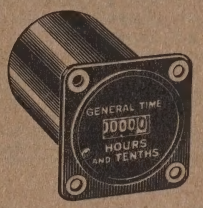
Type 55121. Knob for Series A Timers. NET 40

AB51 AT5- 55121

Stock No.	Type	Dial Face	Net Each
54F159	AT5-901	3 Hrs.	
54F155	AT5-901	1 Min. or 1 Hr.	
54F157	AT5-901	15 Min.	
54F164	AT5-901	24 Hrs.	
54F161	AT5-901	6 Min. or 6 Hrs.	1.40
54F162	AT5-901	8 Hrs.	
54F163	AT5-901	12 Hrs.	
54F158	AT5-901	30 Min.	
54F160	AT5-901	2 Hrs.	

SERIES BN ADJUSTABLE RESET TIMERS

Rear mounting delay timer has built-in relay and adjustable time range. Dial and setting knob with readout of elapsed time by pointer in center of knob. SPDT relay rated 10 amps at 125/250 VAC. Repeat accuracy, ¾ of 1% of total time range. Locknut setting adjustment, where only occasional time period changes are required. UL Recognized. Size: 3.375" W x 4.202"H x 3.750" D.

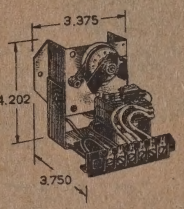


BN22

Stock No.	Type	Time Setting Max.	Time Setting Min.	Max. Reset Time	Dial Grads. Major	Dial Grads. Minor	NET EACH 1-4	5-9	10-24	25-49
54F131	BN22-001	13.5 sec.	0.7 sec.	0.5 sec.	1 sec.	.5 sec.	31.95	30.35	28.75	27.15
54F134	BN22-004	9.5 min.	30 min.	120 sec.	1 min.	.5 sec.	31.95	30.35	28.75	27.15

ELAPSED TIME INDICATORS

Series 7010. Non-resettable, lightweight, panel mount, hermetically sealed, tamperproof. Panel cut-out is 1.670" diameter. 115 volt operation. Operating temperature range: −55°C to +85°C. Bezel: 1¾", Depth: 2²⁷⁄₆₄".
Series ED. Non-resettable, commercial unit equipped with special miniature synchronous motor. Panel mount, with four mounting holes. Panel cutout: 1.670" diameter. UL recognized. ED71 also CSA listed. Operating temperature range: −12°C to +55°C. ED 71 has 11¼" wire leads. ED72 has glass fused terminals.



Series 7010
Series ED

Stock No.	Type	Time Range	Input Watts	1-4	5-9	10-24	25-49
54F060	7010-004	9999.9 Hrs	2.5 @ 115V, 400 Hz	49.10	46.60	44.20	41.70
54F100	7010-010	9999.9 Hrs	2.5 @ 115V, 60 Hz				
54F063	ED7112	9999.9 Hrs	2.5 @ 60 Hz, 2.2 @ 50 Hz	29.15	27.70	26.20	24.80
54F073	ED7212	9999.9 Hrs	2.5 @ 60 Hz, 2.2 @ 50 Hz	31.60	30.00	28.40	26.80

RG21 REPEAT CYCLE TIMERS

Cam actuated, single switch for rear mounting. Continuous run. Cam adjustable from 7° min to 160° max. (±3%). SPDT switch. 20 A. 3.7 W. motor. 120 VAC. 60 Hz. 2⁹⁄₁₆x3⅛x2½". UL recognized.

Stock No.	Type RG21	Time Range	1-4	5-9	10-24	25-49
54F017	-090	7½ Sec				
54F018	-091	15 Sec				
54F019	-092	30 Sec				
54F020	-093	1 Min				
54F021	-094	5 Min	18.05	17.20	16.25	15.35
54F022	-095	10 Min				
54F023	-096	15 Min				
54F024	-097	30 Min				
54F025	-098	60 Min				

ELAPSED TIME INDICATORS

Time measurement and readout. Non-resettable, synchronous motor driven units. White numerals on black. 125 VAC or (*) 240 VAC. Power input at 60 Hz: EF27, 5 watts; EF13, 2.5 watts. Operating Temperature range: −12°C to +55°C. Mounts in 2⅛" dia. panel cut-out. 6" wire leads. EF13: 2.88" dia. bezel mounted with #6 screws. EF27: 2⅜" sq. bezel with mounting studs. UL recognized. CSA listed.

EF13

EF27

Stock No.	Type	Time Range	1-4	5-9	10-24	25-49
54F061	EF1333	99999.9 M	13.20	12.50	11.85	11.20
54F062	EF1335	99999.9 H	13.20	12.50	11.85	11.20
54F168	EF2733	99999.9 M	15.50	14.75	13.95	13.20
54F170	EF2735	99999.9 H	15.50	14.75	13.95	13.20
54F091	EF1335*	99999.9 H	15.70	14.90	14.15	13.35

- Highly accurate
- −12°C to +55°C
- 125 or 240 VAC

SERIES RE REPEAT CYCLE MULTI-CAM TIMERS

2 to 6 switches may be actuated during cycle. Adjustable friction loaded cams. Complete unit requires one switch stack and one drive motor. Size: 2⁹⁄₁₆"H x 3³⁄₃₂"W x 3⁹⁄₁₆"D. Add 1⅛" to depth for each additional switch. UL recognized.

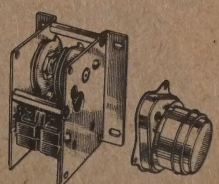
SWITCH STACKS

Stock No.	Type	Switch	1-4	5-9	10-24	25-49
54F027	RE62-091	2	16.80	15.95	15.10	14.25
54F028	RE63-092	3	22.40	21.30	20.15	19.05
54F029	RE64-093	4	26.90	25.55	24.20	22.85
54F030	RE65-094	5	34.25	32.55	30.85	29.10
54F031	RE66-095	6	39.85	37.85	35.90	33.90

DRIVE MOTORS

Order with switch stack for complete unit

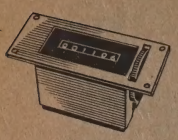
Stock No.	Type	Time Range	1-4	5-9	10-24	25-49
54F032	MP10-390	7½ S.				
54F115	MP10-400	10 S.				
54F033	MP10-391	15 S.				
54F034	MP10-392	30 S.				
54F035	MP10-393	1 M.	8.70	8.30	7.85	7.40
54F036	MP10-394	5 M.				
54F037	MP10-395	10 M.				
54F038	MP10-396	15 M.				
54F039	MP10-397	30 M.				
54F040	MP10-398	1 H.				



RE-
MP10-

Counters

ELECTRO-MECHANICAL



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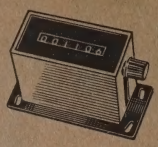

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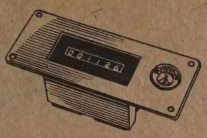
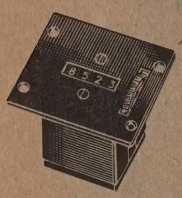


1026

MODEL 110 SERIES

Simplified, inexpensive, 6-figure, reset, general purpose electro-mechanical counter which requires no maintenance during its normal life expectancy. Rated at 1,000 counts per minute AC and 1,200 counts per minute DC with pulse timing of 30 ms "on, "30 ms "off" AC and 25 ms "on," 25 ms "off" DC voltage. Power consumption: 5 watts, available in base mount, panel mount, and for the security conscious a key reset panel mount version. U.L. listed, C.S.A. approved.

Stock No.	Type	Volt AC	Reset	Mount	Replaces ITT Gen. Con. No.	1-9	10-24
57F1918	2-1106	115	Knob	Base	CE900AS602	25.20	21.42
57F1907	P2-1106	115	Thumb Wheel	Panel	CE900BS602	28.35	24.10
57F3522	P2-1026	115	Key	Panel	CE900BK602	41.70	35.45

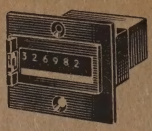


MODEL P128

- Unique Panel Plate
- Rugged Die Cast Cover
- Long Operating Life

4 figure, panel mount, general purpose reset counter rated at 1,000 counts per minute. Die cast cover and frame. Needs no lubrication or maintenance. Power consumption: 5 watts. 2⅞"Lx2⁹⁄₁₆"Wx2⁹⁄₁₆"D. U.L. listed and C.S.A. approved.

Stock No.	Type	Volt. AC	Reset	Mount	Replaces ITT Gen. Con. No.	1-9	10-24
57F3510	P2-1284	115	Thumb Wheel	Panel	CE40BS402U	22.45	19.09



MODEL R300 SERIES

6 figure, push button reset, "dual" behind the panel/panel mount. Fits 25X50 MM International mtg. dimensions. Rated 1,000 counts/minute AC & 1,500 DC. Oper. life: excess of 200 million counts. Pwr: 2.75 watts. 2⅜"L x 2"W x 2⅞"D.

Stock No.	Type	Volt	Reset	Mount	1-9	10-24
57F3505	R2-3106	115 AC	Push Button	Dual	38.85	33.00
57F3506	R8-3206	24 DC	Push Button	Dual	33.55	28.50

MODEL P-3704

4 figure, sub-miniature, push button, reset, panel mount counter rated @ 1,000 counts per minute AC & 1,200 DC. For limited space panel applications where frequent resetting is required. Power: 3 watts. 1½"L x 1½"W x 2½"D.

Stock No.	Type	Volt	Reset	Mount	Replaces ITT Gen. Con. No.	1-9	10-24
57F1908	P2-3704	115AC	Push button	Panel	CE59BP402	16.50	14.05
57F1909	P8-3704	24DC	Push button	Panel	CE59BP4016	15.50	13.20

MODEL 1274

4 figure, knob reset, general purpose, base mount counter. For applications where space is limited and reliability + accuracy needed. Rated @ 1,000 cpm. 5 watts. 2⅜"L x 2¼"W x 2½"H.

Stock No.	Type	Volt	Reset	Mount	Replaces ITT Gen. Con. No.	1-9	10-24
57F1910	2-1274	115AC	Knob	Base	CE40AS402U	21.80	18.53

MODEL G-1616

6 figure, non-reset, "dual" behind the panel or base mount medium duty counter 600 counts/min. For vending and game machine trade. Temp. range: −40° F to +160° F. Timing: 50 ms "on," 50 ms "off." 5 watts AC and 2.5 watts DC. 1¾"L x 2¼"W x 2½"H.

Stock No.	Type	Volt	Reset	Mount	Replaces ITT Gen. Con. No.	1-9	10-24
57F3521	G2-1616	115AC	None	Dual	CE60AN/BN	10.00	8.50
57F1911	G3-1616	24AC	None	Dual	CE60AN/BN	10.00	8.50
57F3507	G8-1616	24DC	None	Dual	CE60AN/BN	10.00	8.50

PRE-DETERMINING CONTROLS

MODEL P-1063 SERIES

3 figure, non-repeating, subtractive, electro-mechanical, predetermining control with thumb wheel preset. Subtracts one count for each pulse from preset number to 000 then SPDT switch is actuated. Remains until new pulse is received. 600 counts per minute. 4 watts. Switch, 3A @ 250AC. 2½"L x 2⅜"W x 2½"D.

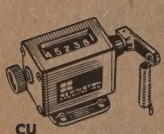
Stock No.	Type	Volt	Reset	Mount	1-9	10-24
57F1912	P2-1063	115 AC	None	Panel	40.00	34.00
57F1913	P8-1063	24 DC	None	Panel	44.00	38.00

MODEL F-5005

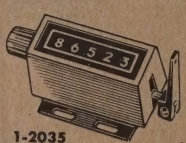
5 figure, plug-in type. Fits 50 MM x 50 MM panel openings. SPDT switch activated when preset number is reached. Counter returns to original preset number and positions switch for next cycle when push button is depressed. 1,000 counts per minute. Switch rtd. at 5A 125/250 VAC. 2"L x 2"W x 3¾"D.

Stock No.	Type	Volt	Reset	Mount	1-9	10-24
57F1914	F2-5105	115AC	Manual Push Button	Panel	80.00	68.00
57F1915	F8-5205	24DC	Manual Push Button	Panel	75.00	63.75

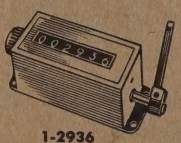
MECHANICAL STROKE COUNTERS



CU



1-2035



1-2936

MODEL CU

5 figure, compact medium duty stroke counter. For moderate duty applications. Supplied with operating lever and spring assembly to simplify installation. 600 counts per minute. Built to provide accurate, maintenance free counting. Life in excess of 50 million counts. 2½"L x 1½"W x 1³⁹⁄₆₄"H.

Stock No.	Type	Reset	Arm Action	Shaft Extension	Replaces ITT Gen. Con. No.	1-9	10-24
57F3516	CU-35	Knob	Top Coming	Right Side	CM33AS501A	12.80	10.92
57F3518	CU-45	Knob	Top Going	Right Side	CM33BS501A		

MODEL 20

Medium duty, 5 figure counter. Built in return spring. Features pre-travel and over-travel. Rated @ 1,000 counts per minute. Operating life in excess of 50 million counts. 2⅝"L x 1½"W x 1⅜"H.

Stock No.	Type	Reset	Arm Action	Shaft Extension	1-9	10-24
57F1916	1-2035	Knob	Top Coming	Right Side	15.35	13.05

MODEL 29

6 figure, heavy duty, industrial counter. For high production and continuous operation. 100 million count life. 1,000 counts/min. Interchangeable with Durant "H" series and Veeder-Root Series 1667. Easy to read 5⁄16" numbers. 5½"L x 1¾"W x 2"H.

Stock No.	Type	Reset	Arm Action	Shaft Extension	Replaces ITT Gen. Con. No.	1-9	10-24
57F1917	1-2936	Knob	Top Coming	Right Side	CM67AS601A	26.65	22.66

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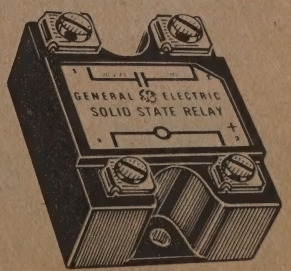
GE SOLID STATE RELAYS

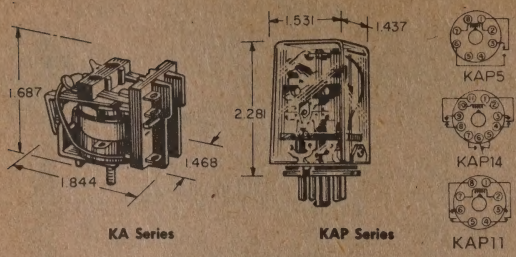
A tough, well proven Form A, normally-open SPST solid-state relay. It consists of a DC input circuit coupled by an optical isolator into a zero-voltage trigger circuit which controls a triac circuit. Triac output is rated for 140 VAC; zero voltage switching for minimal RFI. 1000 ohm input resistance, 30 VDC maximum. Hysteresis minimum 1.1; 3V minimum pick-up voltage, 1V minimum drop-out. Operating temperature from −30°C to +85°C. Size: 2½" x 1¾" x ⅞". Weight: 120 grams.

Stock No.	Type	Output	1-9	10-24	25-49	50-99
54F608	CR120SR105D	5 amps	**22.28**	**20.05**	**18.05**	**16.49**
54F609	CR120SR110D	10 amps	**24.75**	**22.28**	**20.05**	**18.32**

- **Reverse Polarity Input Voltage Protection**
- **TTL Logic Compatible**
- **Operates In Any Position**
- **Encapsulated In High-Impact Plastic**



KA AND KAP SERIES



KA Series KAP Series

Small, Low Cost Relays For Light Power Loads

Highly efficient general purpose relays for light power loads such as small motors, solenoids and other relays and general automation work. All relays bear CSA listing (File No. LR-15734) and carry UL component recognition (File No. E22575). Mechanical life expectancy: 10 million operations. Duty-continuous. Contacts: "Y" Suffix-Moveable, Gold flashed silver; stationary, Silver overlay, 5A. "G" Suffix silver-cadmium oxide on movable rated 10 amps.

KA Series is the open version of this series. Mounting: one No. 6-32 threaded stud and locating tab on .438" centers. Wt. 2 oz.

KAP Series is the enclosed model and is protected by a clear polycarbonate dust cover. Terminals: 8 or 11 pin plug. Wt. 3 oz.

COIL DATA—KA SERIES

Input Volts	DC Coils Ohms	Milliamps	Input Volts	AC Coils Ohms	Milliamps
6	32	188	6	6	335
12	120	100	12	21	168
24	472	51	24	85	84
...	...	...	120	2,250	17.5
110	10,000	11.5	240	9,110	8.75
200	Use 100 v. relay with 10K 5W wire-wound resistor in series				

KA OPEN—5 AMPERES—AC TYPES

Stock No.	Type	Action	Input Volts	1-24	25-50	51-99	100-249
24F545	KA5AY	SPDT	6	4.50	4.28	4.05	3.38
24F1308	KA5AY	SPDT	12				
24F593	KA5AY	SPDT	24				
24F515	KA5AY	SPDT	120				
45F022	KA5AY	SPDT	240	5.05	4.80	4.55	3.79
24F547	KA11AY	DPDT	6	5.45	5.18	4.91	4.09
24F1309	KA11AY	DPDT	12				
24F594	KA11AY	DPDT	24				
24F517	KA11AY	DPDT	120				
24F1310	KA11AY	DPDT	240				
24F549	KA14AY	3PDT	6	5.90	5.61	5.31	4.43
24F1213	KA14AY	3PDT	12				
24F595	KA14AY	3PDT	24				
24F519	KA14AY	3PDT	120				
62F3089	KA14AY	3DPT	240	6.45	6.13	5.81	4.84

KA OPEN—5 AMPS—DC TYPE

24F552	KA5DY	SPDT	6	4.35	4.13	3.92	3.26
24F1214	KA5DY	SPDT	12				
24F596	KA5DY	SPDT	24				
24F1311	KA5DY	SPDT	110	5.10	4.85	4.59	3.83
24F553	KA11DY	DPDT	6	4.75	4.51	4.28	3.56
24F1215	KA11DY	DPDT	12				
24F597	KA11DY	DPDT	24				
67F1069	KA11DY	DPDT	48	5.00	4.75	4.50	3.75
24F554	KA11DY	DPDT	110	5.60	5.32	5.04	4.20
24F523	KA14DY	3PDT	6	5.40	5.13	4.86	4.05
24F1216	KA14DY	3PDT	12				
24F598	KA14DY	3PDT	24				
24F1217	KA14DY	3PDT	110	6.20	5.89	5.58	4.65

KAP ENCLOSED—5 AMPERES—AC TYPE

24F2565	KAP11AY	DPDT	24	8.45	8.03	7.61	6.34
24F2566	KAP11AY	DPDT	120				
24F2567	KAP11AY	DPDT	240	8.95	8.50	8.06	6.71
24F2576	KAP14AY	3PDT	24	10.45	9.93	9.41	7.84
24F2577	KAP14AY	3PDT	120				
24F2578	KAP14AY	3PDT	240	10.90	10.36	9.81	8.18

KAP ENCLOSED—5 AMPS—DC TYPE

Stock No.	Type	Action	Volts	1-24	25-50	51-99	100-249
24F2573	KAP11DY	DPDT	12	8.40	7.98	7.56	6.30
24F2574	KAP11DY	DPDT	24	8.40	7.98	7.56	6.30
24F2575	KAP11DY	DPDT	110	9.25	8.79	8.33	6.94
24F2583	KAP14DY	3PDT	12	10.35	9.83	9.32	7.76
24F2584	KAP14DY	3PDT	24	10.35	9.83	9.32	7.76
24F2585	KAP14DY	3PDT	110	11.10	10.55	9.99	8.33

KA OPEN—TYPE 10 AMPERES—AC TYPE

24F1665	KA5AG	SPDT	6	4.55	4.32	4.10	3.41
24F1666	KA5AG	SPDT	12				
24F1667	KA5AG	SPDT	24				
24F1668	KA5AG	SPDT	120				
24F1669	KA5AG	SPDT	240	5.10	4.85	4.59	3.83
24F1670	KA11AG	DPDT	6	5.55	5.27	5.00	4.16
24F1671	KA11AG	DPDT	12				
24F1672	KA11AG	DPDT	24				
24F1673	KA11AG	DPDT	120				
24F1674	KA11AG	DPDT	240	6.00	5.70	5.40	4.50
24F1675	KA14AG	3PDT	6	6.10	5.80	5.49	4.58
24F1676	KA14AG	3PDT	12				
24F1677	KA14AG	3PDT	24				
24F1678	KA14AG	3PDT	120				
24F1679	KA14AG	3PDT	240	6.75	6.41	6.08	5.06

KA OPEN—10 AMPS—DC TYPE

45F023	KA5DG	SPDT	6	4.40	4.18	3.96	3.30
45F024	KA5DG	SPDT	12	4.40	4.18	3.96	3.30
45F026	KA5DG	SPDT	24	4.40	4.18	3.86	3.30
45F025	KA5DG	SPDT	110	5.15	4.89	4.64	3.86
45F027	KA11DG	DPDT	6	4.95	4.70	4.46	3.71
45F028	KA11DG	DPDT	12	4.95	4.70	4.46	3.71
45F029	KA11DG	DPDT	24	4.95	4.70	4.46	3.71
45F030	KA11DG	DPDT	110	5.75	5.46	5.18	4.31
62F3090	KA14DG	3PDT	6	5.60	5.32	5.04	4.20
45F031	KA14DG	3PDT	12	5.60	5.32	5.04	4.20
45F032	KA14DG	3PDT	24	5.60	5.32	5.04	4.20
45F033	KA14DG	3PDT	110	6.40	6.08	5.76	4.80

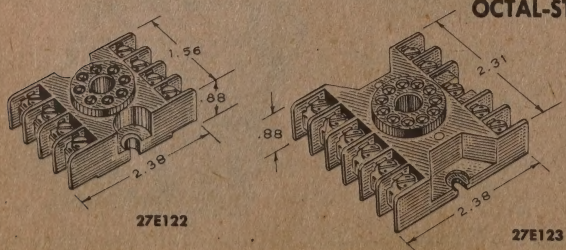
KAP ENCLOSED—10 AMPS—AC TYPES

62F3091	KAP5AG	SPDT	24	7.70	7.32	6.93	5.78
45F034	KAP5AG	SPDT	120	7.70	7.32	6.93	5.78
24F2568	KAP11AG	DPDT	6	8.60	8.17	7.74	6.45
24F2569	KAP11AG	DPDT	24	8.60	8.17	7.74	6.45
24F2570	KAP11AG	DPDT	120	8.60	8.17	7.74	6.45
24F2579	KAP14AG	3PDT	24	10.60	10.07	9.54	7.95
24F2580	KAP14AG	3PDT	120	10.60	10.07	9.54	7.95

KAP ENCLOSED—10 AMPS—DC TYPES

62F3092	KAP5DG	SPDT	24	7.50	7.13	6.75	5.63
62F3093	KAP5DG	SPDT	110	8.45	8.03	7.61	6.34
24F2571	KAP11DG	DPDT	24	8.55	8.12	7.70	6.41
24F2572	KAP11DG	DPDT	110	9.40	8.93	8.46	7.05
24F2581	KAP14DG	3PDT	24	10.55	10.02	9.50	7.91
24F2582	KAP14DG	3PDT	110	11.40	10.83	10.26	8.55

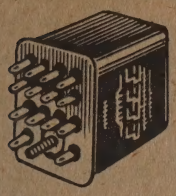
OCTAL-STYLE SOCKETS



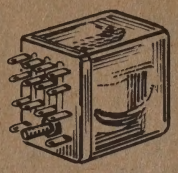
For KRP, KRP3-H, KAP, KBP, KCP, EBT, and EBA relays; CD-21, CD-38, CH, CK, and CR time delays; and CS sensor. **Type 27E122** is a molded polycarbonate, 8-pin screw socket, rated 10 amperes. **Type 27E123** is a molded polycarbonate, 11-pin screw terminal socket, rated 10 amperes.

Stock No.	Type	1-24	25-50	51-99	100-249
57F3431	27E122	2.83	2.69	2.55	2.12
57F3432	27E123	4.24	4.03	3.82	3.18

KHU—KHS SERIES COMPACT RELAYS



KHU



KHS

- **KHU Series UL recognized**
- **Used for data processing, computer and process control applications.**

Small 4PDT relays. Designed to meet exacting requirements of data processing, computer and process control applications. **Suffix-1** denotes gold-flashed silver contacts rated 3 amps @ 30 VDC or 120 VAC, resistive. **Suffix-2** denotes silver-cadmium oxide contacts rated 3 amps. **Suffix-3** indicates gold alloy contacts for low level to 2 amp application. **Suffix-6** indicates gold overlay on silver bifurcated contacts rated 1 amp @ 30 VDC resistive or 120 VAC. Mounting: solder terminals with 3-48 stud 0.312" long. **KHU Series** is recognized under component program of UL and has clear polycarbonate cover. **KHS Series** is hermetically sealed in metal enclosure. Weight without socket: KHU—1.12 oz. KHS—1.63 oz.

DC VOLTS—Hermetically Sealed Metal—3 AMP except (††) 2 AMPS

Stock No.	Type	Coil Input Volts	Coil Res. (Ohms)	1-24	25-50	51-99	100-249
24F2561	KHS17D11	6	40	10.50	9.98	9.45	7.88
24F2562	KHS17D11	12	160	10.50	9.98	9.45	7.88
24F2563	KHS17D11	24	650	10.50	9.98	9.45	7.88
24F2564	KHS17D11	110	11000	11.65	11.07	10.49	8.74
24F3280	KHS17D12	24	650	10.50	9.98	9.45	7.88
67F1058	KHS17D12	110	11000	11.65	11.07	10.49	8.74
67F1059	KHS17D13††	24	650	18.60	17.67	16.74	13.95

DC VOLTS—U.L. Recognized Clear Plastic—3 AMP except (**) 1 AMP

45F035	KHU17D11	6	40	5.95	5.65	5.36	4.46
45F036	KHU17D11	12	160	5.95	5.65	5.36	4.46
45F037	KHU17D11	24	650	5.95	5.65	5.36	4.46
45F038	KHU17D11	48	2600	6.20	5.89	5.58	4.65
62F3083	KHU17D11	90	9000	6.95	6.60	6.26	5.21
45F039	KHU17D11	110	11000	6.95	6.60	6.26	5.21
45F140	KHU17D12	24	650	6.15	5.84	5.54	4.61
45F041	KHU17D12	110	11000	7.10	6.75	6.39	5.33
62F3080	KHU17D16**	12	160	8.55	8.12	7.70	6.41
62F3082	KHU17D16**	24	650	8.55	8.12	7.70	6.41

AC VOLTS—Hermetically Sealed Metal—3 AMPS

Stock No.	Type	Coil Input Volts	Coil Res. (Ohms)	1-24	25-50	51-99	100-249
24F2557	KHS17A11	6	10.5	11.70	11.12	10.53	8.78
24F2558	KHS17A11	12	43	11.70	11.12	10.53	8.78
24F2559	KHS17A11	24	160	11.70	11.12	10.53	8.78
24F2560	KHS17A11	120	3900	11.85	11.26	10.67	8.89
24F3283	KHS17A12	120	3900	11.90	11.31	10.71	8.93
67F1061	KHS17A13	120	3900	19.95	18.95	17.96	14.96

AC VOLTS—UL Recognized Clear Plastic—3 AMPS

45F042	KHU17A11	6	10.5	6.55	6.22	5.90	4.91
45F043	KHU17A11	12	43	6.55	6.22	5.90	4.91
45F044	KHU17A11	24	160	6.55	6.22	5.90	4.91
45F045	KHU17A11	120	3900	7.10	6.75	6.39	5.33
62F3082	KHU17A12	120	390	7.30	6.94	6.57	5.48

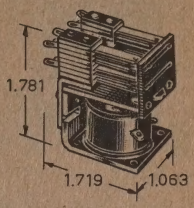
SOCKETS AND SPRING FOR KH SERIES

Stock No.	Type	Description	1-24	25-50	51-99	100-249
57F3422	27E006	4PDT sol. term.	.71	.67	.64	.53
57F3415	24A032	Skt. retainer	.04	.04	.04	.03
57F3423	27E007	4PDT PC. term.	.74	.70	.67	.56
57F3402	20C217	Hold Down Spring	.13	.12	.12	.10
57F3447	27E166	4PDT screw term.	6.87	6.53	6.18	5.15

GA SERIES—MULTIPLE LEAF

- **Low Cost**
- **Multiple Contact**
- **For Industrial Control**

Low Cost, all purpose, multiple contact, voltage switching relay. Used for many industrial control applications. Tinned, pierced solder type terminals. Contacts: Silver rated 5 amps, @ 28 VDC or 120 VAC resistive. Designed for maximum self-cleaning action. Mounting: 8-32 tapped core with locating boss. Weight: 3½ oz.

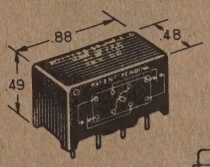


COIL DATA—GA SERIES

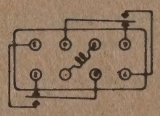
DC Coils			AC Coils		
Volts	Ohms	Milliamps	Volts	Ohms	Milliamps
6	18	333	6	1.7	1,000
12	72	167	12	6.8	500
24	288	83	24	26.0	260
110	6,050	18	120	690	50
			240	2,950	25

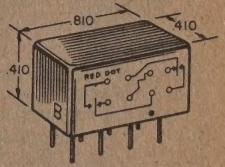
Stock No.	Type	Action	Coil Input	1-24	25-50	51-99	100-249
24F1183	GA11A	DPDT	6VAC				
24F1184	GA11A	DPDT	24VAC	6.25	5.94	5.63	4.69
24F1185	GA11A	DPDT	120VAC				
62F3094	GA11A	DPDT	12VAC	6.25	5.94	5.63	4.69
62F3095	GA14A	3PDT	24VAC	7.65	7.27	6.89	5.74
24F1186	GA17A	4PDT	6VAC				
24F1187	GA17A	4PDT	12VAC	8.80	8.36	7.92	6.60
24F1188	GA17A	4PDT	24VAC				
24F1189	GA17A	4PDT	120VAC				
24F1190	GA11D	DPDT	6VDC				
24F1191	GA11D	DPDT	12VDC	6.00	5.70	5.40	4.50
24F1192	GA11D	DPDT	24VDC				
24F1193	GA11D	DPDT	110VDC	6.60	6.27	5.94	4.95
24F1194	GA17D	4PDT	6VDC				
24F1195	GA17D	4PDT	12VDC	8.10	7.70	7.29	6.08
24F1196	GA17D	4PDT	24VDC				
24F1197	GA17D	4PDT	110VDC	8.65	8.22	7.79	6.49
62F3096	GA14A	3PDT	120VAC	7.65	7.27	6.89	5.74

HP AND HPS SERIES HALF SIZE CRYSTAL CASE



HP Series





HPS Series

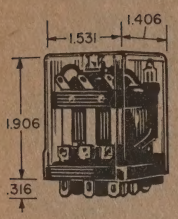
HP SERIES. Circuit board or socket mounting. Encased in a nylon heat-sealed (non-hermetic) cover. Contacts rated 5A @ 28 VDC or 125 VAC resistive. Terminals on .2 grid. Wt. 3 oz. **HPS SERIES.** Hermetically sealed version of **HP SERIES.** Designed for prolonged submersion of pc. boards. HP socket may be used for mounting. Sealed metal enclosed. Wt. ¼ oz.

Stk. No.	Type	Action	VDC	1-24	25-50	51-99	100-249
67F1070	HP11D	DPDT	6	9.90	9.41	8.91	7.43
24F2898	HP11D	DPDT	12	9.90	9.41	8.91	7.43
24F2899	HP11D	DPDT	24	9.90	9.41	8.91	7.43
45F227	HP11D	DPDT	48	10.55	10.02	9.50	7.91
24F3367	HPS11D	DPDT	12	11.95	11.35	10.76	8.96
24F3368	HPS11D	DPDT	24	11.95	11.35	10.76	8.96

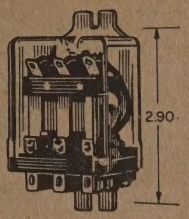
Stk. No.	Type	Description	1-24	25-50	51-99	100-249
57F3426	27E062	DPDT sol. term.	.96	.91	.86	.72
57F3416	24A051	Skt. retainer	.15	.14	.14	.11

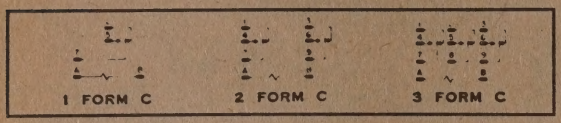
AMF | POTTER & BRUMFIELD General Purpose Relays

KUP SERIES—RELIABLE 10 AMP RELAYS AND KUMP 15 AMP RELAYS



For Industrial Control





- Quick-Connect/Solder Type Terminals
- Use With 28V DC or 240V AC
- Polycarbonate Dust Cover
- UL Recognized and CSA Listed

Type-KUP-KUMP relays have polycarbonate dust cover, are UL Recognized under File E22575, and CSA Listed under file 15734. Contact ratings of all **KUP** models are for duty at either 28V DC or 240V AC, 80% PF. Power rating of 10 amp contacts is ¼ HP, 120V AC; and ½ HP, 240V AC, 80% PF. The 5 amp contacts are rated 1/10 HP, 120V AC; and ¼ HP, 240V AC, 80% PF. **KUMP** contacts are rated at 15 amps, 277V AC, 80% PF; ¼ HP, 120V AC; and ½ HP, 240V AC. Contact life expectancy for both relay series is 10 million operations, mechanical, and 100,000 operations at full load. At loads of less than maximum rating, life expectancy rises accordingly. All models have .187" QC/solder terminals. **KUP** with suffix "55" has bracket mount case unsuited for socket mounting. All other models use sockets and hold-down springs listed. Weight is approximately 3 oz. each model.

SOCKETS AND SPRINGS FOR KUP RELAYS

Stock No.	Type	Description	1-24	25-50	51-99	100-249
57F3424	27E043	Solder term.	.90	.86	.81	.68
57F3425	27E046	Printed circuit socket	1.06	1.01	.95	.80
57F3403	20C228	Hold down spring	.20	.19	.18	.15
57F3430	27E121	Screw term. socket	4.49	4.27	4.04	3.37
57F3427	27E067	QC term. socket	1.41	1.34	1.27	1.06

Make NEWARK your one stop headquarters for all your POTTER & BRUMFIELD relay needs.
FAST—DEPENDABLE SERVICE

AC VOLTS—10 AMPS except (*) 5 AMPS

Stock No.	Type	Action	Coil V	1-24	25-50	51-99	100-249
24F2600	KUP5A15	SPDT	6				
24F2601	KUP5A15	SPDT	12	4.90	4.66	4.41	3.68
24F2602	KUP5A15	SPDT	24				
24F2603	KUP5A15	SPDT	120				
24F2604	KUP5A15	SPDT	240	5.45	5.18	4.91	4.09
67F1108	KUP11A11*	DPDT	120	5.75	5.46	5.18	4.31
24F2609	KUP11A15	DPDT	6				
24F2610	KUP11A15	DPDT	12	5.95	5.65	5.36	4.46
24F2611	KUP11A15	DPDT	24				
24F2612	KUP11A15	DPDT	120				
24F2613	KUP11A15	DPDT	240	6.50	6.18	5.85	4.88
67F1109	KUP14A11*	3PDT	120	6.40	6.08	5.76	4.80
24F2618	KUP14A15	3PDT	6				
24F2619	KUP14A15	3PDT	12	6.65	6.32	5.99	4.99
24F2620	KUP14A15	3PDT	24				
24F2621	KUP14A15	3PDT	120				
24F2622	KUP14A15	3PDT	240	7.20	6.84	6.48	5.40

DC VOLTS—10 AMPS except (*) 5 AMPS

24F2605	KUP5D15	SPDT	6	4.70	4.47	4.23	3.53
24F2606	KUP5D15	SPDT	12	4.70	4.47	4.23	3.53
24F2607	KUP5D15	SPDT	24	4.70	4.47	4.23	3.53
24F2608	KUP5D15	SPDT	110	5.50	5.23	4.95	4.13
24F2614	KUP11D15	DPDT	6	5.40	5.13	4.86	4.05
24F2615	KUP11D15	DPDT	12	5.40	5.13	4.86	4.05
24F2616	KUP11D15	DPDT	24	5.40	5.13	4.86	4.05
24F2617	KUP11D15	DPDT	110	6.20	5.89	5.58	4.65
67F1110	KUP11D11*	DPDT	24	5.20	4.94	4.68	3.90
24F2623	KUP14D15	3PDT	6	6.15	5.84	5.54	4.61
24F2624	KUP14D15	3PDT	12	6.15	5.84	5.54	4.61
24F2625	KUP14D15	3PDT	24	6.15	5.84	5.54	4.61
24F2626	KUP14D15	3PDT	110	6.65	6.32	5.99	4.99

FLANGED TYPE
AC VOLTS—10 AMPS

Stock No.	Type	Action	Coil V	1-24	25-50	51-99	100-249
24F3264	KUP5A55	SPDT	120	4.90	4.66	4.41	3.68
24F3265	KUP11A55	DPDT	24	5.95	5.65	5.36	4.46
24F3266	KUP11A55	DPDT	120	5.95	5.65	5.36	4.46
24F3267	KUP14A55	3PDT	6	6.65	6.32	5.99	4.99
24F2891	KUP14A55	3PDT	12	6.65	6.32	5.99	4.99
24F2892	KUP14A55	3PDT	24	6.65	6.32	5.99	4.99
24F2893	KUP14A55	3PDT	120	6.65	6.32	5.99	4.99
24F3268	KUP14A55	3PDT	240	7.20	6.84	6.48	5.40

DC VOLTS—10 AMPS

24F3274	KUP5D55	SPDT	24	4.70	4.47	4.23	3.53
24F3275	KUP11D55	DPDT	6	5.40	5.13	4.86	4.05
24F3276	KUP11D55	DPDT	12	5.40	5.13	4.86	4.05
24F3277	KUP11D55	DPDT	24	5.40	5.13	4.86	4.05
24F3278	KUP11D55	DPDT	110	6.20	5.89	5.58	4.65
24F3279	KUP14D55	3PDT	6	6.15	5.84	5.54	4.61
24F2894	KUP14D55	3PDT	12	6.15	5.84	5.54	4.61
24F2895	KUP14D55	3PDT	24	6.15	5.84	5.54	4.61
24F2896	KUP14D55	3PDT	110	6.65	6.32	5.99	4.99

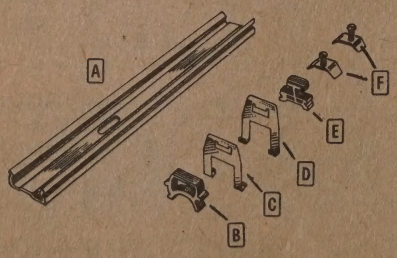
AC VOLTS—15 AMPS

33F1575	KUMP11A18	DPDT	6				
33F1576	KUMP11A18	DPDT	12	6.40	6.08	5.76	4.80
33F1577	KUMP11A18	DPDT	24				
33F1578	KUMP11A18	DPDT	120				
33F1579	KUMP11A18	DPDT	240	6.95	6.60	6.26	5.21

DC VOLTS—15 AMPS

33F1580	KUMP11D18	DPDT	6				
33F1581	KUMP11D18	DPDT	12	5.85	5.56	5.27	4.39
33F1582	KUMP11D18	DPDT	24				
33F1583	KUMP11D18	DPDT	110	6.65	6.32	5.99	4.99

TRACK MOUNT SYSTEM FOR SOCKETS



(A)—Extruded aluminum, three foot section with slotted holes on 6" centers for #8 screws. **(B)**—Plastic clip for mounting sockets 27E122, 27E123, and 27E166. Two clips required per socket. **(C), (D)**—Aluminum retainer with #6-40 tapped hole for mounting sockets 27E121, 27E122, 27E123, and 27E166. Includes one #6-40x$^{13}/_{32}$" screw. Two retainers and screws required per socket. **(E)**—Plastic twist-clip requires no screws; will mount 27E121 only. Two required per socket. **(F)**—Stainless steel hold-down clip restricts movement of relay mounted in socket 27E121. Two clips required per socket.

Stock No.	Type	Fig.	Description	Each
57F3418	24A064	A	Three Foot Section of Track	2.22
57F3421	24A072	B	Plastic Mounting Clip	.11
57F3420	24A071	C, D	Aluminum Retainer	.07
57F3419	24A067	E	Plastic Twist-Clip	.10
57F3410	20C253	F	Stainless Steel Hold-down Clip	.09

KRP AND KRP-N SERIES MEDIUM GENERAL PURPOSE RELAYS

KRP Series. Versatile, multi-contact arrangement. Enclosed in clear polycarbonate dust cover. Standard 8 pin octal type plug for KPR5 and KPR11. 11 pin for KPR-14. Contacts: 5 amps are gold flashed silver, 10 amps are silver cadmium oxide. **KRP-N Series.** Indicator Lamp Relay incorporating a lamp to indicate current or voltage availability in power circuit. Mounting: standard octal plug. Contacts: Silver cadmium oxide rated 10 amps. Enclosed in clear polycarbonate dust cover. Approximate weight: 3 oz.

AC VOLTS 5 AMPS

Stock No.	Type	Input Volts	Action	1-24	25-50	51-99	100-249
24F522	KRP5A	6 V	SPDT				
67F1113	KRP5A	12 V	SPDT	7.50	7.13	6.75	5.63
24F524	KRP5A	24 V	SPDT				
24F520	KRP5A	120 V	SPDT				
24F548	KRP11A	6 V	DPDT				
24F1223	KRP11A	12 V	DPDT	8.40	7.98	7.56	6.30
24F525	KRP11A	24 V	DPDT				
24F518	KRP11A	120 V	DPDT				
24F1324	KRP11A	240 V	DPDT	8.95	8.50	8.06	6.71
24F1224	KRP14A	6 V	3PDT				
24F1225	KRP14A	12 V	3PDT	10.45	9.93	9.41	7.84
24F526	KRP14A	24 V	3PDT				
24F527	KRP14A	120 V	3PDT				
45F103	KRP14A	240 V	3PDT	10.95	10.40	9.86	8.21

AC VOLTS 10 AMPS

Stock No.	Type	Input Volts	Action	1-24	25-50	51-99	100-249
24F1330	KRP5AG	6 V	SPDT				
67F1114	KRP5AG	12 V	SPDT	7.80	7.41	7.02	5.85
24F1331	KRP5AG	24 V	SPDT				
24F1332	KRP5AG	120 V	SPDT				
24F1333	KRP11AG	6 V	DPDT				
24F1334	KRP11AG	12 V	DPDT	8.70	8.27	7.83	6.53
24F1335	KRP11AG	24 V	DPDT				
24F1336	KRP11AG	120 V	DPDT				
24F1696	KRP11AG	240 V	DPDT	9.25	8.79	8.33	6.94
24F1337	KRP14AG	6 V	3PDT				
24F1338	KRP14AG	12 V	3PDT	10.80	10.26	9.72	8.10
24F1339	KRP14AG	24 V	3PDT				
24F1340	KRP14AG	120 V	3PDT				
24F2947	KRP14AG	240 V	3PDT	11.40	10.83	10.26	8.55

AC VOLTS 10 AMPS WITH INDICATOR LAMP

Stock No.	Type	Input Volts	Action	1-24	25-50	51-99	100-249
24F1435	KRP11AN	6 V	DPDT				
24F1436	KRP11AN	12 V	DPDT	9.95	9.45	8.96	7.46
24F1437	KRP11AN	24 V	DPDT				
24F1438	KRP11AN	120 V	DPDT				
24F1439	KRP14AN	240 V	DPDT	10.50	9.98	9.45	7.88
62F3085	KRP14AN	6 V	3PDT	12.10	11.50	10.89	9.08
62F3086	KRP14AN	12 V	3PDT	12.10	11.50	10.89	9.08
62F3087	KRP14AN	24 V	3PDT	12.10	11.50	10.89	9.08
24F1329	KRP14AN	120 V	3PDT	12.10	11.50	10.89	9.08
62F3084	KRP14AN	240 V	3PDT	12.65	12.02	11.39	9.49

KCP-KRP HOLD DOWN SPRING

20C176 Fits all KCP and KRP plug-in relays. Steel spring can be moved aside for relay removal and installation. Mounting: 2⅝" dia. holes on 1⅞" centers. Wt. 3 oz. for 50.

Stk. No.	Type	1-24	25-50	51-99	100-249
57F3400	20C176	.20	.19	.18	.15

DC VOLTS 5 AMPS

Stock No.	Type	Input Volts	Action	1-24	25-50	51-99	100-249
24F1226	KRP5D	6 V	SPDT				
24F1335	KRP5D	12 V	SPDT	7.45	7.08	6.71	5.59
24F1227	KRP5D	24 V	SPDT				
24F1326	KRP5D	110 V	SPDT				
24F680	KRP11D	6 V	DPDT				
24F683	KRP11D	12 V	DPDT	8.35	7.93	7.52	6.26
24F528	KRP11D	24 V	DPDT				
67F1115	KRP11D	48 V	DPDT	8.80	8.36	7.92	6.60
24F682	KRP11D	110 V	DPDT	9.20	8.74	8.28	6.90
24F1228	KRP14D	6 V	3PDT				
24F1229	KRP14D	12 V	3PDT	10.35	9.83	9.32	7.76
24F679	KRP14D	24 V	3PDT				
67F1116	KRP14D	48 V	3PDT	10.75	10.21	9.68	8.06
24F1327	KRP14D	110 V	3PDT	11.10	10.55	9.99	8.33

DC VOLTS 10 AMPS

Stock No.	Type	Input Volts	Action	1-24	25-50	51-99	100-249
62F3088	KRP5DG	6 V	SPDT	7.70	7.32	6.93	5.78
45F104	KRP5DG	12 V	SPDT	7.70	7.32	6.93	5.78
24F1343	KRP5DG	24 V	SPDT	7.70	7.32	6.93	5.78
24F1344	KRP5DG	110 V	SPDT	8.55	8.12	7.70	6.41
24F1345	KRP11DG	6 V	DPDT				
24F1346	KRP11DG	12 V	DPDT	8.65	8.22	7.79	6.49
24F1347	KRP11DG	24 V	DPDT				
67F1117	KRP11DG	48 V	DPDT	9.15	8.69	8.24	6.86
24F1348	KRP11DG	110 V	DPDT	9.50	9.03	8.55	7.13
24F1349	KRP14DG	6 V	3PDT				
24F1350	KRP14DG	12 V	3PDT	10.70	10.17	9.63	8.03
24F1359	KRP14DG	24 V	3PDT				
67F1118	KRP14DG	48 V	3PDT	11.20	10.64	10.08	8.40
24F1351	KRP14DG	110 V	3PDT	11.55	10.97	10.40	8.66

DC VOLTS 10 AMPS WITH INDICATOR LAMP

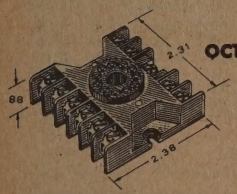
Stock No.	Type	Input Volts	Action	1-24	25-50	51-99	100-249
24F1440	KRP11DN	6 V	DPDT				
24F1441	KRP11DN	12 V	DPDT	9.80	9.31	8.82	7.35
24F1442	KRP11DN	24 V	DPDT				
24F1443	KRP11DN	110 V	DPDT	10.70	10.17	9.63	8.03
67F1119	KRP14DN	24 V	3PDT	11.95	11.35	10.76	8.96

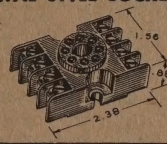
KRP5

KRP11

KRP14

OCTAL STYLE SOCKETS



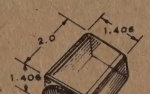


For KRP, KRP3-H, KAP, KBP, KCP, EBT and EBA relays; CD-21, CD-38, CH, CK, and CR time delays; and CS sensor.

Stock No.	Type	Term.	1-24	25-50	51-99	100-249
57F3431	27E122	8-pin	2.83	2.69	2.55	2.12
57F3432	27E123	11-pin	4.24	4.03	3.82	3.18

"P" CASE

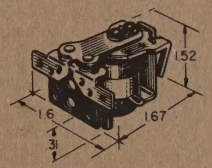
A clear polycarbonate case for mounting rectifiers, capacitors, or combinations (with octal type plug with 8 or 11 pins). Comes complete with 4 screws. 2x1.4x1.4". Av. Shpg. wt. 3 oz.



Stock No.	Type	Plugs	1-24	25-50	51-99	100-249
24F1322	35D070	8 pin	.80	.76	.72	.60
24F1323	35D072	11 pin	.96	.91	.86	.72

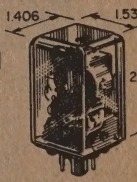
Hold-down spring for "P" Case, and KRP series relays. Will accommodate machine screws or rivets.

Stock No.	Type	1-24	25-50	51-99	100-249
57F3400	20C176	.20	.19	.18	.15



KR3-H AND KRP3-H COMPACT RELAYS

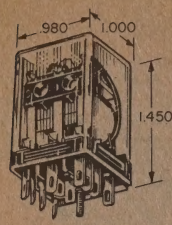
- **Used where limited space is a factor**
- **Weighs only 2 oz.**



Heavy duty relay ideal for limited space. Copper alloy movable contact carrier has twin silver-cadmium oxide contacts rated 20 amps @ 120V AC 60 Hz resistive or 28V DC; 1 HP 120/240V 60 Hz. Contact arrangement is 1 Form X (SPST-NO-DM) only. Terminals suitable for .250" quick connect, also solder; for contacts: solder only for coil. Mtg.: one 6-32 stud and locating tab on .437" center. Size: 1.67"x1.671"x1.52". Seated height: 1.21". **KRP3-H Series.** As above except enclosed in clear polycarbonate dust cover with an octal plug-in case. 1.406x1.531x2.281".

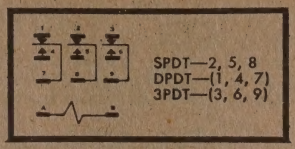
Stock No.	Type	Contacts	Coil Input	Coil Ohms	1-24	25-50	51-99	100-249
62F3039	KR3AH	SPST-NO-DM	12 VAC	21	5.50	5.23	4.95	4.13
24F2630	KR3AH	SPST-NO-DM	24 VAC	85				
24F2631	KR3AH	SPST-NO-DM	120 VAC	2250				
62F3040	KRP3AH	SPST-NO-DM	12 VAC	21	8.80	8.36	7.92	6.60
24F2638	KRP3AH	SPST-NO-DM	24 VAC	85				
24F2639	KRP3AH	SPST-NO-DM	120 VAC	2250				
24F2633	KR3DH	SPST-NO-DM	12 VDC	120	5.20	4.94	4.68	3.90
24F2634	KR3DH	SPST-NO-DM	24 VDC	472	5.20	4.94	4.68	3.90
62F3041	KR3DH	SPST-NO-DM	110 VDC	10000	6.15	5.84	5.54	4.81
24F2641	KRP3DH	SPST-NO-DM	12 VDC	120	8.55	8.12	7.70	6.41
24F2642	KRP3DH	SPST-NO-DM	24 VDC	472	8.55	8.12	7.70	6.41
62F3042	KRP3DH	SPST-NO-DM	110 VDC	10000	9.40	8.93	8.46	7.05

General Purpose Relays



KNP SERIES—COMPACT 3 AMP RELAYS

Small AC or DC General Purpose Relay



Recognized under the Component Program of UL and CSA for ratings of 1/10 HP @ 120 VAC; 3 amps @ 32 VDC resistive or 3 amps @ 240 VAC 80% PF. U/L File No. E22575. Contacts are fine silver cross bars for low resistance point contact. Terminals are .110" quick-connect/solder. Fit sockets below. **KNP-11 Series** has 6-32" tapped hole with locating tab for chassis mounting. **KNP-21 Series** has 3-48" stud for chassis mounting. Enclosed in clear polycarbonate dust cover. Size when seated 1.45" high max. Wt. 1.4 oz.

COIL DATA—KNP SERIES

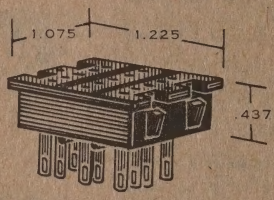
DC Coils			AC Coils		
Input	Ohms	Milliamps	Input	Ohms	Milliamp
6 V	18	333	6 V	1.7	1000
12 V	72	167	12 V	6.8	500
24 V	288	83	24 V	26.0	260
110 V	6050	18	110 V	2950	25
.....	.....	.....	120 V	690	50
.....	.....	.....	240 V	2950	25

AC VOLTS—3 AMPS

Stock No.	Type	Action	Coil	1-24	25-50	51-99	100-249
24F3333	KNP5A21	SPDT	12	5.95	5.65	5.36	4.46
24F3332	KNP5A21	SPDT	24				
24F3335	KNP5A21	SPDT	120				
67F1102	KNP11A11	DPDT	120	7.00	6.65	6.30	5.25
24F3337	KNP11A21	DPDT	12	6.90	6.56	6.21	5.18
24F3338	KNP11A21	DPDT	24				
24F3339	KNP11A21	DPDT	120				
24F3341	KNP14A21	3PDT	12	7.85	7.46	7.07	5.89
24F3342	KNP14A21	3PDT	24				
24F3343	KNP14A21	3PDT	120				

DC VOLTS—3 AMPS

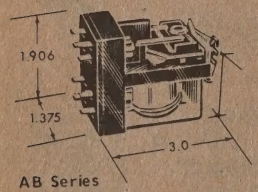
Stock No.	Type	Action	Coil	1-24	25-50	51-99	100-249
24F3320	KNP5D21	SPDT	6	5.00	4.75	4.50	3.75
24F3321	KNP5D21	SPDT	12	5.00	4.75	4.50	3.75
24F3322	KNP5D21	SPDT	24	5.00	4.75	4.50	3.75
24F3323	KNP5D21	SPDT	110	5.95	5.65	5.36	4.46
67F1104	KNP11D11	DPDT	12	5.95	5.65	5.36	4.46
67F1105	KNP11D11	DPDT	24	5.95	5.64	5.36	4.46
24F3324	KNP11D21	DPDT	6	5.80	5.51	5.22	4.35
24F3325	KNP11D21	DPDT	12	5.80	5.51	5.22	4.35
24F3326	KNP11D21	DPDT	24	5.80	5.51	5.22	4.35
67F1111	KNP11D21	DPDT	48	6.05	5.75	5.45	4.54
24F3329	KNP14D21	3PDT	12	6.75	6.41	6.08	5.06
24F3330	KNP14D21	3PDT	24	6.75	6.41	6.08	5.06



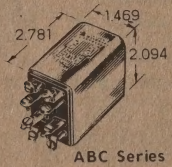
KNP SERIES SOCKETS

Stock No.	Type	Description	1-24	25-50	51-99	100-249
57F3428	27E118	SPDT/DPDT/3PDT solder terminal socket. No retainer spring required.	.77	.73	.69	.58
57F3429	27E119	SPDT/DPDT/3PDT printed circuit terminal socket.	.77	.73	.69	.58
57F3404	20C246	Hold-down spring.	.11	.10	.10	.08

AB AND ABC SERIES MEDIUM POWER 10 AMP RELAYS



AB Series



ABC Series

Equipped with terminals to fit snap-on connectors and may be applied to PC using dip soldering. Recognized under component program of UL and are CSA listed. Silver contacts.

AB Series. For appliance and general purpose applications. Mtg.—Two 8-32 tapped holes on 1¼" centers. Wt. 5 oz.

ABC Series. Medium duty power relay with dust cover. For small motors, Industrial control and similar applications. Mtg.—One 8-32 threaded stud ¾" long and locating tab on 0.562" centers. Wt. Approx. 7 oz.

DPDT AC TYPE

Stock No.	Type	Input Volts	Ohms	1-24	25-50	51-99	100-249
62F2962	AB11AY	24VAC	23	7.95	7.55	7.16	5.96
24F1121	AB11AY	120VAC	510	7.95	7.55	7.16	5.96
45F000	AB11AY	240VAC	2050	8.50	8.08	7.65	6.38
62F2964	ABC11AY	24VAC	23	8.75	8.31	7.88	6.56
24F1129	ABC11AY	120VAC	510	8.75	8.31	7.88	6.56
45F001	ABC11AY	240VAC	2050	9.20	8.74	8.28	6.90

DPDT DC TYPE

Stock No.	Type	Input Volts	Ohms	1-24	25-50	51-99	100-249
62F2965	AB11DY	12VDC	72	8.40	7.98	7.56	6.30
62F2966	AB11DY	24VDC	288	8.40	7.98	7.56	6.30
62F2967	AB11DY	110VDC	6050	9.05	8.60	8.15	6.79
62F2969	ABC11DY	12VDC	72	9.20	8.74	8.28	6.90
62F2970	ABC11DY	24VDC	288	9.20	8.74	8.28	6.90

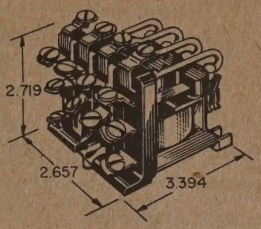
NEWARK can supply all your relay needs. Prices on larger quantities available on request. You can depend on NEWARK for fast efficient handling of your order. Call NEWARK today.

Heavy Duty Power Relays

AMF | POTTER & BRUMFIELD

PM SERIES POWER RELAYS

- For polyphase and Heavy Duty Switching
- UL and CSA listed Except 480 V.

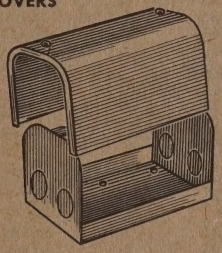


Compact 4PDT power relay for polyphase and heavy duty switching applications. Screw terminals. Has silver-cadmium oxide contacts rated at 25 amps at 240 VAC 50/60 Hz resistive. 1 HP per movable arm at 120 V or 240 V, AC single phase. UL (File E22575) and CSA listed except 480V. Mounts by one front key hole and two rear channel slots for 8-32 screws on 2" x 2.5" triangular centers. Weight 14 oz. For enclosures see Dust Covers listed on this page.

Stock No.	Type	Coil Input	Coil Ohms	1-24	25-50	51-99	100-249
24F1430	PM17AY	6 VAC	.37	18.60	17.67	16.74	13.95
24F1431	PM17AY	12 VAC	1.4	18.60	17.67	16.74	13.95
24F1432	PM17AY	24 VAC	5	18.60	17.67	16.74	13.95
24F1433	PM17AY	120 VAC	120	18.60	17.67	16.74	13.95
24F1434	PM17AY	240 VAC	587	18.70	17.77	16.83	14.03
24F1426	PM17DY	6 VDC	8.2	16.00	15.20	14.40	12.00
24F1427	PM17DY	12 VDC	33	16.00	15.20	14.40	12.00
24F1428	PM17DY	24 VDC	132	16.00	15.20	14.40	12.00
24F1429	PM17DY	110 VDC	2760	17.45	16.58	15.71	13.09

DUST COVERS

- Knockouts for ½" dia. conduit
- Sheet Metal Base
- Gray Hammertone Finish

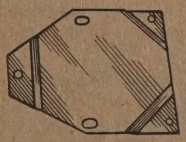


Sheet metal base with knockouts for ½" dia. conduit. Alum. cover with two screws. Gray Hammertone Finish. Mounting: Three No. 10 holes on 1 ⅞x4⅛" ctrs.

Stock No.	Type	Material	Lgth.	Ht.	1-24	25-50	51-99	100-249
24F1289	35D227	PM Metal	5.313	3.812	6.06	5.76	5.45	4.55
24F1318	35D013	PR Metal	5.312	3.125	5.00	4.75	4.50	3.75
51F3460	35D203	PM Plast.	5.313	3.812	1.06	1.01	.95	.80

PM SERIES ADAPTOR PLATE

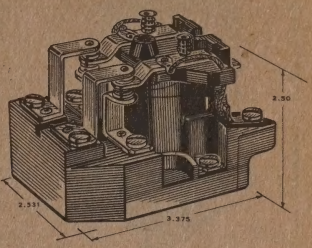
Adaptor plate for mounting PM on PR/PRD mounting holes.



Stock No.	Description	1-24	25-50	51-99	100-249
51F3462	Adaptor Plate 37B370	.41	.39	.37	.31

PRD SERIES POWER RELAYS

- For high inrush current applications
- Protective Plastic Cover
- UL and CSA Listed



Heavy duty power relay. For high inrush current applications such as motor starting and incandescent lamp loads. Coil housed in protective plastic enclosure to min. possibility of damage. 100,000 operations @ full load. Directly interchangeable with the PR model. All PRD 1, 3, 5 models have contact ratings of 25 amps @ 277V AC, res. Models PRD 7, or 11 with AY and DY suffixes are rated 25 amps @ 240 V AC, 20 amps @ 277 V AC, res. Models 7, 11 with the suffix AG are rated 30 amps @ 240 V AC, 20 amps @ 277 V AC, res. Floating movable contact carrier provides excellent pressure and wipe between contact surfaces, thus keeping voltage drop to a minimum between mating contacts. UL and CSA listed.

AC VOLTS

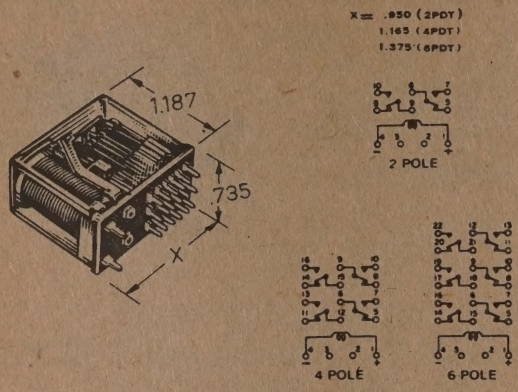
Stock No.	Type	Coil Input	Coil Ohms	Contacts	1-24	25-50	51-99	100-249
33F1503	PRD1AYO	24 V	12	SPST-NO	5.65	5.37	5.09	4.24
33F1504	PRD1AYO	120 V	290	SPST-NO	5.65	5.37	5.09	4.24
33F1505	PRD3AYO	6 V	.86	SPST-NO-DM	5.75	5.46	5.18	4.31
33F1506	PRD3AYO	12 V	3.2	SPST-NO-DM	5.75	5.46	5.18	4.31
33F1507	PRD3AYO	24 V	12	SPST-NO-DM	5.75	5.46	5.18	4.31
33F1508	PRD3AYO	120 V	290	SPST-NO-DM	5.75	5.46	5.18	4.31
33F1509	PRD3AYO	208 V	850	SPST-NO-DM	6.35	6.03	5.72	4.76
33F1510	PRD3AYO	240 V	1200	SPST-NO-DM	6.35	6.03	5.72	4.76
33F1515	PRD5AYO	6 V	.86	SPDT	6.00	5.70	5.40	4.50
33F1516	PRD5AYO	12 V	3.2	SPDT	6.00	5.70	5.40	4.50
33F1517	PRD5AYO	24 V	12	SPDT	6.00	5.70	5.40	4.50
33F1518	PRD5AYO	120 V	290	SPDT	6.00	5.70	5.40	4.50
33F1519	PRD5AYO	208 V	850	SPST	6.65	6.32	5.99	4.99
33F1520	PRD5AYO	240 V	1200	SPDT	6.65	6.32	5.99	4.99
33F1525	PRD7AGO	120 V	290	DPST-NO	7.10	6.75	6.39	5.33
33F1526	PRD7AYO	6 V	.86	DPST-NO	6.75	6.41	6.08	5.06
33F1527	PRD7AYO	12 V	3.2	DPST-NO	6.75	6.41	6.08	5.06
33F1528	PRD7AYO	24 V	12	DPST-NO	6.75	6.41	6.08	5.06
33F1529	PRD7AYO	120 V	290	DPST-NO	6.75	6.41	6.08	5.06
33F1530	PRD7AYO	208 V	850	DPST-NO	7.35	6.98	6.62	5.51
33F1531	PRD7AYO	240 V	1200	DPST-NO	7.35	6.98	6.62	5.51
33F1536	PRD11AGO	120 V	290	DPDT	9.30	8.84	8.37	6.98
33F1537	PRD11AYO	6 V	.86	DPDT	8.90	8.46	8.01	6.68
33F1538	PRD11AYO	12 V	3.2	DPDT	8.90	8.46	8.01	6.68
33F1539	PRD11AYO	24 V	12	DPDT	8.90	8.46	8.01	6.68
33F1540	PRD11AYO	120 V	290	DPDT	8.90	8.46	8.01	6.68
33F1541	PRD11AYO	208 V	850	DPDT	9.50	9.03	8.55	7.13
33F1542	PRD11AYO	240 V	1200	DPDT	9.50	9.03	8.55	7.13
33F1543	PRD11AYO	480 V	4500	DPDT	10.65	10.12	9.59	7.99
33F1548	PRDA11AYA	12 V	3.2	DPDT*	12.55	11.92	11.30	9.41
33F1549	PRDA11AYA	24 V	12	DPDT*	12.55	11.92	11.30	9.41
33F1550	PRDA11AYA	120 V	290	DPDT*	12.55	11.92	11.30	9.41
33F1633	PRDA11AYA	240 V	1200	DPDT*	13.25	12.59	11.93	9.94

*Has aux. SPDT, 5A, snap-action switch.

DC VOLTS

33F1511	PRD3DYO	6 V	18	SPST-NO-DM	5.75	5.46	5.18	4.31
33F1512	PRD3DYO	12 V	71	SPST-NO-DM	5.75	5.46	5.18	4.31
33F1513	PRD3DYO	24 V	288	SPST-NO-DM	5.75	5.46	5.18	4.31
33F1514	PRD3DYO	110 V	6050	SPST-NO-DM	6.60	6.27	5.94	4.95
33F1521	PRD5DYO	6 V	18	SPDT	6.00	5.70	5.40	4.50
33F1522	PRD5DYO	12 V	71	SPDT	6.00	5.70	5.40	4.50
33F1523	PRD5DYO	24 V	288	SPDT	6.00	5.70	5.40	4.50
33F1524	PRD5DYO	110 V	6050	SPDT	6.85	6.51	6.17	5.14
33F1532	PRD7DYO	6 V	18	SPDT	6.80	6.46	6.12	5.10
33F1533	PRD7DYO	12 V	71	SPDT	6.80	6.46	6.12	5.10
33F1534	PRD7DYO	24 V	288	SPDT	6.80	6.46	6.12	5.10
33F1535	PRD7DYO	110 V	6050	SPDT	7.65	7.27	6.89	5.74
33F1544	PRD11DYO	6 V	18	DPDT	8.90	8.46	8.01	6.68
33F1545	PRD11DYO	12 V	71	DPDT	8.90	8.46	8.01	6.68
33F1546	PRD11DYO	24 V	288	DPDT	8.90	8.46	8.01	6.68
33F1547	PRD11DYO	110 V	6050	DPDT	9.70	9.22	8.73	7.28

R10-E1 SERIES INDUSTRIAL RELAYS WITH SOLDER TERMINALS



- **UL recognized**
- **CSA recognized up to 6PDT Models**
- **Contact life expectancy of 10 million mech. operations**
- **1000V Initial Breakdown**

UL recognized under File E42810 and E46750. Models to 6PDT have CSA recognition. Contact life expectancy for all series is 10 million operations, mechanical. Wiring connections should be made so that opposite polarity is not developed between adjacent contacts. Initial breakdown voltage of the gaps between contacts is 1000 V rms; 500 V rms between "Z" (bifurcated) contacts. Contact ratings shown are for use at 28V DC or 115V AC, resistive. "V" relays are DC voltage actuated. "J" relays are current actuated (DC). "SS" relays are sensitive DC voltage actuated. Voltages listed in "Input" col. are maximums. "EI" relays have .012" x .080" x .21" long solder terminals w/ #3-48 mounting stud. Pickup is approx. 75% of rated coil voltage. Max. pickup power of SPDT R10-SS1.0 and -SS220 is 20 mW DC @ 25° C. Wt. 0.8-1.4 oz.

2 AMP Typical/3 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
67F1071	R10-E1-Y1-SS1.0K	6 DC	1000	SPDT	4.80	4.32	3.84	3.36
67F1072	R10-E1-Y1-SS220	3 DC	220	SPDT	4.80	4.32	3.84	3.36
45F105	R10-E1-Y2-V52	6 DC	52	2PDT	3.95	3.56	3.16	2.77
45F106	R10-E1-Y2-V185	12 DC	185	2PDT	3.95	3.56	3.16	2.77
45F107	R10-E1-Y2-V700	24 DC	700	2PDT	3.95	3.56	3.16	2.77
62F3043	R10-E1-Y2-V2.5K	48 DC	2500	2PDT	3.95	3.56	3.16	2.77
62F3044	R10-E1-Y2-15K	115 DC	15000	2PDT	6.25	5.63	5.00	4.38
45F108	R10-E1-Y4-V52	6 DC	52	4PDT	4.35	3.92	3.48	3.05
45F109	R10-E1-Y4-V185	12 DC	185	4PDT	4.35	3.92	3.48	3.05
45F110	R10-E1-Y4-V700	24 DC	700	4PDT	4.35	3.92	3.48	3.05
45F111	R10-E1-Y4-V2.5K	48 DC	2500	4PDT	4.35	3.92	3.48	3.05
45F112	R10-E1-Y4-V15K	115 DC	15000	4PDT	6.65	5.99	5.32	4.66
60F3045	R10-E1-Y6-V25	6 DC	25	6PDT	5.65	5.09	4.52	3.96
45F113	R10-E1-Y6V90	12 DC	90	6PDT	5.65	5.09	4.52	3.96
45F114	R10-E1-Y6-V430	24 DC	430	6PDT	5.65	5.09	4.52	3.96
60F3046	R10-E1-Y6-V1.5K	48 DC	1500	6PDT	5.65	5.09	4.52	3.96
60F3047	R10-E1-Y6-V9.0K	115 DC	9000	6PDT	6.65	5.99	5.32	4.66

5 AMP Typical/7½ Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
62F3048	R10-E1-X2-V52	6 DC	52	2PDT	4.10	3.69	3.28	2.87
45F115	R10-E1-X2-V185	12 DC	185	2PDT	4.10	3.69	3.28	2.87
45F116	R10-E1-X2-V700	24 DC	700	2PDT	4.10	3.69	3.28	2.87
62F3049	R10-E1-X2-V2.5K	48 DC	2500	2PDT	4.10	3.69	3.28	2.87
62F3050	R10-E1-X2-V15K	115 DC	15000	2PDT	6.40	5.76	5.12	4.48
45F117	R10-E1-X2-115VAC	115 AC	9.0K	2PDT	6.75	6.08	5.40	4.73
62F3051	R10-E1-X4-V52	6 DC	52	2PDT	4.65	4.19	3.72	3.26
45F118	R10-E1-X4-V185	12 DC	185	4PDT	4.65	4.19	3.72	3.26
45F119	R10-E1-X4-V700	24 DC	700	4PDT	4.65	4.19	3.72	3.26
62F3052	R10-E1-X4-V2.5K	48 DC	2500	4PDT	4.65	4.19	3.72	3.26
62F3053	R10-E1-X4-V15K	115 DC	15000	4PDT	6.95	6.26	5.56	4.87
45F120	R10-E1-X4-115VAC	115 AC	9.0K	4PDT	8.20	7.38	6.56	5.74
62F3054	R10-E1-X6-V25	6 DC	25	6PDT	6.10	5.49	4.88	4.27
45F121	R10-E1-X6-V90	12 DC	90	6PDT	6.10	5.49	4.88	4.27
45F122	R10-E1-X6-V430	24 DC	430	6PDT	6.10	5.49	4.88	4.27
62F3055	R10-E1-X6-V1.5K	48 DC	1500	6PDT	6.10	5.49	4.88	4.27
62F3056	R10-E1-X6-V9.0K	115 DC	9000	6PDT	7.10	6.39	5.68	4.97

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
67F1073	R10-E1-X6-115VAC	115 AC	7.5K	6PDT	11.40	10.26	9.12	7.98
67F1074	R10-E1-X8-115VAC	115 AC	7.5K	8PDT	13.75	12.38	11.00	9.63

7½ AMP Typical/10 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
67F1075	R10-E1-W2-V185	12 DC	185	2PDT	4.70	4.23	3.76	3.29
67F1076	R10-E1-W2-V700	24 DC	700	2PDT	4.70	4.23	3.76	3.29
67F1077	R10-E1-W4-V700	24 DC	700	4PDT	5.75	5.18	4.60	4.03

BIFURCATED LOW LEVEL CONTACTS 100 MA Typ./2 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
62F3067	R10-E1-Z2-V52	6 DC	52	2PDT				
45F125	R10-E1-Z2-V185	12 DC	185	2PDT	4.40	3.96	3.52	3.08
45F126	R10-E1-Z2-V700	24 DC	700	2PDR				
62F3068	R10-E1-Z2-V2.5K	48 DC	2500	2PDT				
62F3069	R10-E1-Z2-V15.0K	115 DC	15000	2PDT	6.70	6.03	5.36	4.69
62F3070	R10-E1-Z4-V52	6 DC	52	4PDT				
45F127	R10-E1-Z4-V185	12 DC	185	4PDT	4.95	4.46	3.96	3.47
45F128	R10-E1-Z4-V700	24 DC	700	4PDT				
62F3071	R10-E1-Z4-V2.5K	48 DC	2500	4PDT				
62F3072	R10-E1-Z4-V15.0K	115 DC	15000	4PDT	7.25	6.53	5.80	5.08
62F3073	R10-E1-Z6-V25	6 DC	25	6PDT				
45F129	R10-E1-Z6-V90	12 DC	90	6PDT	6.40	5.76	5.12	4.48
45F130	R10-E1-Z6-V430	24 DC	430	6PDT				
62F3074	R10-E1-Z6-V1.5K	48 DC	1500	6PDT				
62F3075	R10-E1-Z6-V9.0K	115 DC	9000	6PDT	7.40	6.66	5.92	5.18

SENSITIVE CURRENT 2 AMP Typ./3 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
45F131	R10-E1-Y2-J2.5K	5.8 mA	2500	2PDT	4.30	3.87	3.44	3.01
45F132	R10-E1-Y2-J5.0K	4.1 mA	5000	2PDT	4.85	4.37	3.88	3.40
62F3065	R10-E1-Y2-J10.0K	3.1 mA	10000	2PDT	5.25	4.73	4.20	3.68
45F133	R10-E1-Y4-J2.5K	8.4 mA	2500	4PDT	4.75	4.28	3.80	3.33
45F134	R10-E1-Y4-J5.0K	6.2 mA	5000	4PDT	5.30	4.77	4.24	3.71
62F3066	R10-E1-Y4-J10.0K	4.5 mA	10000	4PDT	5.75	5.18	4.60	4.03

SENSITIVE CURRENT—BIFURCATED CONTACTS 100 MA Typ./2 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
45F135	R10-E1-Z4-J1.0K	12.0 mA	1000	4PDT	5.35	4.82	4.28	3.75
45F136	R10-E1-Z4-J2.5K	8.4 mA	2500	4PDT	5.35	4.82	4.28	3.75
45F137	R10-E1-Z4-J5.0K	6.2 mA	5000	4PDT	5.90	5.31	4.72	4.13

R10-E2 PRINTED CIRCUIT TERMINALS

2 AMP Typical/3 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
45F138	R10-E2-Y2-V185	12 DC	185	2PDT	3.95	3.56	3.16	2.77
45F139	R10-E2-Y2-V700	24 DC	700	2PDT	3.95	3.56	3.16	2.77
45F140	R10-E2-Y4-V185	12 DC	185	4PDT	4.35	3.92	3.48	3.05
45F141	R10-E2-Y4-V700	24 DC	700	4PDT	4.35	3.92	3.48	3.05
62F3057	R10-E2-Y6-V90	12 DC	90	6PDT	5.65	5.09	4.52	3.96
62F3058	R10-E2-Y6-V430	24 DC	430	6PDT	5.65	5.09	4.52	3.96
62F3059	R10-E2-Y6-V1.5K	48 DC	1500	6PDT	5.65	5.09	4.52	3.96

5 AMP Typical/7½ Amp Max.

67F1078	R10-E2-X2-V700	24 DC	700	2PDT	4.10	3.69	3.28	2.87

7½ Amp Typical/10 Amp Max.

67F1079	R10-E2-W2-V700	24 DC	700	DPDT	4.70	4.23	3.76	3.29

BIFURCATED CONTACTS 100 MA Typ./2 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
45F142	R10-E2-Z4-V185	12 DC	185	4PDT	4.95	4.46	3.96	3.47
45F143	R10-E2-Z4-V700	24 DC	700	4PDT	4.95	4.46	3.96	3.47
62F3060	R10-E2-Z6-V90	12 DC	90	6PDT	6.40	5.76	5.12	4.48
62F3061	R10-E2-Z6-V430	24 DC	430	6PDT	6.40	5.76	5.12	4.48
62F3062	R10-E2-Z6-V1.5K	48 DC	1500	6PDT	6.40	5.76	5.12	4.48

SENSITIVE CURRENT-BIFURCATED CONTACTS 100 MA Typ./2 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
67F1080	R10-E2-Z4-J2.5K	8.4 mA	2500	4PDT	5.35	4.82	4.28	3.75
67F1081	R10-E2-Z4-J5.0K	6.2 mA	5000	4PDT	5.90	5.31	4.72	4.13

General Purpose Relays AMF | POTTER & BRUMFIELD

R10L SERIES HAS LIGHT EMITTING DIODE (LED)

SOLDER TERMINALS—2 AMP Typ./3 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
67F1082	R10L-E1-Y2-V52	6 DC	52	2PDT	7.65	6.89	6.12	5.36
67F1083	R10L-E1-Y2-V185	12 DC	185	2PDT				
67F1084	R10L-E1-Y2-V700	24 DC	700	2PDT				
67F1085	R10L-E1-Y2-V2.5K	48 DC	2500	2PDT				
67F1086	R10L-E1-Y4-V52	6 DC	52	4PDT	8.05	7.25	6.44	5.64
67F1087	R10L-E1-Y4-V185	12 DC	185	4PDT				
67F1088	R10L-E1-Y4-V700	24 DC	700	4PDT				
67F1089	R10L-E1-Y6-V430	24 DC	430	6PDT				
BIFURCATED CONTACTS 100 MA Typ./2 Amp Max.								
67F1090	R10L-E1-Z4-V700	24 DC	700	4PDT	8.65	7.79	6.92	6.06
SOLDER TERMINALS—5 AMP Typ./7½ Amp Max.								
67F1091	R10L-E1-X2-V185	12 DC	185	2PDT	7.80	7.02	6.24	5.46
67F1092	R10L-E1-X2-V700	24 DC	700	2PDT	7.80	7.02	6.24	5.46
67F1093	R10L-E1-X4-V185	12 DC	185	4PDT	8.35	7.52	6.68	5.85
67F1094	R10L-E1-X4-V700	24 DC	700	4PDT	8.35	7.52	6.68	5.85
67F1095	R10L-E1-X4-V2.5K	48 DC	2500	4PDT	8.35	7.52	6.68	5.85
67F1096	R10L-E1-X6-V430	24 DC	430	6PDT	9.80	8.82	7.84	6.86

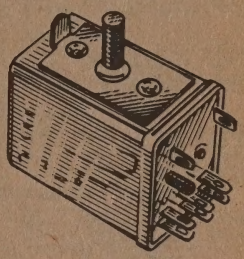
Has light emitting diode (LED) indicator. LED produces highly visible red light when coil is energized. LED has long operating life and high reliability. Other operating specs. same as standard R10 Series relays. Relays fit standard R10 Series sockets. Observe polarity when wiring R10L-with LED.

PC TERMINALS—2 AMP Typ./3 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
67F1097	R10L-E2-Y2-V185	12 DC	185	2PDT	7.65	6.89	6.12	5.36
67F1098	R10L-E2-Y4-V700	24 DC	700	4PDT	8.05	7.25	6.44	5.64

R10-E6 SERIES RELAYS

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
33F1625	R10-E6-X2-V52	6 DC	52	2PDT	4.45	4.01	3.56	3.12
33F1626	R10-E6-X2-V185	12 DC	185	2PDT	4.45	4.01	3.56	3.12
33F1627	R10-E6-X2-V700	24 DC	700	2PDT	4.45	4.01	3.56	3.12
33F1628	R10-E6-X2-115VAC	115 AC	9.0K	2PDT	7.10	6.39	5.68	4.97
33F1629	R10-E6-X4-V185	12 DC	185	4PDT	5.00	4.50	4.00	3.50
33F1630	R10-E6-X4-V700	24 DC	700	4PDT	5.00	4.50	4.00	3.50
33F1631	R10-E6-X4-115VAC	115 AC	9.0K	4PDT	8.55	7.70	6.84	5.99
33F1632	R10-E6-Y2-V185	12 DC	185	2PDT	4.30	3.87	3.44	3.01
33F1500	R10-E6-Y2-V700	24 DC	700	2PDT	4.30	3.87	3.44	3.01
33F1501	R10-E6-Y4-V185	12 DC	185	4PDT	4.70	4.23	3.76	3.29
33F1502	R10-E6-Y4-V700	24 DC	700	4PDT	4.70	4.23	3.76	3.29

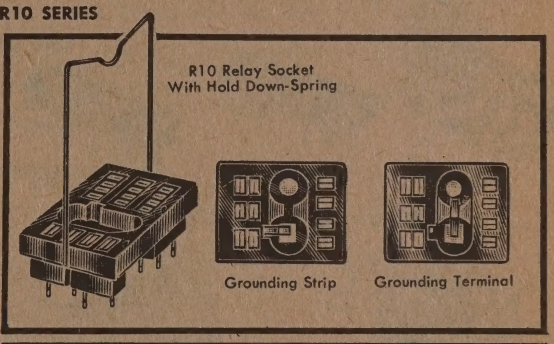


Standard R10-E1 relays with solder terminals and fitted with a bracket on the narrow side of its case for chassis mounting. The bracket has one #6-32 x .375" stud and one locating tab on .437" centers.

SOCKETS FOR R10 SERIES

Stk. No.	Part No.	No. of Poles	Terminal	Gnd. Type	Hold down Spring*	1-9	10-49	50-99	100-499
57F3433	27E125	2	Solder	Strip	20C249	.59	.53	.47	.41
57F3434	27E126	4	Solder	Strip	20C250	.75	.68	.60	.53
57F3435	27E127	6	Solder	Strip	20C251	.96	.86	.77	.67
57F3451	27E211	8	Solder	Strip	20C266	1.48	1.48	1.48	1.48
57F3444	27E162	2	Solder	None	20C249	.59	.53	.47	.41
57F3445	27E163	4	Solder	None	20C250	.75	.68	.60	.53
57F3446	27E164	6	Solder	None	20C251	.91	.82	.73	.64
57F3436	27E128	2	P/C	Strip	20C249	.59	.53	.47	.41
57F3437	27E129	4	P/C	Strip	20C250	.75	.68	.60	.53
57F3438	27E130	6	P/C	Strip	20C251	1.16	1.04	.93	.81
57F3453	27E254	8	P/C	Strip	20C266	1.48	1.33	1.18	1.04
57F3448	27E193	2	P/C	Term.	20C249	.59	.53	.47	.41
57F3449	27E194	4	P/C	Term.	20C250	.75	.68	.60	.53
57F3450	27E195	6	P/C	Term.	20C251	1.16	1.04	.93	.81
57F3443	27E152	4	**	Strip	20C250	1.06	.95	.85	.74

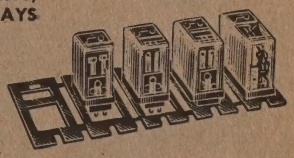
(*) Not included with socket.
**Solder/Bkt. Mt.



RELAY RETAINERS

Stk. No.	Part No.	No. of Poles	Description	1-9	10-49	50-99	100-499
57F3406	20C249	2	Wire Hold Down Spring	.06	.05	.05	.04
57F3407	20C250	4	Wire Hold Down Spring	.06	.05	.05	.04
57F3408	20C251	6	Wire Hold Down Spring	.06	.05	.05	.04
57F3412	20C266	8	Wire Hold Down Spring	.06	.05	.05	.04
57F3411	20C259	All	Wire Hold Down Strap (P/C only)	.06	.05	.05	.04
57F3413	20C300		Wire Hold Down Spring for 2 Pole R10S only.	.08	.07	.06	.06
57F3414	20C301		Wire Hold Down Spring for 4 Pole R10S only.	.08	.07	.06	.06

MOUNTING STRIP FOR R10, R12, R13, R14, R15 RELAYS



20 pre-punched break-away mounting plates stamped from .064" aluminum. Designed to simplify mounting one or more relays on chassis or racks. Each plate accepts 2, 4, 6 or 8 pole solder terminal relay or socket.
37D556. Mounting strip, R10P126.
57F3463. NET Each.....2.60

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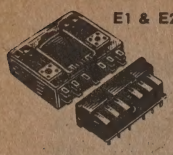
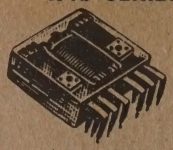
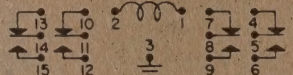
General Purpose Relays

R40 SERIES—SLIMLINE® DC OPERATED RELAY





- For PC Boards
- UL Component Recog.
- Only 0.43" High



4 PDT. Allows easy circuit board layout and 6" board mounting centers. Nominal power 720 mW. Mechanical life: 50 million operations.

R40-E3 MOUNTED FLAT ON PRINTED CIRCUIT BOARD
2 AMP TYP., 3 AMP MAX.

Stock No.	Type	Volts	1-9	10-49	50-99	100-499
45F163	R40-E3-Y4-V200	12 DC	6.75	6.08	5.40	4.73
45F164	R40-E3-Y4-V800	24 DC				
45F165	R40-E3-Y4-V3.2K	48 DC				
5 AMP TYP., 7.5 AMP MAX.						
45F166	R40-E3-X4-V200	12 DC	7.05	6.35	5.64	4.94
45F167	R40-E3-X4-V800	24 DC				
BIFURCATED CONTACTS						
45F168	R40-E3-Z4-V200	12 DC	7.35	6.62	5.88	5.15
45F169	R40-E3-Z4-V800	24 DC				
DRY CIRCUIT/CROSSBAR—500 μA TYP., 250 mA MAX.						
45F171	R40-E3-L4-V200	12 DC	8.40	7.56	6.72	5.88
45F172	R40-E3-L4-V800	24 DC				

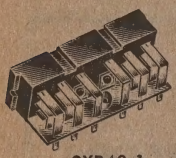
R40-E1 SOLDER TERMINALS OR PLUG IN SOCKET MFG.
2 AMP TYP., 3 AMP MAX.

Stock No.	Type	Volts	1-9	10-49	50-99	100-499
45F144	R40-E1-Y4-V50	6 DC	6.75	6.08	5.40	4.73
45F145	R40-E1-Y4-V200	12 DC				
45F146	R40-E1-Y4-V800	24 DC				
45F147	R40-E1-Y4-V3.2K	48 DC				
5 AMP TYP., 7.5 AMP MAX.						
45F148	R40-E1-X4-V200	12 DC	7.05	6.35	5.64	4.94
45F149	R40-E1-X4-V800	24 DC				
BIFURCATED CONTACTS—0.1A TYP., 2A MAX.						
45F150	R40-E1-Z4-V200	12 DC	7.35	6.62	5.88	5.15
45F151	R40-E1-Z4-V800	24 DC				
DRY CIRCUIT/CROSSBAR—500 μA TYP., 250 mA MAX.						
45F152	R40-E1-L4-V200	12 DC	8.40	7.56	6.72	5.88
45F153	R40-E1-L4-V800	24 DC				

R40-E2 PC TERMINAL VERTICAL MTG.
2 AMP TYP., 3 AMP MAX.

Stock No.	Type	Volts	1-9	10-49	50-99	100-499
45F155	R40-E2-Y4-V200	12 DC	6.75	6.08	5.40	4.73
45F156	R40-E2-Y4-V800	24 DC				
5 AMP TYP., 7.5 AMP MAX.						
45F157	R40-E2-X4-V50	6 DC	7.05	6.35	5.64	4.94
45F158	R40-E2-X4-V200	12 DC				
45F159	R40-E2-X4-V800	24 DC				
BIFURCATED CONTACTS—0.1A TYP., 2 A MAX.						
45F160	R40-E2-Z4-V200	12 DC	7.35	6.62	5.88	5.15

R40 SOCKETS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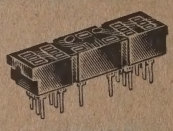
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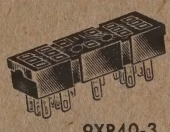
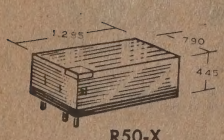
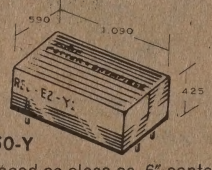

9XR40-3

Stk. No.	Type	Terminals	1-9	10-49	50-99	100-499
57F3454	27E323	Rt. angle PC	1.57	1.41	1.26	1.10
57F3441	27E134	Vertical PC	1.11	1.00	.89	.78
57F3442	27E135	Chassis mount solder	1.16	1.04	.93	.81
57F3409	20C252	Hold down spring	.06	.05	.05	.04

R50 Y1 AND Y2 RELAYS



R50-X

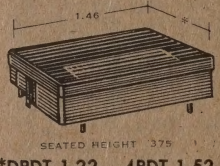


R50-Y

Seat .425" high for use on PC boards spaced as close as .6" center to center. Pickup approximately 75% of rated coil voltage. Dropout 5% minimum. Covered with molded polyester case. Gold plated PC terminals spaced on .1" grid. Contact life expectancy: 500,000 operations minimum. UL recognized. Nominal pickup power: R50-Y1, 330 mW DC; R50-Y2, 410 mW DC; R50S-Y2, 290 mW DC; R50-X1, 450 to 562 mW DC; R50S-Y1, 160 mW DC.

Stock No.	Type	Input	Res. Ω	Contacts	Current Rating	1-9	10-49
67F1185	R50-E2-Y1	6V	47	SPDT	2A	2.80	2.52
67F1186	R50-E2-Y1	12V	200	SPDT	2A	2.80	2.52
67F1187	R50-E2-Y1	24V	950	SPDT	2A	2.95	2.66
24F2493	R50-E2-Y1	48V	3000	SPDT	2A	3.45	3.11
24F2494	R50-E2-Y2	5V	32	DPDT	2A	3.70	3.33
24F2495	R50-E2-Y2	6V	45	DPDT	2A	3.70	3.33
24F2496	R50-E2-Y2	12V	170	DPDT	2A	3.70	3.33
24F2497	R50-E2-Y2	24V	670	DPDT	2A	3.80	3.42
24F2498	R50-E2-Y2	48V	2500	DPDT	2A	4.45	4.01
33F1621	R50-E2-X1	5V	25	SPDT	5A	3.30	2.97
33F1622	R50-E2-X1	6V	37	SPDT	5A	3.30	2.97
33F1623	R50-E2-X1	12V	125	SPDT	5A	3.30	2.97
33F1624	R50-E2-X1	24V	440	SPDT	5A	3.45	3.11
33F1551	R50S-E2-Y1	5V	64	SPDT	1A	2.70	2.43
33F1552	R50S-E2-Y1	6V	66	SPDT	1A	2.70	2.43
33F1553	R50S-E2-Y1	12V	330	SPDT	1A	3.50	3.15
33F1554	R50S-E2-Y1	24V	950	SPDT	1A	3.60	3.24
33F1555	R50S-E2-Y2	5V	42	DPDT	1A	3.50	3.15
33F1556	R50S-E2-Y2	6V	60	DPDT	1A	3.50	3.15
33F1557	R50S-E2-Y2	12V	260	DPDT	1A	3.50	3.15
33F1558	R50S-E2-Y2	24V	670	DPDT	1A	3.60	3.24

T10 SERIES RELAYS



- General Purpose
- Low Bounce
- Long Life

*DPDT 1.22, 4PDT 1.52, 6PDT 1.82

Only .375" high. PC boards can be mounted on .5" centers. Permissive make contacts. Operate and release times are each 15 ms, including bounce. Polycarbonate cover snaps in place over relay to keep out dust and other contaminates. UL recognized.

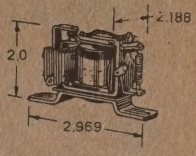
Stock No.	Type	Input	Res. Ω	Contacts	Current Rating	1-9	10-49
24F2499	T10-E2-Y2	6V	77	DPDT	3A	4.00	3.60
24F2500	T10-E2-Y2	12V	310	DPDT	3A	4.00	3.60
24F2501	T10-E2-Y2	24V	1200	DPDT	3A	4.00	3.60
24F2502	T10-E2-Y2	48V	4800	DPDT	3A	4.60	4.14
24F2503	T10-E2-Z2	6V	77	DPDT	1A	4.45	4.01
24F2504	T10-E2-Z2	12V	310	DPDT	1A	4.45	4.01
24F2505	T10-E2-Z2	24V	1200	DPDT	1A	4.45	4.01
24F2506	T10-E2-Z2	48V	4800	DPDT	1A	5.05	4.55
33F1592	T10-E2-Y4	6V	48	4PDT	3A	4.50	4.05
33F1593	T10-E2-Y4	12V	190	4PDT	3A	4.50	4.05
33F1594	T10-E2-Y4	24V	769	4PDT	3A	4.50	4.05
33F1596	T10-E2-Y4	48V	3050	4PDT	3A	5.10	4.59
24F2507	T10-E2-Z4	6V	48	4PDT	1A	5.10	4.59
24F2508	T10-E2-Z4	12V	190	4PDT	1A	5.10	4.59
24F2509	T10-E2-Z4	24V	769	4PDT	1A	5.10	4.59
24F2510	T10-E2-Z4	48V	3050	4PDT	1A	5.70	5.13
24F2511	T10-E2-Y6	6V	31	6PDT	3A	6.10	5.49
24F2512	T10-E2-Y6	12V	122	6PDT	3A	6.10	5.49
24F2513	T10-E2-Y6	24V	480	6PDT	3A	6.10	5.49
24F2514	T10-E2-Y6	48V	1900	6PDT	3A	7.50	6.75
24F2515	T10-E2-Z6	6V	31	6PDT	1A	6.70	6.03
24F2516	T10-E2-Z6	12V	122	6PDT	1A	6.70	6.03
24F2517	T10-E2-Z6	24V	480	6PDT	1A	6.70	6.03
24F2518	T10-E2-Z6	48V	1900	6PDT	1A	8.10	7.29

MR SERIES MEDIUM POWER RELAYS

COIL DATA FOR MR SERIES

DC COILS			AC COILS (50/60 HZ)		
Volts	Resistance	Average DC Current Milliamps	Volts	DC Resistance	Ave. AC Current Milliamps
6	24	250	6	2.7	550
12	96	125	12	13.2	268
24	360	67	24	50	134
110	8000	14.4	120	1250	28
			240	4600	14

Open frame type. Can handle small motors, transmitters, and many other similar power equipment applications. Mtg: two .156" dia. holes on 2.250" centers for MR3 and 11; 2.625" centers for MR5 and 14. Silver contacts. MR3 has contacts rated 10 amps; all others, 8 amps, 120 VAC, 28 VDC resistive. Life expectancy is 5 million mechanical operation. Temperature range: AC −45°C to 75°C @ nominal coil power, DC −45 to 80°C @ nominal coil power. Insulating material—phenolic. Weight; 4 ozs.



AC TYPE

Stk. No.	Type	Action	Input Volts	1-24	25-50	51-99	100-249
24F1158	MR3A	SPST-NO-DM	24	6.60	6.27	5.94	4.95
24F506	MR3A	SPST-NO-DM	120				
24F541	MR5A	SPDT	6				
45F002	MR5A	SPDT	12	5.90	5.61	5.31	4.43
24F1159	MR5A	SPDT	24				
24F509	MR5A	SPDT	120				
24F534	MR5A	SPDT	240	6.60	6.27	5.94	4.95
24F543	MR11A	DPDT	6				
45F003	MR11A	DPDT	12	7.95	7.55	7.16	5.96
24F1160	MR11A	DPDT	24				
24F511	MR11A	DPDT	120				
24F535	MR11A	DPDT	240	8.65	8.22	7.79	6.49
62F3006	MR14A	3PDT	6				
62F3007	MR14A	3PDT	12	10.40	9.88	9.36	7.80
45F004	MR14A	3PDT	24				
24F536	MR14A	3PDT	120				
45F005	MR14A	3PDT	240	11.10	10.55	9.99	8.33

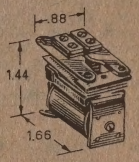
DC TYPE

Stk. No.	Type	Action	Input Volts	1-24	25-50	51-99	100-249
45F006	MR3D	SPST-NO-DM	12	6.70	6.37	6.03	5.03
24F1166	MR3D	SPST-NO-DM	24				
24F550	MR5D	SPDT	6				
24F1167	MR5D	SPDT	12	5.80	5.51	5.22	4.35
24F1168	MR5D	SPDT	24				
62F3008	MR5D	SPDT	110	6.70	6.37	6.03	5.03
24F551	MR11D	DPDT	6				
24F1169	MR11D	DPDT	12	7.90	7.51	7.11	5.93
24F1170	MR11D	DPDT	24				
24F1315	MR11D	DPDT	110	8.75	8.31	7.88	6.56
62F3010	MR14D	3PDT	12	10.30	9.79	9.27	7.73
45F007	MR14D	3PDT	24				
24F1316	MR14D	3PDT	110	10.59	10.04	8.36	7.81

MB MINIATURE TELEPHONE RELAYS

Stock No.	Type	Coil Input	Coil Ohms	1-24	25-50	51-99	100-249
62F3029	MB3D	6VDC	13.3	10.65	10.12	9.59	7.99
24F612	MB3D	12VDC	62.3				
24F613	MB3D	24VDC	245				
24F614	MB3D	110VDC	5000	11.40	10.83	10.26	8.55

MB SERIES. Designed for very high current applications, 60 A @ 28 VDC res. Contact arms; stationary, heavy brass, silver contacts pierced solder terminals. Movable silver bar contacts. Mtg. four 3—48 holes on .375" x .375" centers. Wt. 2 oz.

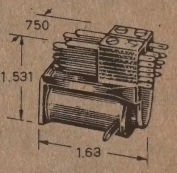


MB Series

MH SERIES MINIATURE TELEPHONE RELAYS

Stk. No.	Type	Coil Input	Coil Ohms	1-24	25-50	51-99	100-249
24F115	MH11L†	10.0K	10000	11.55	10.97	10.40	8.66
24F113	MH17D	6VDC	23	12.45	11.83	11.21	9.34
24F1296	MH17D	12VDC	96	12.45	11.83	11.21	9.34
24F620	MH17D	24VDC	365	12.45	11.83	11.21	9.34
24F1297	MH17DM**	12VDC	96	24.60	23.37	22.14	18.45
24F622	MH17DM**	24VDC	365	24.60	23.37	22.14	18.45
24F1117	MH17AMR**	120VAC	6200	29.65	28.17	26.69	22.24
62F3034	MH23D	12VDC	62.3	17.15	16.29	15.44	12.86
24F1298	MH23D	24VDC	245	17.15	16.29	15.44	12.86
62F3036	MH23DD**	24VDC	245	32.80	31.16	29.52	24.60

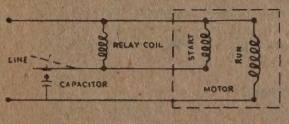
Ideal for applications where space and weight are factors. Rating—5 amps, except (†) 3 amps. Gold flashed silver contacts. **OPEN—MH11L:** one 6—32 threaded stud. .344" long plus locating boss. All others four 3—48 holes on .375" x .375" centers. **SEALED (**)**—three 6—32 NC 2 threaded studs on 1.250" x .50" centers except **MH23DD** three 6—32 threaded studs on 1.188" x .938" centers. All sealed models have hook solder terminals. Weight: open models 2.25 oz. maximum. Sealed models 5 oz. maximum.

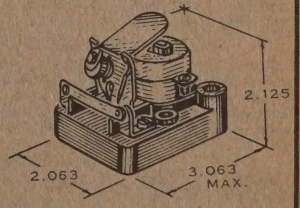


MH SERIES
MINIATURE TYPE

MS SERIES MOTOR STARTING RELAYS

Disconnects capacitor on capacitor start, induction run motors. Operates on back EMF of start winding. Armature gap can be altered to change pick-up. UL recognized. Mounting: two .156" dia. holes on 1.563" centers. Contacts: ¾ HP, fine silver; 3 HP, silver cadmium.





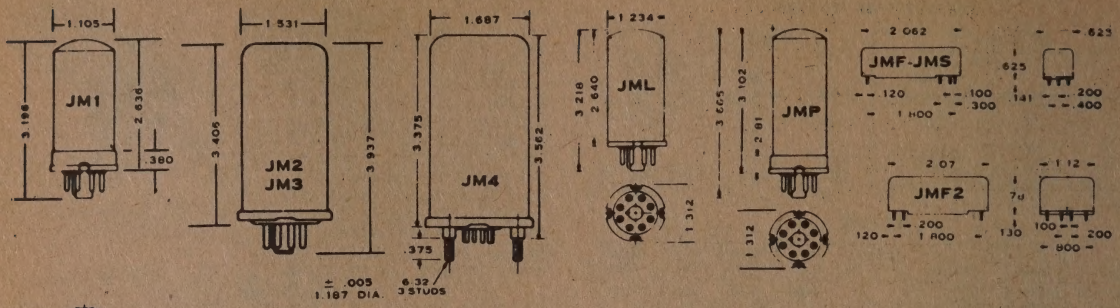
Stock No.	Type	Input	Res. Ω	Contacts	Rating	1-24	25-50	51-99	100-249
25F775	MS2AY	120V	530	SPST-	. . . . .	7.35	6.98	6.62	5.51
25F776	MS2AY	240V	2100	NC	¾ HP	7.60	7.22	6.84	5.70
25F777	MS4AY	120V	530	SPST	. . . . .	8.20	7.79	7.38	6.15
25F778	MS4AY	240V	2100	NC-DB	3 HP	8.35	7.93	7.52	6.26

MS/MR SERIES DUST COVER

Metal dust cover.

Stock No.	Type	1-24	25-50	51-99	100-249
25F779	35D130	3.33	3.16	3.00	2.50

Mercury Wetted Relays



JM MERCURY-WETTED CONTACT RELAYS

Rare long life, high speed and unvarying dependability are the results of this hermetically sealed glass capsule, which contains a small reservoir of mercury sealed in a high pressure hydrogen atmosphere. Will handle contact loads up to 5 Amps @ 500V with operating time as short as 3ms. Contacts utilize the standard bridging Form D make-before-break arrangement, allowing single capsule SPDT, 2 capsule DPDT, 3 capsule 3PDT and 4-capsule 4PDT construction.

SINGLE CAPSULE-SINGLE COIL-SPDT

Stk. No.	Type	Ohms	1-9	10-24	25-99	100-249
62F2950	JM1-106-12	40	21.05	15.70	13.37	12.10
24F1680	JM1-109-12	130	21.05	15.70	13.37	12.10
24F1681	JM1-112-11	500	21.05	15.70	13.37	12.10
24F1682	JM1-114-11	700	21.05	15.70	13.37	12.10
24F1683	JM1-114-12	700	21.05	15.70	13.37	12.10
24F1684	JM1-118-11	2500	21.40	15.96	13.59	12.31
24F1685	JM1-119-11	4000	10.70	10.70	10.70	10.70
24F1686	JM1-120-11	7000	22.20	16.56	14.10	12.77
24F1687	JM1-121-11	11000	22.20	16.56	14.10	12.77
24F1688	JM1-123-11	25000	22.20	16.56	14.10	12.77

4PDT-SINGLE COIL

62F2953	JM4-110-41	390	56.90	42.45	36.13	32.72

SPDT-SINGLE COIL

62F2955	JMD-1090-63	450	16.90	12.61	10.73	9.72

DOUBLE CAPSULE—SINGLE COIL—DPDT

24F2157	JM2-104-22	50	34.20	25.51	21.72	19.67
45F017	JM2-106-21	140				
24F2158	JM2-109-22	315				
24F2159	JM2-110-22	500				
24F1690	JM2-111-22	700				
24F2160	JM2-112-22	1250				
24F2162	JM2-115-21	5000				
24F1691	JM2-115-22	5000				

THREE CAPSULE-SINGLE COIL

62F2951	JM3-110-31	500	44.20	32.97	28.07	25.42
45F018	JM3-109-31	315				
24F2168	JM3-115-31	5000				

JML NON-BRIDGING MERCURY-WETTED CONTACT RELAYS

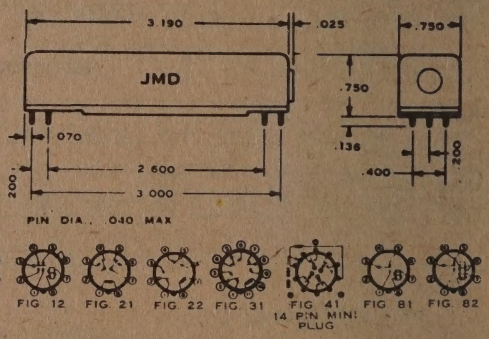
Employs a Form C non-bridging contact arrangement. They provide greater sensitivity, faster operation than JMP relays. Speeds from 3ms to 1.1 ms are possible, depending upon coil power. Contacts are rated 2 amps max., 500V max. with contact protection. All JML relays mount in Amphenol 77-MIP-8 sockets. Weight: 4-ozs.

SINGLE-SIDE-STABLE

Stk. No.	Type	Ohms	1-9	10-24	25-99	100-249
24F2189	JML1061-81	40	17.45	13.02	11.08	10.03
24F2190	JML1110-81	350				
24F2191	JML1160-81	1000				
24F2192	JML1190-81	2500	18.60	13.88	11.81	10.70
24F2193	JML1200-81	4000	18.60	13.88	11.81	10.70
45F3019	JML1240-81	11000	18.60	13.88	11.81	10.70
24F2194	JML1260-81	25,000	19.45	14.51	12.35	11.18

BI-STABLE

24F2197	JML5200-81	4000	18.60	13.88	11.81	10.70
62F2957	JML5430-82	1100	19.40	14.47	12.32	11.16



Last Two Digits in Type Number Indicates Termination Fig. No.

JM MERCURY WETTED CONTACT RELAYS

JMF JMF2 (dual capsule*) and JMS relays have SPDT break-before-make (Form C) non-bridging contacts. JMP relays have SPDT break-before-make (Form D) bridging contacts. All contacts rated 500 volts at 2 amps except JMP which are rated 500 volts at 5 amps. Weight: JMF and JMS, 1¼ oz.; JMF2 and JMP, 3¼ oz.

JMF PRINTED CIRCUIT MODULE RELAYS

Single Side Stable

Stk. No.	Type	Ohms	1-9	10-24	25-99	100-249
24F2551	JMF1070-61	450	14.10	10.52	8.95	8.11
24F2552	JMF1080-61	675				
24F2553	JMF1120-61	1425				
24F2554	JMF1150-61	2400				
24F2555	JMF1160-61	4000	14.80	11.04	9.40	8.51

JMF2 PRINTED CIRCUIT MODULE RELAYS

62F2976	JMF21000-71*	130	27.00	20.14	17.15	15.53
62F2977	JMF21001-71*	520				
62F2978	JMF21002-71*	2200				

JMS SENSITIVE NON-BRIDGING RELAYS

Single-side-stable, single-wound coil

62F2981	JMS1070-61	34	16.10	12.01	10.22	9.26
62F2982	JMS1130-61	620	16.15	12.05	10.26	9.29
62F2983	JMS1160-61	2430	16.40	12.23	10.41	9.43

JMP POLARIZED FORM D BRIDGING RELAYS

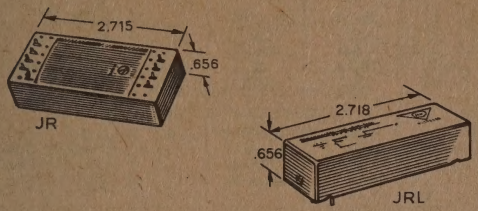
Single-side-stable

62F2985	JMP1160-11	1,000	22.85	17.05	14.51	13.14
62F2986	JMP1200-11	4,000	24.50	18.28	15.56	14.09

Dry Reed Relays

AMF | POTTER & BRUMFIELD

COMPUTER TYPE RELAYS, JR, JRM, JRL



JR and JRM. Glass supported nylon insulated. 500 volts rms 60 Hz, between insulated points. 275 volts rms 60 Hz, between open contacts. **JR** Operate time: 3ms. @ nom. coil volt @ 25°. Size 2.715 x .656" H max. **JRM** is 1.125" long, .468" high; width varies with contact arrangement. Oper. time: 1ms. Release time: 1 ms. Pick-up: 75% or less nom. @ 25°C. Rating: 10 watts. **JRL.** Standard latching relay. 1 Form A and 2 Form A contacts rated 15 watts, resistive. Operate time at 25° is 2ms (including bounce). Wt. 2 ozs.

JR STANDARD

Stock No.	Type	No. Cav	Coil VDC	Coil Ohms	Con. Arr.	Reed Watts	1-9	10-24	25-99	100-249
24F2860	1000	1	6	150	1A	15	4.40	3.28	2.79	2.53
24F2865	1020	1	6	150	1A	50	5.95	4.44	3.78	3.42
24F2861	1001	2	6	100	2A	15	5.95	4.44	3.78	3.42
24F2864	1040	1	6	150	1C	10	9.90	7.39	6.29	5.69
24F3300	1041	2	6	100	2C	10	10.65	7.94	6.76	6.12
24F2867	1005	1	12	600	1A	15	4.60	3.43	2.92	2.65
24F2872	1025	1	12	600	1A	50	6.15	4.59	3.91	3.54
24F2868	1006	2	12	400	2A	15	6.00	4.48	3.81	3.45
62F2989	1008	4	12	150	4A	15	9.25	6.90	5.87	5.32
62F2990	1063	2	12	400	1B	15	5.65	4.21	3.59	3.25
24F2871	1045	1	12	600	1C	10	9.90	7.39	6.29	5.69
24F3301	1046	2	12	400	2C	10	13.00	9.70	8.26	7.48
24F2870	1086	3	12	200	1A+1B	15	7.90	5.89	5.02	4.54
24F2874	1010	1	24	2400	1A	15	5.05	3.77	3.21	2.90
24F2879	1030	1	24	2400	1A	50	6.55	4.89	4.16	3.77
24F2875	1011	2	24	1600	2A	15	6.25	4.66	3.97	3.59
24F3302	1031	2	24	1600	2A	50	9.30	6.94	5.91	5.35
24F2876	1013	4	24	600	4A	15	9.40	7.01	5.97	5.41
62F2992	1066	2	24	1600	1B	15	6.15	4.59	3.91	3.54
24F2878	1050	1	24	2400	1C	10	9.85	7.35	6.25	5.66
62F2991	1051	2	24	1600	2C	10	11.00	8.21	6.99	6.33
24F2877	1088	3	24	800	1A+1B	15	8.10	6.04	5.14	4.66

JRL LATCHING

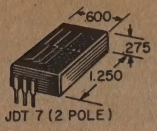
24F3309	1000	2	6	400	1A	15	6.20	4.63	3.94	3.57
24F3310	1001	2	12	1600	1A	15	6.35	4.74	4.03	3.65
24F3311	1002	2	24	6400	1A	15	6.50	4.85	4.13	3.74
24F3312	1012	3	6	300	2A	15	8.10	6.04	5.14	4.66
24F3313	1013	3	12	1200	2A	15	8.20	6.12	5.21	4.72

JRM MINIATURE

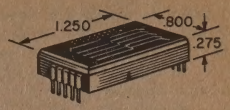
Stock No.	Type JRM	No. Cav	Coil VDC	Coil Ohms	Con. Arr.	W In.	Wt. Oz.	1-9	10-24	25-99	100-249
24F3303	1000	1	6	200	1A	.432	.366	4.35	3.25	2.76	2.50
24F3304	1001	2	6	130	2A	.562	.395	6.25	4.66	3.97	3.59
62F2994	1003	4	6	67	4A	.813	.620	9.90	7.39	6.29	5.69
62F2995	1036	2	6	130	1B	.562	.395	5.55	4.14	3.52	3.19
62F2997	1048	3	6	86	1A+1B	.968	.781	7.10	5.30	4.51	4.08
24F2909	1006	1	12	800	1A	.432	.366	4.40	3.28	2.79	2.53
24F2910	1007	2	12	520	2A	.557	.395	6.25	4.66	3.97	3.59
24F3305	1009	4	12	268	4A	.813	.620	9.90	7.39	6.29	5.69
24F2919	1040	2	12	520	1B	.557	.395	5.60	4.18	3.56	3.22
62F2999	1041	3	12	344	2B	.703	.530	7.45	5.56	4.73	4.28
24F2923	1050	3	12	344	1A+2B	.698	.530	7.15	5.33	4.54	4.11
24F3306	1051	5	12	200	2A+2B	.968	.781	11.35	8.47	7.21	6.53
24F2912	1012	1	24	3200	1A	.432	.366	4.90	3.66	3.11	2.82
24F2913	1013	2	24	2080	2A	.557	.395	6.45	4.81	4.10	3.71
24F2914	1015	4	24	1072	4A	.808	.620	10.00	7.46	6.35	5.75
24F2921	1044	2	24	2080	1B	.557	.395	5.70	4.25	3.62	3.28
24F3307	1045	3	24	1376	2B	.703	.530	7.60	5.67	4.83	4.37
24F2925	1052	3	24	1376	1A+1B	.698	.530	7.25	5.41	4.60	4.17
24F3308	1053	5	24	800	2A+2B	.968	.781	11.35	8.47	7.21	6.53

Call Your Local NEWARK Office For Prices on Higher Quantities

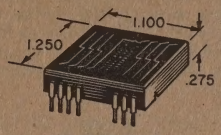
SERIES JDT DUAL THIN LINE RELAYS



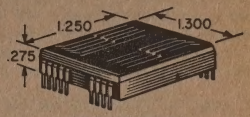
JDT 7 (2 POLE)



JDT 15 (4 POLE)



JDT 21 (6 POLE)

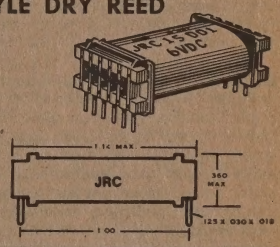


JDT 27 (8 POLE)

Ideal for high density packaging applications. Reed relays have low profile (only 0.275" max. height). Hermetically sealed glass capsules are completely encapsulated in epoxy. Terminals are on .100" grid centers for ease of printed circuit board mounting and layout. Operate time is 3.5 milliseconds including bounce. Release time is 3.5 milliseconds maximum. Weight: ½ to ¾ oz. max.

Stock No.	Type JDT	No. Cav	Coil VDC	Coil Ohms	Con. Arr.	Reed Watts	1-9	10-24	25-99	100-249
62F3000	7DA1	2	6	115	2A	10	7.85	5.86	4.98	4.51
62F3001	7DA1	2	12	460	2A	10	7.85	5.86	4.98	4.51
62F3002	7DA1	2	24	1840	2A	10	8.45	6.30	5.37	4.86
24F3315	15DB1	4	6	115	4A	10	10.20	7.61	6.48	5.87
24F3316	15DB1	4	12	460	4A	10	10.20	7.61	6.48	5.87
24F3317	15DB1	4	24	1840	4A	10	10.75	8.02	6.83	6.18
62F3003	21DC1	6	6	100	6A	10	13.80	10.29	8.76	7.94
62F3004	21DC1	6	12	400	6A	10	13.80	10.29	8.76	7.94
62F3005	21DC1	6	24	1600	6A	10	14.05	10.48	8.92	8.08
24F3318	27DD1	8	6	60	8A	10	16.10	12.01	10.22	9.26
24F3319	27DD1	8	12	240	8A	10	16.10	12.01	10.22	9.26
24F3366	27DD1	8	24	960	8A	10	17.20	12.83	10.92	9.89

JRC OPEN STYLE DRY REED



Have P/C terminals arranged to fit popular 100 x 1.00 grid layout. Rhodium is standard contact material rated 10 watts max. .5 amp max. and 125 volts max. for DC resistive loads. Typical operate speeds are 1 ms (including bounce) for pick-up and .05 ms for drop-out. Approx. weight: .3 to 1.0 oz.

Stock No.	Type JRC	No. Cav	Coil VDC	Coil Ohms	Con. Arr.	Reed Watts	1-24	25-49	50-74	75-99
67F1034	1DA1	1	6	240	1A	10	5.25	4.73	4.46	4.20
67F1035	1DA1	1	12	960	1A	10				
67F1036	1DA1	1	24	3840	1A	10				
67F1037	7DB1	2	6	155	2A	10	6.35	5.72	5.40	5.08
67F1038	7DB1	2	12	625	2A	10				
67F1039	7DB1	2	24	2500	2A	10				
67F1041	15DD1	4	12	320	4A	10	8.85	7.97	7.52	7.08
67F1042	15DD1	4	24	1280	4A	10	8.85	7.97	7.52	7.08
67F1044	2DB1	2	12	625	1B	10	6.20	5.58	5.27	4.96
67F1045	2DB1	2	24	2500	1B	10	6.20	5.58	5.27	4.96
67F1047	50DD1	4	12	320	1A+1B	10	7.45	6.71	6.33	5.96
67F1048	50DD1	4	24	1280	1A+1B	10	7.45	6.71	6.33	5.96

JDA SOLID STATE/REED HYBRID

Designed to operate from output of DTL and TTL logic circuits in current sourcing mode. Control signals between 2.4 and 30 volts DC will operate the JDA relay when specified supply voltage is applied. Release occurs when control signal is reduced to 0.5 VDC, or less. Control voltage change for these amplifier-driven reed relays must exceed 1 v/ms to meet intended operating conditions. Terminals are spaced on 0.1 grid centers for printed circuit board mounting. Approx. wt.: 0.4 oz. Contact Ampere Rating: 10W (0.5A MAX.).

Stock No.	Type	Input Con. DC Volt	Input Con. Nom. Power	Input Sup. DC Volt	Input Sup. Nom. Power	Con. Arr.	1-9	10-24	25-50	51-99
67F1052	7GB1	24	100μW	24	490mW	DPST-NO	11.65	11.07	10.49	9.32

Time Delay Relays

CD SERIES — Remarkably dependable, accurate and flexible, offers an unusually wide selection of operational configurations, all with accurate time delay values, fast reset time and excellent repeatability. It is available in two types: Knob-adjustable in two versions, one with the relay in the same enclosure as the solid state unit, the other with an auxiliary relay. A second type is adjustable with an external resistor. Available for time delay on operate or on release.

CH SERIES — Intended for a wide range of industrial applications where economy is of greater interest than non-false operation. It is available in two types: Knob-adjustable with the relay in the same enclosure as the solid state unit. The second type has a fixed time delay period that is set at the factory and cannot be modified; its case has no knob. Available for time delay on either operate or on release.

CJ SERIES — Time delay dry reed relays have high sensitivity and low power requirements. CJH external resistor provides adjustable time delay on operate.

CK SERIES — Similar to the CH with the exception that they do not have timing cycle interrupt transfer and will time as low as 0.1 second. These time delays include an internally mounted DPDT KR relay rated 10 amperes to form a compact and convenient assembly. Enclosed in white nylon dust covers, CK relays are available in three types: fixed, resistor adjustable and knob adjustable for AC or DC operation. Mounting convenience is provided by plug-in octal type terminals.

CL SERIES — Designed for delay on operate the CL Series is similar to the CU with the exception that they don't have timing cycle interrupt transfer and will time to 0.1 second. These solid state time delays are ideal for AC or DC applications. A DPDT KU relay rated 10 amperes is mounted in the same enclosure, forming a compact assembly. CL relays are enclosed in yellow polycarbonate dust covers and are available in three types: fixed, resistor adjustable and knob adjustable. Plug-in/quick-connect terminals facilitate handling and hook-up.

CR SERIES — Recycle timer has two independent control knobs for adjusting ON and OFF delays in 5 models from 0.1 to 180 seconds. The recycling sequence is initiated by applying power to the terminals. When the first preset delay is complete, the contacts transfer from normally OFF to energized ON, at which time the ON delay begins. If power is removed during any part of the operate cycle, the CR will revert to its OFF state (contacts open).

CU SERIES — An outstanding value in solid state time delay relays. The low cost CU Series is designed for delay on operate application in machines, process controls, copiers, office equipment, coin-operated machines, process controls and many others. Relays are available in three types: Fixed time delay that is set at the factory and cannot be modified, adjustable with an external resistor, and knob-adjustable with a reference scale. For minimum time (on external resistor types), two terminals, 2 and 5 must be shorted; for maximum time, the listed external resistor must be added between terminals 2 and 5. For intermediate times select a lesser value resistor or use a potentiometer. Either fixed or resistor adjustable models can be furnished in two types of enclosures with the relay mounted in the same case as the solid state circuit. The CUB series knob-adjustable time delay is offered in a slightly taller enclosure. All CU series time delays have an internal DPDT 10 amp relay of the KUP series. The cases for the CU and KUP are dimensionally the same.

CG SERIES — Available in time delay on operate or interval on. Feature C/MOS integrated circuit controlling DPDT relay having contacts rated 10 amps @ 120 VAC, or 5 amps @ 240 VAC resistive. Repeatability, including first cycle of operation, typically .1% for DC units, .1% for AC units. Delay time provided by IC network not normally affected by voltage transients encountered in industrial applications. Relay contacts will not transfer if timing cycle is momentarily interrupted.

JT SERIES — Solid state timing module for use with an auxiliary relay. Measures just .350" high. Hermetically sealed in epoxy. Reset accomplished by removal of input voltage. For maximum delay time on external resistor adjustable model, an 887K ¼ watt resistor is connected between terminals 1 and 8. For minimum time, terminals 1 and 8 are shorted together. Timing values between min/max are linear with resistance within ±5%. Load current rating is 10 to 250 mA DC.

COMPARISON OF GENERAL SPECIFICATIONS OF TIME DELAY RELAYS

TYPE	TEMP. RANGE	TOLERANCE AND DELTA TIME	TRANSIENT PROTECTION	FALSE OPR.	RECYCLE AND RELEASE TIME	REPEATABILITY
CD	-40° to +55°	±5% Delta Time: ±5%	1000V (on all 120V AC models)	None	CD-38 45 Milliseconds typical	CD-38 ±1% Others ±2%
CH	0° to +40°C	±5% Delta Time: ±10%	1000V (on all 120V AC models)	Contacts may transfer momentarily if timing interval is interrupted	125 milliseconds typical	±2%
CJ	-10° to +55°C	Fixed ±5% Adjust ±10% Delta Time: ±10%	Twice rated input voltage	None	50 milliseconds typical	±2%
CK	-10° to +55°C	±5% Delta Time: ±10%	1000V (on all 120V AC models)	None	50 milliseconds typical	±2%
CL	0° to +40°C	Fixed ±5% Adjust ±10%	Twice rated input voltage	None	100 milliseconds typical	3%
CR	-40°C to +55°C	Adjust ±20% Delta Time: ±10%	Twice rated input voltage for 1 ms.	Contacts may transfer momentarily if timing interval is interrupted	60 milliseconds typical	2%
CU	0° to +40°C	Fixed ±5% Adjustable ±10%	Twice rated input voltage	Contacts may transfer momentarily if timing interval is interrupted	150 milliseconds typical	±3%
CG	-10°C to +55°C	Both ±5%	1000V (on all 120/240 VAC models)	None	30-40 milliseconds typical	0.1% AC 0.1% DC
JT	-10°C to +55°C	Fixed ±5% Adjust, ±10% Delta: ±5%	±200 volts	None	50 milliseconds typical	±2%

YOU CAN DEPEND ON NEWARK FOR EVERYTHING IN INDUSTRIAL ELECTRONICS

Time Delay Relays

AMF | POTTER & BRUMFIELD

DELAY ON OPERATE—24 VAC

Stock No.	Type	Delay (sec)	Control Method	Foot-notes	1-9	10-24	25-49
67F1154	CDB38-30001	0.1-10	Knob	1	51.80	49.21	46.62
24F3363	CKB38-30010	0.1-10	Knob	1	26.90	25.56	24.21
24F3354	CLB51-30010	0.1-10	Knob	1†	23.25	22.09	20.93
67F1155	CDB38-30002	0.6-60	Knob	1	51.80	49.21	46.62
24F2881	CHB38-30001	1.0-10	Knob	1	23.35	22.18	21.02
24F2941	CUF41-30010	1.0-10	Res.	200K*†	17.60	16.72	15.84
24F2946	CUF42-30010	1.0-10	Res.	200K*†	17.60	16.72	15.84
24F2881	CHB38-30003	1.0-180	Knob	1	23.35	22.18	21.02
24F2931	CUA41-30010	10	Fixed	1†	16.70	15.87	15.03
24F2936	CUA42-30010	10	Fixed	1†	16.70	15.87	15.03

DELAY ON OPERATE—120 VAC

Stock No.	Type	Delay (sec)	Control Method	Foot-notes	1-9	10-24	25-49
67F1156	CDB38-70001	0.1-1	Knob	1	51.80	49.21	46.62
67F1157	CDB38-70002	0.1-5	Knob	1	51.80	49.21	46.62
24F1881	CDB21-70003	0.1-10	Knob	2	45.80	43.51	41.22
24F1875	CDB38-70003	0.1-10	Knob	1	51.80	49.21	46.62
24F3364	CKB38-70010	0.1-10	Knob	1	26.90	25.56	24.21
24F3361	CKF38-70010	0.1-10	Res.	1&8*	25.85	24.56	23.27
24F3355	CLB51-70010	0.1-10	Knob	1†	23.50	22.33	21.15
24F3357	CUF41-70010	0.1-10	Res.	200K*†	22.15	21.04	19.94
67F1142	CUF42-70010	0.1-10	Res.	200K*	22.15	21.04	19.94
33F1664	CDB38-70006	0.3-30	Knob	1	51.80	49.21	46.62
24F1876	CDB38-70004	0.6-60	Knob	1	51.80	49.21	46.62
24F1886	CDB45-70002	0.6-60	Knob	6	43.90	41.71	39.51
67F1158	CKB38-70060	0.6-60	Knob	1‡	26.90	25.56	24.21
24F2883	CHB38-70001	1.0-10	Knob	1	23.35	22.18	21.02
33F1597	CGB38-70010M	1.0-10**	Knob	1	58.40	55.48	52.56
24F3350	CUB51-70010	1.0-10	Knob	1†	19.15	18.19	17.24
24F2937	CUF41-70010	1.0-10	Res.	200K*†	17.60	16.72	15.84
24F2947	CUF42-70010	1.0-10	Res.	200K*†	17.60	16.72	15.84
67F1143	CUF41-70030	1.0-30	Res.	600K*†	18.20	17.29	16.38
67F1159	CHB38-70002	1.0-60	Knob	1‡	23.35	22.18	21.02
24F3351	CUB51-70120	1.0-120	Knob	1	20.95	19.90	18.86
24F2938	CUF41-70120	1.0-120	Res.	2.4M*†	19.15	18.19	17.24
24F2943	CUF42-70120	1.0-120	Res.	2.4M*†	19.15	18.19	17.24
24F2884	CHB38-70003	1.0-180	Knob	1‡	23.35	22.18	21.02
24F3365	CKB38-70120	1.2-120	Knob	1	26.90	25.56	24.21
24F3356	CLB51-70120	1.2-120	Knob	1†	24.95	23.70	22.46
24F1882	CDB21-70001	1.8-180	Knob	2	45.80	43.51	41.22
24F1877	CDB38-70005	1.8-180	Knob	1	51.80	49.21	46.62
67F1136	CDA38-70012	1.0	Fixed	1	46.80	44.46	42.12
67F1137	CUA41-70001	1.0	Fixed	1†	16.70	15.87	15.03
67F1144	CDF38-70001	1 max	Res.	1&9*	48.20	45.79	43.38
33F1665	CUA41-70005	5	Fixed	1	16.70	15.87	15.03
33F1598	CGB38-70050M	5.0-50**	Knob	1	58.40	55.48	52.56
67F1145	CDF38-70002	5 max	Res.	1&10*	48.20	45.79	43.38
67F1146	CDF31-70003	10 max	Res.	11&12*	46.05	43.75	41.45
67F1147	CDF38-70003	10 max	Res.	1&12*	48.20	45.79	43.38
33F1597	CGB38-70100M	10-100**	Knob	1	58.40	55.48	52.56
67F1138	CHA38-70001	10	Fixed	1‡	22.20	21.09	19.98
24F3359	CKA38-70010	10	Fixed	1	25.70	24.42	23.13
24F3352	CLA41-70010	10	Fixed	1†	20.35	19.33	18.32
24F2927	CUA41-70010	10	Fixed	1†	16.70	15.87	15.03
24F2932	CUA42-70010	10	Fixed	1†	16.70	15.87	15.03
24F2928	CUA41-70120	120	Fixed	1†	18.50	17.58	16.65
24F2933	CUA42-70120	120	Fixed	1†	18.50	17.58	16.65

DELAY ON OPERATE—240 VAC

Stock No.	Type	Delay (sec)	Control Method	Foot-notes	1-9	10-24	25-49
67F1160	CHB38-80001	1.0-10	Knob	1	24.65	23.42	22.19

DELAY ON OPERATE—12 VDC

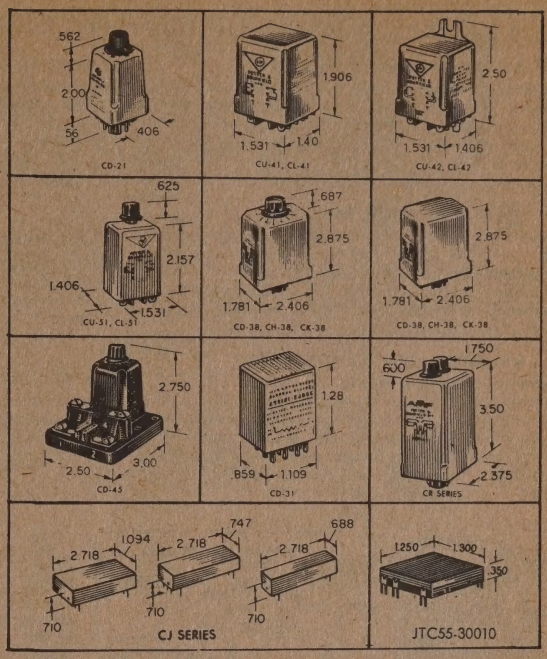
Stock No.	Type	Delay (sec)	Control Method	Foot-notes	1-9	10-24	25-49
45F094	CJH01-20010	0.1-1.0	Res.	750K*	23.20	22.04	20.88
45F098	CJH03-20010	0.1-1.0	Res.	750K*	25.45	24.18	22.91
67F1161	CKD38-20010	0.1-1.0	Knob	1	25.75	24.46	23.18
45F095	CJH01-20120	1.0-120	Res.	1.8M*	26.45	25.13	23.81

DELAY ON OPERATE—24VDC

Stock No.	Type	Delay (sec)	Control Method	Foot-notes	1-9	10-24	25-49
24F1883	CDD21-30003	0.1-10	Knob	3	45.45	43.18	40.91
24F1878	CDD38-30003	0.1-10	Knob	1	49.15	46.69	44.24
24F3362	CKH38-30010	0.1-10	Res.	1&8	24.70	23.47	22.23
45F096	CJH01-30010	0.1-10	Res.	750K*	23.20	22.04	20.88
45F100	CJH03-30010	0.1-10	Res.	750K*	25.45	24.18	22.91
24F3358	CIH41-30010	0.1-10	Res.	160K*†	22.15	21.04	19.94
33F1666	JTH55-30010	0.1-10	Res.	887K*(13)	12.10	11.50	10.89
24F1879	CDD38-30004	0.6-60	Knob	1	49.15	46.69	44.24
33F1600	CGD38-30010M	1.0-10**	Knob	1	55.40	52.63	49.86
24F2885	CHD38-30001	1.0-10	Knob	1	22.25	21.14	20.03
24F2939	CUH41-30010	1.0-10	Res.	160K*†	17.60	16.72	15.84
24F2944	CUH42-30010	1.0-10	Res.	160K*†	17.60	16.72	15.84
45F097	CJH01-30120	1.0-120	Res.	1.8M*	26.45	25.13	23.81
24F2940	CUH41-30120	1.0-120	Res.	2M*†	19.15	18.19	17.24
24F2945	CUH42-30120	1.0-120	Res.	2M*†	19.15	18.19	17.24
24F2886	CHD38-30003	1.0-180	Knob	1	22.25	21.14	20.03
24F1884	CDD21-30001	1.8-180	Knob	3	45.45	43.18	40.91
24F1800	CDD38-30005	1.8-180	Knob	1	49.15	46.69	44.24
33F1601	CGD38-30050M	5-50**	Knob	1	55.40	52.63	49.86
67F1153	CDH31-30005	180max	Res.	4&14	46.05	43.75	41.45
33F1602	CGD38-30100M	10-100**	Knob	1	55.40	52.63	49.86
24F2929	CUC41-30010	10	Fixed	1†	16.70	15.87	15.03
67F1141	CUC42-30010	10	Fixed	1†	16.70	15.87	15.03
33F1667	JTC55-30010	10	Fixed	13	11.20	10.64	10.08
24F2930	CUC41-30120	120	Fixed	1†	18.50	17.58	16.65
24F2935	CUC42-30120	120	Fixed	1*	18.50	17.58	16.65

DELAY ON OPERATE—48 VDC

Stock No.	Type	Delay (sec)	Control Method	Foot-notes	1-9	10-24	25-49
67F1162	CDD38-40002	0.6-60	Knob	1	49.15	46.69	44.24



INTERVAL ON—120 VAC

Stock No.	Type	Delay (sec)	Control Method	Foot-notes	1-9	10-24	25-49
33F1603	CGB38-79010M	1.0-10**	Knob	1	58.40	55.48	52.56
67F1172	CHB38-70021	1.0-10	Knob	1‡	28.10	26.70	25.29
67F1173	CHB38-70022	1.0-60	Knob	1‡	29.60	28.12	26.64
67F1174	CHB38-70023	1.0-180	Knob	1‡	28.00	26.60	25.20
33F1604	CGB38-79050M	5-50**	Knob	1	58.40	55.48	52.56
33F1605	CGB38-89100M	10-100**	Knob	1	58.40	55.48	52.56

INTERVAL ON—24 VDC

Stock No.	Type	Delay (sec)	Control Method	Foot-notes	1-9	10-24	25-49
33F1606	CGD38-39010M	1-10**	Knob	1	55.40	52.63	49.86
67F1175	CHD38-30021	1-10	Knob	1	29.50	28.03	26.55
33F1607	CGD38-39050M	5-50**	Knob	1	55.40	52.63	49.86
33F1608	CGD38-39100M	10-100**	Knob	1	55.40	52.63	49.86

DELAY ON RELEASE—24 VAC

Stock No.	Type	Delay (sec)	Control Method	Foot-notes	1-9	10-24	25-49
67F1163	CHB38-30011	1-10	Knob	1&13	29.15	27.69	26.24

DELAY ON RELEASE—120 VAC

Stock No.	Type	Delay (sec)	Control Method	Foot-notes	1-9	10-24	25-49
24F3364	CKB38-70010	0.1-10	Knob	1	34.05	32.35	30.65
24F1887	CDB38-70012	0.6-60	Knob	1	61.90	58.81	55.71
67F1164	CDB38-70014	0.1-10	Knob	1	61.90	58.81	55.71
67F1165	CDB38-70015	1.8-180	Knob	1	61.90	58.81	55.71
24F2887	CHB38-70011	1-10	Knob	1&13‡	28.60	27.17	25.74
67F1166	CHB38-70012	1-60	Knob	1&13‡	29.95	28.45	26.96
24F2888	CHB38-70013	1-180	Knob	1&13‡	28.40	26.98	25.56

DELAY ON RELEASE—24 VDC

Stock No.	Type	Delay (sec)	Control Method	Foot-notes	1-9	10-24	25-49
24F1888	CDD38-30012	0.6-60	Knob	1	58.45	55.53	52.61
67F1167	CDD38-30014	0.1-10	Knob	1	58.45	55.53	52.61
67F1168	CDD38-30008	1.8-180	Knob	1	58.45	55.53	52.61
24F2889	CHD38-30011	1-10	Knob	1&13	30.00	28.50	27.00
24F2890	CHD38-30013	1-180	Knob	1&13	29.95	28.45	26.96

RECYCLE TIMER DELAY ON OP./RELEASE

Stock No.	Type	Delay (sec)	Input Volts	Foot-notes	1-9	10-24	25-49
67F1169	CRB48-30180	1.8-180	24 VAC	1	50.65	48.12	45.59
33F1668	CRB48-70010	0.1-10	120 VAC	1	50.65	48.12	45.59
67F1170	CRB48-70180	1.8-180	120 VAC	1	50.65	48.12	45.59
67F1171	CRD48-30180	1.8-180	24 VDC	1	44.25	42.04	39.83

FOOTNOTES:—**M** = Meg. (†) UL. (*) Ext. resistor, not supplied, for max. time. Recommend ¼ watt min. resistor. **1)** Int. relay w DPDT contacts; 10 Amps, 120 VAC. **2)** Use with relay KRP5AG-120VAC, KRP11AG-120VAC, or KRP14AG-120VAC. **3)** Use with KRP5DG-24VDC, KRP11DG-24VDC, or KRP14DG-24VDC relay. **4)** Use with KHP17D11-24VDC relay. **6)** Use with PRD11AY-120VAC relay. **8)** 750K resistor for max. time. **9)** 33K resistor for ½ max. time. **10)** 200K resistor for ½ max. time. **12)** 400K resistor for ½ max. time. **13)** Ext. switch or relay required. **14)** 1.6 meg. resistor for ½ max. time. (**) Indicates delay in minutes. (‡) Not recommended for continuous duty.

R12, R13, R14, R15, R16, R52 SERIES SOLID-STATE TIME DELAY ON OPERATE RELAYS

R12 SERIES VARIABLE TIME DELAY

Small DC variable relays combine field proved R10 basic relay with high quality delay circuit. Do not have timing cycle interrupt "transfer." DPDT contacts rated 5 amps. Solder terminals. Mtg: 3-48 stud or sockets with solder or PC terminals.

R13 SERIES FIXED TIME DELAY

Fixed time delay relay. Operates with less than 240 mW of DC power. Designed for delay on operate; features fast recycle time. Accuracy: ±20% standard. .5% change per degree C from nominal 25°C. Repeatability: ±5%. Temperature Range: −10°C to +55°C.

R14 SERIES FIXED OR ADJUSTABLE

Fixed or externally resistor adjustable DC operated time delay relay. Accuracy: Externally adjustable to within ±25%. Fixed Delays: ±25%. Repeatability: ±3%. Temp.: −10°C to +55°C. No timing cycle interrupt "transfer." Reverse polarity protection. **R14A is an interval timer.**

R15 SERIES FIXED OR ADJUSTABLE

AC operated fixed or externally resistor adjustable time delay relay. Accuracy: Externally adjustable to within ±25%. Fixed Delays: ±25%. Temp: −10°C to +55°C. Repeatability: ±3%. Momentary timing cycle interrupt "transfer." **R15A is an interval timer.**

R16 SERIES ADJUSTABLE

Time delay on operate. Potentiometer sets timing value in range of 2.0-30 seconds. Contact life expectancy of 10 million operations, mechanical and at least 100,000 op. @ full load @ 28V DC.

R52 SOLID STATE TIMING MODULE

Makes time-delays of all but a few of the P&B 5, 6, 12, and 24V DC relays. Connects in series w/one of two coil terms. and pos. side of input line. Conducts 350 mA at voltages from 4.5 to 30V DC. Resistor adjustable.

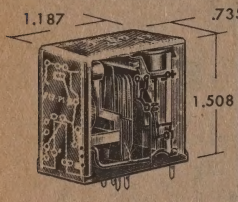
SOCKET WITH HOLD-DOWN SPRING

R12-R13 SERIES SOCKETS

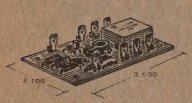
Stock No.	Type	Description	1-9	10-49	50-99	100-499
57F3439	27E131	DPDT sol.	.96	.86	.77	.67
57F3408	20C251	Hold down Spring for above	.06	.05	.05	.04
57F3452	27E238	4PDT sol.	1.48	1.33	1.18	1.04
57F3412	20C266	Hold down Spring for above	.06	.05	.05	.04

R14-R15 SERIES SOCKETS

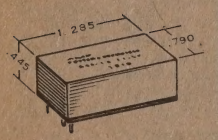
Stock No.	Type	Description	1-9	10-49	50-99	100-499
57F3455	27E328	DPDT and 4PDT sol.	1.48	1.33	1.18	1.04
57F3412	20C266	Hold down Spring for above	.06	.05	.05	.04



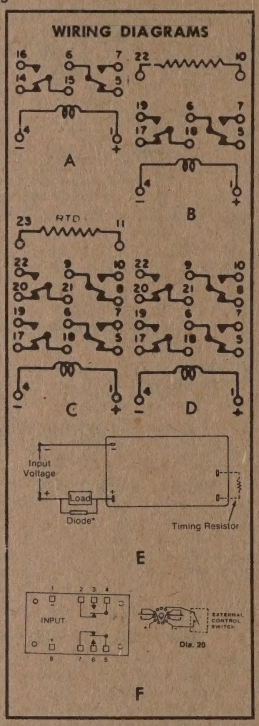
R12, R13, R14, R15



R16



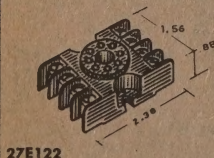
R52



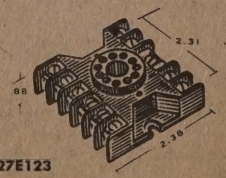
Stock No.	Type	Delay Sec.	Input Volts	Action	Amp Rtg.	Dia. No.	1-9	10-49	50-99
45F081	R12-2-12-X2-E1	0.1-2	12 VDC	DPDT	5	A	22.95	20.66	18.36
45F082	R12-2-24-X2-E1	0.1-2	24 VDC	DPDT	5	A	22.95	20.66	18.36
45F083	R12-30-12-X2-E1	1.0-30	12 VDC	DPDT	5	A	23.55	21.20	18.84
45F084	R12-30-24-X2-E1	1.0-30	24 VDC	DPDT	5	A	23.55	21.20	18.84
45F085	R12-120-12-X2-E1	5.0-120	12 VDC	DPDT	5	A	25.45	22.91	20.36
45F086	R12-120-24-X2-E1	5.0-120	24 VDC	DPDT	5	A	25.45	22.91	20.36
67F1022	R13-1F-24-X2-E1	1.0	24 VDC	DPDT	5	A	13.70	12.33	10.96
67F1023	R13-1F-24-X4-E1	1.0	24 VDC	4PDT	5	C	15.40	13.86	12.32
67F1024	R13-5F-24-X2-E1	5.0	24 VDC	DPDT	5	A	13.70	12.33	10.96
67F1025	R13-5F-24-X4-E1	5.0	24 VDC	4PDT	5	C	15.40	13.86	12.32
67F1026	R13-10F-12-X4-E1	10	12 VDC	4PDT	5	C	15.40	13.86	12.32
67F1027	R13-10F-24-X2-R1	10	24 VDC	DPDT	5	A	13.70	12.33	10.96
67F1028	R13-10F-24-X4-R1	10	24 VDC	4PDT	5	C	15.40	13.86	12.32
67F1029	R13-60F-48-Y2-E1	60	48 VDC	DPDT	2	A	15.45	13.91	12.36
67F1030	R13-120F-12-X4E1	120	12 VDC	4PDT	5	C	18.00	16.20	14.40
67F1031	R13-300F-12-X4E1	300	12 VDC	4PDT	5	C	19.20	17.28	15.36
67F1032	R13-300F-24-X4E1	300	24 VDC	4PDT	5	C	19.20	17.28	15.36
67F1033	R14-2A-12-X2-E1	.02-2	12 VDC	DPDT	5	B	18.40	16.56	14.72
67F1000	R14-2A-12-X4-E1	.02-2	12 VDC	4PDT	5	D	19.90	17.91	15.92
67F1001	R14-30A-24-X2-E1	0.3-30	24 VDC	DPDT	5	B	19.35	17.42	15.48
67F1002	R14-30A-24-X4-E1	0.3-30	24 VDC	4PDT	5	D	20.85	18.77	16.68
67F1003	R14-120A-24-X2E1	1.0-120	24 VDC	DPDT	5	B	20.30	18.27	16.24
67F1004	R14-120A-24-X4E1	1.0-120	24 VDC	4PDT	5	D	21.70	19.53	17.36
67F1005	R14A-30A-24-X4E1	0.3-30	24 VDC	4PDT	5	D	21.95	19.76	17.56
67F1006	R14A-300A-12X4E1	2.0-300	12 VDC	4PDT	5	D	24.15	21.74	19.32
67F1007	R14A-300A-24X4E1	2.0-300	24 VDC	4PDT	5	D	24.15	21.74	19.32
67F1008	R14A-600A-24X4E1	5.0-600	24 VDC	4PDT	5	D	25.35	22.82	20.28
67F1009	R15-10A-24-W2-E1	0.3-10	24 VAC	DPDT	10	B	20.90	18.81	16.72
67F1010	R15-10A-24-W4-E1	0.3-10	24 VAC	4PDT	10	D	22.80	20.52	18.24
67F1011	R15-30A-115-X2E1	0.3-30	115 VAC	DPDT	5	B	20.95	18.86	16.76
67F1012	R15-30A-115-X4E1	0.3-30	115 VAC	4PDT	5	D	22.35	20.12	17.88
67F1013	R15-60A-115-Y2E1	1.0-60	115 VAC	DPDT	2	B	20.80	18.72	16.64
67F1014	R15-60A-115-Y4E1	1.0-60	115 VAC	4PDT	2	D	22.05	19.85	17.64
67F1015	R15A-30A-24-X4E1	2.0-300	24 VAC	4PDT	5	D	23.45	21.11	18.76
67F1016	R15A-300A-115X4E1	0.3-30	115 VAC	4PDT	5	D	26.60	23.94	21.28
33F1609	R16-30A-24A-Y2	2-30	24 VAC	DPDT	2	E	10.80	9.72	8.64
33F1610	R16-30A-120A-Y2	2-30	120 VAC	DPDT	2	E	10.80	9.72	8.64
24F498	R52-2B-1E1	.2-2	4.5-30VDC	SPST-NO 350mA		F	5.95	5.36	4.76
24F499	R52-30B-1E1	2-30	4.5-30VDC	SPST-NO 350mA			5.95	5.36	4.76
24F501	R52-100B-1E1	5-100	4.5-30VDC	SPST-NO 350mA			6.45	5.81	5.16

SOCKETS

CJ and JT Series Relays do not use sockets.



27E122



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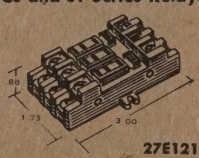


27E121

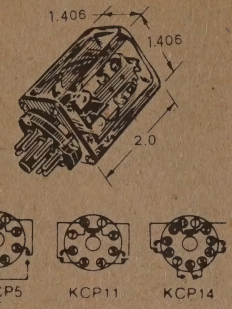
Stock No.	Type	Relay Description	1-24	25-50	51-99	100-249
57F3430	27E121	CU, CL Series	4.49	4.27	4.04	3.37
57F3431	27E122	All delay on operate and interval on relays	2.83	2.69	2.55	2.12
57F3432	27E123	All delay on release relays	4.24	4.03	3.82	3.18

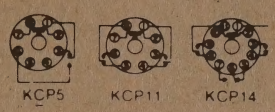
Sensitive Relays

AMF | POTTER & BRUMFIELD

KCP SERIES—SENSITIVE ENCLOSED RELAYS

- Low cost
- Standard octal plug-in type
- Gold flashed silver contacts

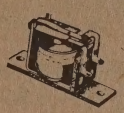




Low cost DC sensitive relay enclosed in clear polycarbonate cover. Sensitivity: 125 mw single pole; 250 mw double pole; 375 mw three pole. Mounting: standard octal plug-in type. Eight pin for KCP5 and KCP11. Eleven pin for KCP14. Contacts: Gold flashed silver, 2A. Use KRP hold down spring when vibration is a factor or when using inverted or horizontal mounting. Weight: Approximately 3 oz.

Stk. No.	Type	Action	Input	Ohms	1-24	25-50	51-99	100-249
24F489	KCP5	SPDT	7.2mA	2500	8.30	7.89	7.47	6.23
24F490	KCP5	SPDT	5.0mA	5000	8.40	7.98	7.56	6.30
24F491	KCP5	SPDT	3.6mA	10,000	8.95	8.50	8.06	6.71
24F492	KCP11	DPDT	10.0mA	2500	8.80	8.36	7.92	6.60
24F496	KCP11	DPDT	7.2mA	5000	8.95	8.50	8.06	6.71
24F497	KCP11	DPDT	5.0mA	10,000	9.55	9.07	8.60	7.16
24F493	KCP14	3PDT	12.3mA	2500	10.85	10.31	9.77	8.14
24F494	KCP14	3PDT	8.7mA	5000	11.00	10.45	9.90	8.25
24F495	KCP14	3PDT	6.1mA	10,000	11.60	11.02	10.44	8.70

LB LOW COST SENSITIVE RELAY

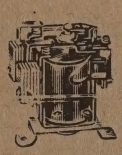


Current sensitive relays designed to operate on a few milliwatts DC. Sensitivity 200 milliwatts. Silver contacts rated at 5 amps. Two 3/16" holes on 2 7/32" centers. 2 21/32 x 1 1/4 x 1 3/8". Weight 2 ozs.

Stk. No.	Type	Action	Input	Ohms	1-24	25-50	51-99	100-249
24F570	LB5	SPDT	9.0mA	2500	5.10	4.85	4.59	3.83
24F571	LB5	SPDT	6.3mA	5000	5.50	5.23	4.95	4.13
24F572	LB5	SPDT	4.5mA	10,000	5.90	5.61	5.31	4.43

LM SENSITIVE RELAY

- DC only
- Silver contacts rated @ 5 amps



Operates on only 100 mwDC per pole. Medium cost high quality relay with silver contacts rated at 5 amps. Pick-up adjustable by tail spring adjusting screw. Mounting: Two No. 6-32 holes on 1 13/16" centers. DC only. (See KL for voltage actuated models.) 2 3/16 x 2 1/4 x 2 1/2". Weight: 5 ozs.

Stk. No.	Type	Action	Input	Ohms	1-24	25-50	51-99	100-249
24F562	LM5	SPDT	6.3mA	2,500	7.40	7.03	6.66	5.55
24F563	LM5	SPDT	4.5mA	5,000	7.50	7.13	6.75	5.63
24F564	LM5	SPDT	3.2mA	10,000	8.35	7.93	7.52	6.26
24F567	LM11	DPDT	9.0mA	2,500	10.70	10.17	9.63	8.03
24F568	LM11	DPDT	6.3mA	5,000	10.80	10.26	9.72	8.10
24F569	LM11	DPDT	4.5mA	10,000	11.75	11.16	10.58	8.81

RS LIGHT WEIGHT SENSITIVE RELAY

- Low cost
- Palladium contacts rated @ 2 amps

Low cost, sensitive relay for current or voltage applications. Mountings: Two No. 4-40 holes on 3/4" x 5/8" diagonal centers. SPDT bar palladium contacts rated at 2 amps. Size: 1 x 1 11/16 x 1 5/16" high. Av. Shpg. wt. 1 1/2 oz.

Stk. No.	Type	Input	Ohms	1-24	25-50	51-99	100-249
24F1173	RS5D	6 VDC	335	6.30	5.99	5.67	4.73
24F1198	RS5D	12VDC	1350	6.30	5.99	5.67	4.73
24F1174	RS5D	5.0mA	2500	6.40	6.08	5.76	4.80
24F1175	RS5D	3.5mA	5000	6.70	6.37	6.03	5.03
24F1176	RS5D	2.5mA	10,000	7.25	6.89	6.53	5.44

PW SERIES SENSITIVE HERMETICALLY SEALED

A miniature tube sensitive relay available in voltage or current actuated models. Sensitivity: Voltage: 180 mw; current; 40 mw. Precision, light weight relay with 10g vibration to 500 Hz. Silver SPDT contacts rated at 2 amps. Mounting Standard 7-pin miniature tube base. Weight: 1 oz. Size: 1 11/16" high above socket, .765" dia.

Stk. No.	Type	Input	Ohms	1-24	25-50	51-99	100-249
24F556	PW5DS	6VDC	202				
24F555	PW5DS	12VDC	810				
24F557	PW5DS	24VDC	3240	19.00	18.05	17.10	14.25
24F558	PW5LS	2.8mA	5000				
24F559	PW5LS	2.0mA	10,000	20.35	19.33	18.32	15.26

SUPER SENSITIVE SPOT RELAY

Model SS5D. 10 mw. sensitivity. Dual coils with balanced armature on needle-point bearings for precision instruments and bridge circuits. May be used as a differential relay. SPDT silver contacts rated at 2 amps. Coil 10,000 ohms 1 ma. Mounting: Two No. 6-32 holes on 23/32" centers. Size: 1 3/4 x 1 5/16 x 1 1/16. Wt. 3 1/2 oz.

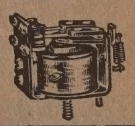
Stk. No.	Type	1-24	25-50	51-99	100-249
24F609	SS5D	28.15	26.74	25.34	21.11

ML SERIES

Small telephone type relay with excellent sensitivity and switching capabilities. Has 1/8" dia. gold-flashed silver contacts rated at 3 amps for 100,000 operations. Pierced solder terminals. Mounting: 4 No. 3-48 holes, on 3/8" centers. Wt. 2.5 oz.

Stk. No.	Type	Action	Input	Ohms	1-24	25-50	51-99	100-249
45F052	ML11D	DPDT	4.0mA	2500	13.90	13.21	12.51	10.43
45F053	ML11D	DPDT	2.83mA	5000	13.95	13.25	12.56	10.46
45F054	ML11D	DPDT	2.0mA	10000	15.35	14.58	13.82	11.51
45F055	ML17D	4PDT	5.65mA	2500	15.95	15.15	14.36	11.96
45F056	ML17D	4PDT	4.0mA	5000	17.05	16.20	15.35	12.79
45F057	ML17D	4PDT	2.83mA	10000	18.40	17.48	16.56	13.80

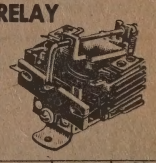
KT ANTENNA SWITCHING RELAY



Glass base insulation to minimize RF losses. Used to switch common transmitter-receiver antenna using 300-ohm line. DPDT silver contacts rated at 5 amps or 500 W. RF. Mounting: 6-32 stud. Weight: 1.5 oz. Size: 1 5/8"Lx1 5/16"Wx1 11/16"H.

Stk. No.	Type	Coil V.	1-24	25-50	51-99	100-249
45F068	KT11A	6AC	5.80	5.51	5.22	4.35
24F1275	KT11A	120AC	5.80	5.51	5.22	4.35
45F069	KT11D	6DC	5.60	5.32	5.04	4.20
24F1277	KT11D	12DC	5.60	5.32	5.04	4.20

PC ALTERNATE PULSE RELAY

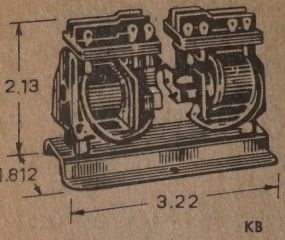


Conventional armature relay operated by 60-ms pulses. Armature actuates phenolic rocker to transfer contacts between alternate positions. For on-off or alternate mode switching. Gold-flashed silver cadmium oxide 5-amp. contacts. Coils for intermittent duty only. Mtg.: Two 5/32" diam. holes on 2 5/8" centers. Wt., 5 oz. 2 31/32"Lx2 1/16"Wx2 5/64"H.

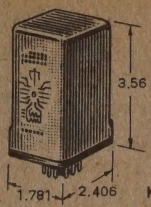
Stk. No.	Type	Coil V.	Contacts	1-24	25-50	51-99	100-249
45F012	PC11A	6AC	DPDT				
45F013	PC11A	12AC	DPDT	9.40	8.93	8.46	7.05
45F014	PC11A	24AC	DPDT				
24F636	PC11A	120AC	DPDT				
67F1068	PC11A	240AC	DPDT	9.60	9.12	8.64	7.20
45F015	PC11D	6DC	DPDT	8.95	8.50	8.06	6.71
45F016	PC11D	12DC	DPDT	8.95	8.50	8.06	6.71
24F641	PC11D	24DC	DPDT	8.95	8.50	8.06	6.71
24F638	PC17A	24AC	4PDT	16.50	15.68	14.85	12.38
24F639	PC17A	120AC	4PDT	16.50	15.68	14.85	12.38
24F643	PC17D	24DC	4PDT	15.25	14.49	13.73	11.44

Special Purpose Relays

KB and KBP SERIES DUAL COIL LATCHING RELAYS

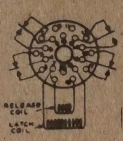


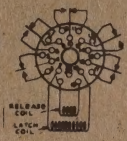
KB



KBP

- For Memory Work and Overload Applications
- Fast Acting
- Positive Latching


KBP-17

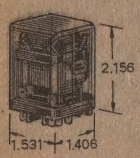

KBP-20

KB SERIES. Both release and trip coils must be for the same voltage. One coil operates relay to set latch and other releases it. Ideal for memory work and overload applications. Operates on momentary impulse to either coil. Mounting: two 0.156" dia. holes on 1.375" centers. Contacts: Silver, rated 5 amps. *G Suffix indicates silver cadmium oxide contacts on moveables rated 10 amps. AC relays with 5 amp contacts are recognized under component program of UL (File 29244) and are CSA listed. AC coil for intermittent duty only. Wt. 6 oz.

KBP SERIES. Similar to KB Series except enclosed in translucent polypropylene dust cover and furnished with 20 pin octal type plugs for socket mounting. UL component recognition does not apply. Wt. 8 oz.

Stock No.	Mfr's Type	Action	Coil Volts	1-24	25-50	51-99	100-249
24F629	KB17AY	4PDT	6 AC	13.95	13.25	12.56	10.46
24F617	KB17AY	4PDT	12 AC				
45F209	KB17AY	4PDT	24 AC				
24F631	KB17AY	4PDT	120 AC				
62F3022	KB17AY	4PDT	240 AC	15.55	14.77	14.00	11.66
24F3290	KB17AG	4PDT	6 AC*	14.60	13.87	13.14	10.95
24F3291	KB17AG	4PDT	12 AC*				
24F1249	KB17AG	4PDT	24 AC*				
24F1250	KB17AG	4PDT	120 AC*				
62F3023	KB17AG	4PDT	240 AC*	15.65	14.87	14.09	11.74
24F632	KB17D	4PDT	6 DC	13.55	12.87	12.20	10.16
24F618	KB17D	4PDT	12 DC				
24F633	KB17D	4PDT	24 DC				
24F619	KB17D	4PDT	110 DC	14.15	13.44	12.74	10.61
24F3292	KB17DG	4PDT	6 DC*	13.85	13.16	12.47	10.39
45F064	KB17DG	4PDT	12 DC*	13.85	13.16	12.47	10.39
24F1355	KB17DG	4PDT	24 DC*	13.85	13.16	12.47	10.39
62F3024	KB17DG	4PDT	110 DC*	14.40	13.68	12.96	10.80
24F3293	KB23AY	6PDT	24 AC	17.25	16.39	15.53	12.94
24F3294	KB23AY	6PDT	120 AC	17.25	16.39	15.53	12.94
24F3295	KB23AG	6PDT	24 AC*	17.60	16.72	15.84	13.20
24F3296	KB23AG	6PDT	120 AC*	17.60	16.72	15.84	13.20
24F3297	KB23D	6PDT	24 DC	16.70	15.87	15.03	12.53
24F3298	KB23DG	6PDT	24 DC*	17.10	16.25	15.39	12.83
24F3299	KB23DG	6PDT	110 DC*	17.70	16.82	15.93	13.28
67F1120	KBP11A	DPDT	120 AC	18.15	17.24	16.34	13.61
67F1121	KBP11AG	DPDT	120 AC*	18.30	17.39	16.47	13.73
24F2900	KBP17A	4PDT	120 AC	22.90	21.76	20.61	17.18
24F2901	KBP17AG	4PDT	120 AC*	23.20	22.04	20.88	17.40
24F2902	KBP17D	4PDT	24 DC	22.90	21.76	20.61	17.18
24F2903	KBP17DG	4PDT	12 DC*	23.35	22.18	21.02	17.51
24F2904	KBP17DG	4PDT	24 DC*	23.35	22.18	21.02	17.51
24F2905	KBP20A	5PDT	120 AC	26.40	25.08	23.76	19.80
24F2906	KBP20AG	5PDT	120 AC*	26.70	25.37	24.03	20.03
62F3025	KBP20DG	5PDT	12 DC*	26.45	25.13	23.81	19.84
24F2908	KBP20DG	5PDT	24 DC*	26.45	25.13	23.81	19.84

KUL SERIES MAGNETIC LATCHING RELAY

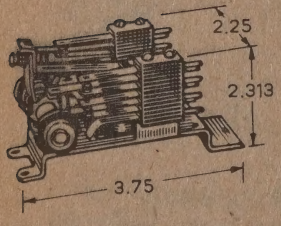


Requires approximately half the space needed for mechanical latching relays. Designed for continuous duty in applications demanding good memory stability. Ideal for machine tools, process controls and business machines. UL recognized under component program and CSA listed. Silver-cadmium oxide contacts rated 10 amps @ 28 VDC, resistive or 120 VAC, 80% PF. All AC DPDT relays include diodes inside clear polycarbonate dust cover. Wt. 3.4 oz.

Stock No.	Type	Action	Coil V.	1-24	25-50	51-99	100-249
24F3250	KUL5A15S	SPDT	120 AC	8.30	7.89	7.47	6.23
24F3251	KUL5D15S	SPDT	24 DC	6.50	6.18	5.85	4.88
24F3252	KUL11A15S	DPDT	12 AC	9.25	8.79	8.33	6.94
24F3253	KUL11A15S	DPDT	24 AC	9.25	8.79	8.33	6.94
24F3254	KUL11A15S	DPDT	120 AC	9.25	8.79	8.33	6.94
67F1122	KUL11D15D	DPDT	24 DC*	10.45	9.93	9.41	7.84
24F3255	KUL11D15S	DPDT	12 DC	7.20	6.84	6.48	5.40
24F3256	KUL11D15S	DPDT	24 DC	7.20	6.84	6.48	5.40

(*) 350 ohms

AP SERIES RATCHET IMPULSE RELAYS



- Intermittent Operation
- Reliable and Compact
- Operates on Impulses as Short as 60 ms.

Reliable compact unit for applications requiring on-off or reversing action on alternate operations. Positive ratchet operation at all speeds on impulses as short as 60 ms. Intermittent coil operation only. Mounting: Three 0.156" dia. holes on 3.375" x 0.875" triangular centers. Contacts: Silver. Wt. 7 oz.

Stock No.	Mfr's Type	Action	Coil Volts	1-24	25-50	51-99	100-249
24F1231	AP11A	DPDT	6 VAC	16.35	15.53	14.72	12.26
62F3018	AP11A	DPDT	12 VAC	16.35	15.53	14.72	12.26
24F1233	AP11A	DPDT	24 VAC	16.35	15.53	14.72	12.26
24F1234	AP11A	DPDT	120 VAC	16.35	15.53	14.72	12.26
62F3019	AP11A	DPDT	240 VAC	16.45	15.63	14.81	12.34
24F1238	AP17A	4PDT	24 VAC	22.20	21.09	19.98	16.65
24F1239	AP17A	4PDT	120 VAC	22.20	21.09	19.98	16.65
24F1241	AP11D	DPDT	6 VDC	16.20	15.39	14.58	12.15
62F3021	AP11D	DPDT	12 VDC	16.20	15.39	14.58	12.15
24F1243	AP11D	DPDT	24 VDC	16.20	15.39	14.58	12.15
62F3020	AP11D	DPDT	110 VDC	16.60	15.77	14.94	12.45
67F1124	AP17D	4PDT	12 VDC	21.30	20.24	19.17	15.98
24F1247	AP17D	4PDT	24 VDC	21.30	20.24	19.17	15.98
24F1248	AP17D	4PDT	110 VDC	21.70	20.62	19.53	16.28

GM SERIES IMPULSE SEQUENCE RELAYS

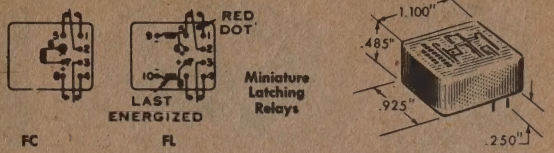
GM

GMIN

Unusually versatile switching makes this impulse/sequencing relay especially suitable for single coil latching. Adaptable to automatic vending equipment, coin counting devices, remote television set controls, self-interrupting and homing circuits and many other applications. 2 Form C contact arrangement is switched alternately by cam action during drop-out of armature. AC version operates on 50% coil duty cycle (5 min. max.) Mountings: 8-32 tapped core with location boss. Suffix L (*) indicates an additional 2 Form C auxiliary contact and weighs 4¾ oz. Wt. w/o aux. contacts 4 oz.

Stock No.	Type	Action	Coil Volts	1-24	25-50	51-99	100-249
24F2470	GM11A	DPDT	24 AC	15.90	15.11	14.31	11.93
24F2471	GM11A	DPDT	120 AC	15.90	15.11	14.31	11.93
24F2473	GM11AL11	DPDT*	120 AC	19.90	18.91	17.91	14.93
24F2474	GM11D	DPDT	12 DC	15.10	14.35	13.59	11.33
24F2475	GM11D	DPDT	24 DC	15.10	14.35	13.59	11.33
24F2476	GM11D	DPDT	110 DC	15.30	14.54	13.77	11.48
45F058	GM1N10A	SP-10 pos.	120 AC	14.15	13.44	12.74	10.61
45F059	GM1N12A	SP-12 pos.	120 AC	13.50	12.83	12.15	10.13
45F060	GM1N10D	SP-10 pos.	24 DC	14.10	13.40	12.69	10.58
45F061	GM1N12D	SP-12 pos.	24 DC	13.25	12.59	11.93	9.94

FC AND FL SERIES MINIATURE LATCHING RELAYS



FC SERIES

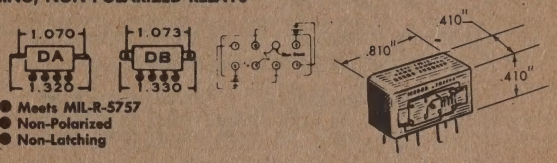
Stock No.	Type	Coils Volt.	Coils Ohms	1-24	25-50	51-99	100-249
24F2487	FC11D	6 VDC	60	32.35	30.73	29.12	24.26
24F2488	FC11D	12 VDC	210				
24F2489	FC11D	24 VDC	900				

FL SERIES

Stk. No.	Type	Volts	Ohms	1-24	25-50	51-99	100-249
24F1286	FL11D	6 VDC	67.5	32.85	31.21	29.57	24.64
24F1287	FL11D	12 VDC	230				
24F1288	FL11D	24 VDC	1000				

FC Series. Lies flat on PC board. DPDT. Meets MIL-R-5757 and MSFC-SPEC-339. Rated 3 amps, 65W. ¾ oz.
FL Series. Hermetically sealed. For PC applications. Terminals are plug-in pins to afford fast interchangeability. Transfer time is approx. 0.5 millisecond. Terminals are arranged in a grid layout of multiples of 0.1" DPDT, silver contacts rated at 3 amps @ 28 VDC. Size 1.1×.925×.485". Wt. .75 oz.

HC AND HCM SERIES NON-LATCHING, NON-POLARIZED RELAYS



- Meets MIL-R-5757
- Non-Polarized
- Non-Latching

HC SERIES

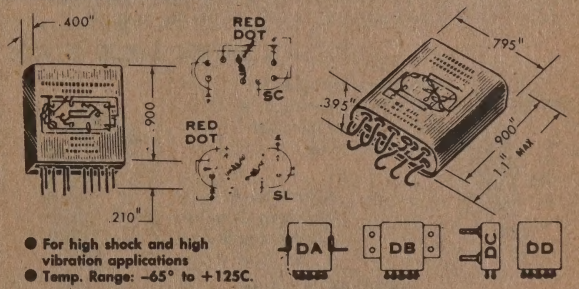
Stock No.	Type	Description	1-24	25-50	51-99	100-249
24F2596	HC11D-24V	plug-in case hook-	31.85	30.26	28.67	23.89
24F2597	HC11DA-24V	end sold. term.	33.00	31.35	29.70	24.75
24F2598	HC11DB-24V	flat mtg. plate	33.00	31.35	29.70	24.75

HCM SERIES

Stk. No.	Type	1-24	25-50	51-99	100-249
45F203	HCM11D-24V	24.20	22.99	21.78	18.15
45F204	HCM11DA-24V	25.25	23.99	22.73	18.94
45F205	HCM11DB-24V	25.25	23.99	22.73	18.94

HC Series. Gold plated silver DPDT contacts rated dry circuit to 2 amps @ 28 VDC resistive. Range: -65° to 125°C. Meets or exceeds all applicable sections of MIL-R-5757 and complies with MSFC-SPEC-339. HC11DA has hook-end solder terminals and shoulder bracket. HC11D has plug-in plain case. HC11DB has hook-end solder terminals with 2 holes. Size. Plain case .8x.4x.4", (seated). Wt. ½ oz.
HC11D has plug-in plain case. HC11DB has hook-end solder terminals with 2 holes. Size. Plain case .8x.4x.4", (seated). Wt. ½ oz.
HCM SERIES. Military version of HC Series. Meets MIL-R-5757.

SC AND SL SERIES MAGNETIC LATCHING RELAYS



- For high shock and high vibration applications
- Temp. Range: -65° to +125C.

SC SERIES

Stk. No.	Type	Ohms	VDC	1-24	25-50	51-99	100-249
24F1361	SC11D	135	12	32.80	31.16	29.52	24.60
24F128	SC11D	550	24	32.80	31.16	29.52	24.60
24F1364	SC11DA	135	12	33.95	32.25	30.56	25.46
24F1281	SC11DA	550	24	33.95	32.25	30.56	25.46
62F3027	SC11DB	35	6	33.60	31.92	30.24	25.20
45F210	SC11DB	135	12	33.60	31.92	30.24	25.20
24F1282	SC11DB	550	24	33.60	31.92	30.24	25.20
24F1386	SC11DC	550	24	33.85	32.16	30.47	25.39
24F1387	SC11DD	550	24	33.05	31.40	29.75	24.79
45F211	SCG11D	550	24	37.75	35.86	33.95	28.31
62F3028	SC7141		26.5	38.95	37.00	35.06	29.21

SL SERIES

Stk. No.	Type	Ohms	VDC	1-24	25-50	51-99	100-249
62F2958	SL11D	35	6	34.35	32.63	30.92	25.76
45F212	SL11D	160	12	34.35	32.63	30.92	25.76
24F1283	SL11D	630	24	34.35	32.63	30.92	25.76
24F1284	SL11DA	630	24	35.35	33.58	31.82	26.51
62F2960	SL11DB	40	6	35.00	33.25	31.50	26.25
24F1380	SL11DB	160	12	35.00	33.25	31.50	26.25
24F1285	SL11DB	630	24	35.00	33.25	31.50	26.25
24F1388	SL11DC	630	24	35.25	33.49	31.73	26.44
45F213	SLG11D	630	24	35.65	33.87	32.09	26.74

SC SERIES. Miniature permanent magnet relay. 200g shock, 30g vibration to 2000 Hz with no contact opening. Pickup: Approximately 260 mW @ 25°C. Operate time: 3 ms. max:@ nominal voltage @ +25°C. Drop out: 2.5 ms. max. @ nominal voltage @ +25°C. Terminals: Hook end solder, 3" flexible or plug-in pins. Contacts: DPDT triclad plated. Rated load: 2 amps. @ 30 VDC; 1 amp. @ 120V 60 Hz resistive, 100,000 operations minimum. SCG11D rectangular header with terminals on 0.2" grid. SC7141 meets MIL-R-5757 10C-141 or RY4NA3B3L01. All DPDT. Wt. 3/4 oz.
SL Series. Dual coil miniature magnetic latching relay with same specs and mountings as SC Series above except coils may be connected in series for polar operation. Wt. 5 oz.

SPECIAL PURPOSE KM SUBMINIATURE RELAYS

Subminiature relay for use where size and weight are critical factors. Simple to install and wire into circuit. Silver contacts rated at 2 amps. Terminals are solder lug type. Mounting: No. 2-56 tapped core with locating boss. Size: 1⅛"Lx11/16"Wx53/64"H. Wt., 1 oz.

Stk. No.	Type	VDC	Con-tacts	1-24	25-50	51-99	100-249
45F065	KM5D	6	SPDT	7.70	7.32	6.93	5.78
45F066	KM5D	12	SPDT				
45F067	KM5D	24	SPDT				
24F1268	KM11D	6	DPDT	9.10	8.65	8.19	6.83
24F1269	KM11D	12	DPDT				
24F1270	KM11D	24	DPDT				
24F1271	KM14D	6	3PDT	11.10	10.55	9.99	8.33
24F1272	KM14D	12	3PDT				
24F1273	KM14D	24	3PDT				

BU BUZZERS

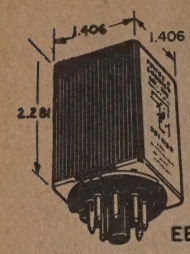
AC operated coil with a spring steel armature which buzzes when coil is energized. Mounting: 6-32 tapped core. Weight 1⅝ oz.

Stk. No.	Type	Volts	1-24	25-50	51-99	100-249
24F2483	Bu6-6V	6 VAC	2.45	2.33	2.21	1.84
24F2484	Bu12-12V	12 VAC				
24F2485	Bu24-24V	24 VAC				
24F2486	Bu120V	120 VAC				

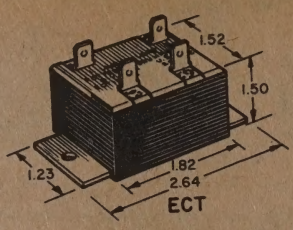
For Larger Quantity Prices Contact

Your Nearest NEWARK Facility

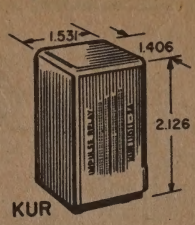
SOLID STATE HYBRID RELAYS SOLVE SWITCHING PROBLEMS



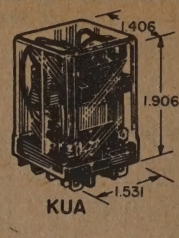
EBT



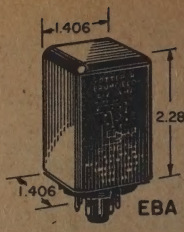
ECT



KUR



KUA



EBA

EBT SERIES REED/TRIAC

Combines input/output isolation of reed relay with inrush switching capabilities, long life of triac switch. Switches 7 amps, 60 Hz @ 25°C ambient with nominal load voltage of 120 VAC. Rated 5 amps rms 60 Hz @ 55°C ambient. Minimum operating current: 200 mA, 60 Hz. Expected life greater than 10 million operations. Bounce free. Operate time: 2 msec. maximum. Release time: 10 msec. maximum. Typical "Closed contact" voltage drop is 1.1 V. UL File E22575 Octal terminals fit standard 8 pin socket. Wt. approx. 5.5 oz.

Stock No.	Type	Coil		Action	1-9	10-24	25-49	50-99
		Input	Ohms					
67F1180	EBT1DA52	12V	500	SPST	**17.50**	**16.63**	**15.75**	**14.00**
67F1181	EBT1DA52	24V	2000	SPST	**17.50**	**16.63**	**15.75**	**14.00**

ECT SERIES AC SWITCH

Medium power triac controlled and isolated by a reed relay. Input power is 290 mW for 120 V, 50-60 Hz line. Expected life is in excess of 10 million operations. Operate time is 2 ms, maximum @ 25°C. Steady-state rms. UL current rating (at 25°C) is 20 amps with factory-recommended heat sink, 7 amps without. .250" quick connect termination. Approximate wt. 4.5 oz.

Stock No.	Type	Coil		Action	1-9	10-24	25-49	50-99
		Input	Ohms					
67F1183	ECT1DC72	5 V	87	SPST-NO	**15.05**	**14.30**	**13.55**	**12.04**
67F1184	ECT1DB44	24 V	2000	SPST-NO	**14.80**	**14.06**	**13.32**	**11.84**

KUR DIRECT-ACTION DPDT IMPULSE RELAY

Designed for applications requiring on-off operation or alternate energizing of two loads. Operation is based on permanent memory function of electromagnetic latching relay. Remains latched during complete loss of power. 5A at 28 volts DC, resistive, or 120 volts AC, 80% P.F. Weight: 3½" oz.

Stk. No.	Type	Coil V	1-9	10-24	25-49	50-99
24F3261	KUR11D11	24DC	**21.80**	**20.71**	**19.62**	**17.44**

KUA SOLID STATE AMPLIFIER-DRIVEN RELAY

Operates from low power signals associated with integrated circuits. Nominal voltage of 24V DC. Polarity protection is built-in feature. Power requirement is approx. 1.14 watts. Sensitivity is 60 microwatts. Contacts are DPDT 5 Amps., gold-flashed fine silver rated 1/10 HP 120 V 60 Hz, ¼ HP 240 V 60 Hz, 5A at 28V DC. Fit standard KU Series sockets. Wt. 3½ oz.

Stk. No.	Type	Coil V	1-9	10-24	25-49	50-99
24F3262	KUA5G11	24DC	**14.45**	**13.73**	**13.01**	**11.56**
24F3263	KUA11G11	24DC	**14.90**	**14.16**	**13.41**	**11.92**

EBA SERIES SENSITIVE AMPLIFIER DRIVEN RELAY

Has output switching characteristics, package, mounting of EBT plus control signal amplifier. Operates from current sourcing output mode of DTL, TTL logic circuits, 60 microwatt. Contacts are rated 7A @ 120 V, 60 Hz. Must operate voltage: 2-4 VDC @ 25 microamp @ 24 VDC supply. Max. input is 30 VDC or 1 mA. Release at 0.5 VDC or less at 10 ms max. Approx. wt. 5.5 oz.

Stock No.	Type	Coil		1-9	10-24	25-49	50-99
		DCV	Pwr				
67F1067	EBA1GA52	24	290 mW	**24.60**	**23.37**	**22.14**	**19.68**

CS SERIES SOLID STATE VOLTAGE SENSORS

Fixed Pick-Up And Adjustable Drop-Out One Knob For Setting Drop-Out Value

Adjustable Pick-Up And Drop-Out. Two Knobs For Setting Desired Values

Designed to energize and de-energize its internal relay at predetermined voltages. Desired levels are either fixed or knob adjust. Voltage sensors consist of sensing circuit that turns on or off solid state switch, energizing or de-energizing internal relay. Relay is DPDT. Enclosed in molded nylon dust cover. 2 Form C (DPDT) rated 10 amps @ 28 VDC resistive or 120 VAC resistive. Continuous duty. Mtg. Octal plug. Approx. wt. 8 oz.

SPECIFICATIONS

Load Switching Relay: Arrangement—2 Form C (DPDT) rated 10 amps @ 28VDC resistive or 120VAC resistive.
Temperature Range: −10°C to +55°C
Temperature Coefficient: 0.16%/°C (max.)
Repeatability: ±1% (max.)
Duty Cycle: Continuous
Reverse Polarity Protection: Yes (on DC types)
Enclosure: Nylon dust cover
Mounting: Octal plug **Approximate Weight:** 8 ozs.

ADJUSTABLE PICK-UP AND DROP-OUT

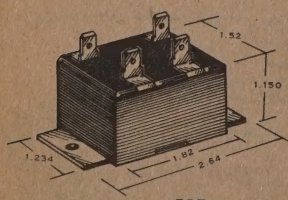
50-60 Hz AC except (*) DC

Stock No.	Type	Pick-Up Range Volts	Drop-Out Range Volts	1-9	10-24	25-49	50-99
24F2951	CSJ38-30010	20-30	18-28	**35.35**	**33.58**	**31.82**	**28.28**
24F2952	CSJ38-70010	92-140	90-138	**38.60**	**36.67**	**34.74**	**30.88**
24F2953	CSL38-30010*	20-30	18-28	**30.85**	**29.31**	**27.77**	**24.68**
67F1021	CSL38-60010*	92-140	90-138	**35.35**	**33.58**	**31.82**	**28.23**

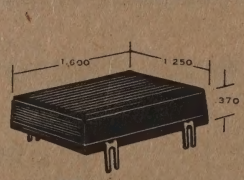
FIXED PICK-UP AND ADJUSTABLE DROP-OUT

24F2954	CSJ38-71010	105	90-103	**34.20**	**32.49**	**30.78**	**27.36**
24F2955	CSL38-31010*	22	16-21	**27.10**	**25.75**	**24.39**	**21.68**

EOT AND JDO SERIES



EOT



JDO

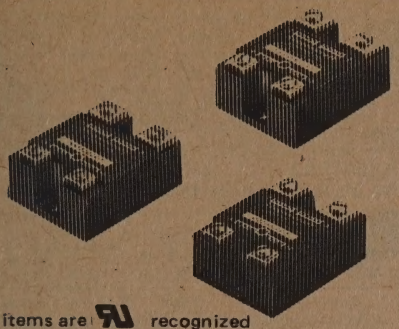
EOT Series. Solid-state controlled, isolated by optoelectronic coupler. Features zero voltage turn on and zero current turn off. Life expectancy is greater than 100 million operations at rated values. Current rating is 25°C, 120V AC, 50/60 Hz. Maximum load current derating is linear between 25°C and 55°C ambient. At 55°C, the rating is 60% of that at 25°C. May be driven directly by T²L, ECL, HTL, or MOS logic. Input polarity protection and .250" quick-connect terminals. Approx. weight is 4.5 oz.

JDO Series. Solid-state switch controlled and isolated by an optoelectronic coupler. Zero voltage turn on and zero current turn off, greatly minimizing EMI and RFI. .370" high, allowing pc board mounting on 0.5" centers. Driven directly by T²L, ECL, and HTL. Output current is @ 25°C, 120 V rms, 50/60 Hz. Max. load current derating is linear between 25°C and 55°C ambient. PC term. on 0.1" grid. Approx. wt. 0.6 oz.

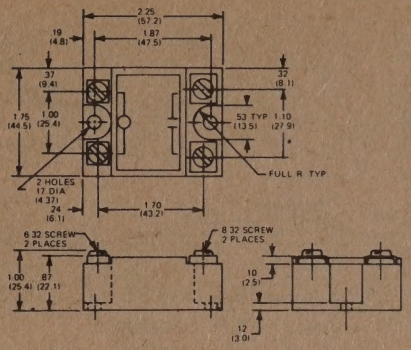
Stock No.	Type	INPUT		OUTPUT		1-9	10-24	25-49
		DC Volts	Nom. Power	Arrange.	Amp Rat.			
33F1584	EOT1DB22	4-32V	20-200mW	SPST-NO	2, 4*	**21.80**	**19.62**	**18.09**
33F1585	EOT1DB42	4-32V	20-200mW	SPST-NO	4, 8*	**24.80**	**22.32**	**20.58**
33F1586	EOT1DB52	4-32V	20-200mW	SPST-NO	5, 12*	**30.90**	**27.81**	**25.65**
33F1587	EOT1DB72	4-32V	20-200mW	SPST-NO	7, 20*	**33.90**	**30.51**	**28.14**
33F1588	JD01DE22	5V	35mW	SPST-NO	1.7	**17.00**	**16.15**	**15.30**
33F1589	JD01DE22	6V	42mW	SPST-NO	1.7	**17.00**	**16.15**	**15.30**
33F1590	JD01DE22	12V	85mW	SPST-NO	1.7	**17.00**	**16.15**	**15.30**
33F1591	JD01DE22	24V	170mW	SPST-NO	1.7	**17.00**	**16.15**	**15.30**

*w/ 10"x10"x.062" alum. heatsink and silicon grease.

Magnecraft® solid state relays



Most items are UL recognized
CSA certified



Magnecraft's family of 24 solid state relays provide current ratings that range from 2.5 to 40 amps, with switching capacity up to 480 VAC. All models incorporate opto-isolation between input and output, and zero-voltage switching.

Screw type clamps and Faston "Quick-Connect" terminals are available on packages which are interchangeable with others.

Output switching reflects the latest state-of-the-art technology. Both high-reliability dual SCR and Triac approaches are available.

All units have same dimensions . . . 1-3/4" wide x 2-1/4" long and 1" high.

High Transient Capability
High Dielectric Isolation Between Input & Output
Photo-Isolated, Zero Voltage Switching

Stock Number	Type Number	AC Load Voltage	Max. Load Current *	Control Signal Range	Input Impedence	Prices 1-10	10-24	25-49	50-99
	SCR OUTPUT DC CONTROLLED								
56F221	W6102DSX-1	100-140 VAC	2.5A	3-32 VDC	1500 Ohms Typ	14.09	13.39	12.68	11.27
56F222	W6110DSX-1	100-140 VAC	10A	3-32 VDC	1500 Ohms Typ	22.12	21.01	19.91	17.70
56F223	W6125DSX-1	100-140 VAC	25A	3-32 VDC	1500 Ohms Typ	25.04	23.79	22.54	20.03
56F224	W6140DSX-1	100-140 VAC	40A	3-32 VDC	1500 Ohms Typ	38.82	36.88	34.94	31.06
56F225	W6202DSX-1	200-280 VAC	2.5A	3-32 VDC	1500 Ohms Typ	14.61	13.88	13.15	11.69
56F226	W6210DSX-1	200-280 VAC	10A	3-32 VDC	1500 Ohms Typ	23.27	22.11	20.94	18.62
56F227	W6225DSX-1	200-280 VAC	25A	3-32 VDC	1500 Ohms Typ	26.30	24.99	23.67	21.04
56F228	W6240DSX-1	200-280 VAC	40A	3-32 VDC	1500 Ohms Typ	41.01	38.96	36.91	32.81
56F229	W6408DSX-1	340-480 VAC	8A	3-20 VDC	500 Ohms Typ	38.61	36.68	34.75	30.89
56F230	W6412DSX-1	340-480 VAC	12A	3-20 VDC	500 Ohms Typ	43.30	41.14	38.97	34.64
	SCR OUTPUT - AC CONTROLLED								
56F231	W6102ASX-1	100-140 VAC	2.5A	90-280 VAC 80-140 VDC	40K Ohms Typ	14.61	13.88	13.15	11.69
56F232	W6110ASX-1	100-140 VAC	10A	90-280 VAC 80-140 VDC	40K Ohms Typ	22.64	21.51	20.38	18.11
56F233	W6125ASX-1	100-140 VAC	25A	90-280 VAC 80-140 VDC	40K Ohms Typ	25.57	24.29	23.01	20.46
56F234	W6140ASX-1	100-140 VAC	40A	90-280 VAC 80-140 VDC	40K Ohms Typ	39.34	37.37	35.41	31.47
56F235	W6202ASX-1	200-280 VAC	2.5A	90-280 VAC 80-140 VDC	40K Ohms Typ	15.13	14.37	13.62	12.10
56F236	W6210ASX-1	200-280 VAC	10A	90-280 VAC 80-140 VDC	40K Ohms Typ	23.17	22.01	20.85	18.54
56F237	W6225ASX-1	200-280 VAC	25A	90-280 VAC 80-140 VDC	40K Ohms Typ	26.09	24.79	23.48	20.87
56F238	W6240ASX-1	200-280 VAC	40A	90-280 VAC 80-140 VDC	40K Ohms Typ	41.01	38.96	36.91	32.81
56F239	W6408ASX-1	340-480 VAC	8A	90-120 VAC 80-100 VDC	12K Ohms Typ	39.13	37.17	35.22	31.30
56F240	W6412ASX-1	340-480 VAC	12A	90-120 VAC 80-100 VDC	12K Ohms Typ	43.83	41.64	39.45	35.06
	TRIAC OUTPUT								
56F241	W6110DTX-1	12-140 VAC	10A RMS		1400 Ohms Typ	18.26	17.35	16.43	14.61
56F242	W6210DTX-1	48-280 VAC	10A RMS		1400 Ohms Typ	19.30	18.34	17.37	15.44

* Max. current ratings require use of appropriate heat sinking.

CONTACT NEAREST NEWARK FACILITY FOR LARGER QUANTITY PRICES

Magnecraft® reed relays

CLASS 101M AXIAL LEAD 1 FORM A

Low cost reed relays give optimum reliability and fast operation. Specifications: Miniature: SPST-NO (1 Form A) contacts rated 10 VA max. at .5 A max. or 200VDC max. resistive. Coil 600 mW nominal. Cap., 0.3 pf avg. between contacts. Life: 5 million operations typical. Size: 2¼" lg. x ½" w. x 7/16" h. including leads.

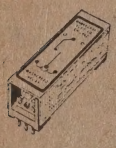
Stock Number	Type Number	Contacts	MA	Coil – DC Volts	Coil – DC Ohms	Prices 1-24	Prices 25-49	Prices 50-74
56F909	W101MX-1	SPST-NO	—	6	100	2.20	1.98	1.87
56F910	W101MX-2		—	12	250	2.25	2.03	1.91
56F911	W101MX-3		—	24	500	2.25	2.03	1.91
56F912	W101MX-4		9MA	—	2500	2.43	2.19	2.07

CLASS 104M AXIAL LEAD 1 FORM C

Low cost reed relays give optimum reliability and fast operation. Specifications: Miniature: SPDT (1 Form C) contacts rated 3 VA max. at 0.25 A max. or 28 VAC max. resistive. Coil: 600 mW nominal. Cap., 1.3 pf avg. across contacts. Life: 10 million operations typ. Size: 2¼" l x 7/16" h x ½" w incl. leads.

56F913	W104MX-1	SPDT	—	6	100	5.91	5.32	5.02
56F914	W104MX-2		—	12	250	5.96	5.36	5.07
56F915	W104MX-3		—	24	500	5.96	5.36	5.07
56F916	W104MX-4		9MA	—	2500	6.61	5.95	5.62

MINIATURE MODULAR PC REEDS

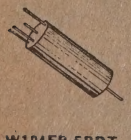


W104MPC

Contact Resistance: 150 milliohms avg. Life: W101, 5 million cycles at rated load; W104, 10 million cycles. Rating: W101, 10 VA, 500 ma max. or 200VDC max., non-inductive; W104, 3 VA, 250 mA max. or 28 V max., non-inductive. Size 1: Single Form A or C, 3/8" h. x 13/32" w. x 1-1/8" lg.; requires 500 mWDC power. Weight: 1 oz. Size 2: Three Form A or two Form C, 3/8" h. x 39/64" w x 1-1/8" lg.; requires 700 mWDC power. Weight: 1 oz.

56F316	W101MPCX-1	SPST-NO	—	6	70	6.82	6.14	5.80
56F317	W101MPCX-2		—	12	300	6.83	6.15	5.81
56F318	W101MPCX-3		—	24	1100	6.85	6.17	5.82
56F320	W101MPCX-5	3PST-NO	—	6	50	11.62	10.46	9.88
56F321	W101MPCX-6		—	12	220	11.63	10.47	9.89
56F322	W101MPCX-7		—	24	850	11.65	10.49	9.90
		FORM C						
56F324	W104MPCX-1	SPDT	—	6	70	3.60	3.24	3.06
56F325	W104MPCX-2		—	12	300	3.60	3.24	3.06
56F326	W104MPCX-3		—	24	1100	3.63	3.27	3.09
56F328	W104MPCX-5	DPDT	—	6	50	6.75	6.08	5.74
56F329	W104MPCX-6		—	12	220	6.75	6.08	5.74
56F330	W104MPCX-7		—	24	850	6.77	6.09	5.75

ENCAPSULATED AXIAL LEAD RELAYS



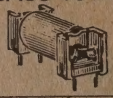
W104EP SPDT

W104EP: SPDT rated at 3 VA at .250 amps or 28VAC maximum. Life expectancy 10 million cycles at rated load. Operate time and release time 1 millisecond average. Axial lead wires for coil and contacts. Encapsulated molded case. Overall length 3", body length 1", diameter 7/16". Weight, 1 ounce.

56F386	W104EPX-2	SPDT	—	6V	65	7.74	6.97	6.58
56F387	W104EPX-3		—	12V	225	7.74	6.97	6.58
56F388	W104EPX-4		—	24V	1000	8.45	7.61	7.18

CONTACT YOUR NEWARK FACILITY FOR A MAGNECRAFT STOCK CATALOG

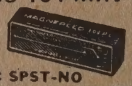
CLASS 101MPC LOW COST PC REED



Molded nylon bobbin with electrical insulation. Con. 10 VA @ .5 amp max. SPST-NO Nom. Pow. 500 MW Min. Size 1-1/8 x 1/8 x 3/8.

Stock Number	Type Number	Contacts	Coil DC Volts	Coil DC Ohms	Prices 1-24	Prices 25-49	Prices 50-74
56F981	W101MPCX-122	SPST-NO	6	70	2.92	2.63	2.48
56F982	W101MPCX-123		12	300	2.92	2.63	2.48
56F983	W101MPCX-124		24	1100	2.92	2.63	2.48

CLASS 101 MIN ENCAPSULATED FORM A



W102PC SPST-NO

SPST. 1½" L, ½" W, 9/18" H. DPST. 1½" L, 11/16" W, 9/16" H, Gold contacts rated at 10 VA @ .5 amps max. or 200VAC max. resistance.

Stock Number	Type Number	Contacts	MA	Coil – DC Volts	Coil – DC Ohms	Prices 1-24	Prices 25-49	Prices 50-74
56F459	W101PCX-5	SPST-NO	—	6V	65	5.64	5.08	4.79
56F460	W101PCX-6		—	12V	250	5.69	5.12	4.84
56F461	W101PCX-7		—	24V	1000	5.80	5.22	4.93
56F464	W101PCX-10	DPST-NO	—	12V	150	7.92	7.13	6.73
56F465	W101PCX-11		—	24V	650	7.98	7.18	6.78

CLASS 102 STD ENCAPSULATED FORM A

SPST 2¼" L, 21/32" W, 5/8" H. DPST 2¼" L, 1¼" W, 5/8" H. Operate 3 ms. average. Release ½ ms. average. Contact Load Rating 15VA at 1 amp. max. or 250VAC max., non-inductive.

56F468	W102PCX-2	SPST-NO	—	12V	400	5.59	5.03	4.75
56F469	W102PCX-3		—	24V	1500	5.64	5.08	4.79
56F472	W102PCX-6	DPST-NO	—	12V	200	7.27	6.54	6.18
56F473	W102PCX-7		—	24V	800	7.33	6.60	6.23

CLASS 103 STD ENCAPSULATED FORM C

SPDT 2¼" L, 21/32" W, 5/8" H. Double pole double throw 2½" L, 1¼" W, ¾" H. SPDT or DPDT. Contacts rated 10 watts resistive load, .5 amp or 250VAC max.

56F475	W103PCX-1	SPDT	—	6	100	8.36	7.52	7.11
56F476	W103PCX-2		—	12	400	8.41	7.57	7.15
56F477	W103PCX-3		—	24	1500	8.47	7.62	7.20
56F480	W103PCX-6	DPDT	—	12	200	12.50	11.25	10.63
56F481	W103PCX-7		—	24	800	12.55	11.30	10.67

CLASS 131 MERCURY WETTED MINIATURE ENCAPSULATED FORM A

Contacts rated 28VA @ 1 amp or 100 V max. resistive period oper. and release time 1 ms aver. 100 million cycles life. Weight 2 ounces.

56F375	W131PCX-9	SPST-NO	—	12	250	9.77	8.79	8.30
56F376	W131PCX-10		—	24	1000	9.90	8.91	8.42
56F379	W131PCX-13	DPST-NO	—	12	150	12.34	11.11	10.49
56F380	W131PCX-14		—	24	650	12.40	11.16	10.54

CLASS 131 MERCURY WETTED MIN FORM A

SPST-NO

W131MPC

DPST-NO

Contact Combinations: Size 1: SPST-NO (1 Form A), Size 2: DPST-NO (2 Form A). Available through special order. Contact Load Rating: 28 Volt-Amperes max. or 1.0 amp max. or 100VDC max., resistive. Nominal Coil Power: Size 1: 500 mw. Size 2: 700 mw. Dielectric Strength Between Contacts: 500VAC, RMS. Dielectric Strength Between Contacts and Coil: 500VAC, RMS. Contact Resistance: 50 milliohms average. Capacitance Across Contacts: 1.2 pf average.

56F921	W131MPCX-3	SPST-NO	—	12	300	7.50	6.75	6.38
56F922	W131MPCX-4		—	24	1100	7.56	6.80	6.43
56F924	W131MPCX-7	DPST-NO	—	12	220	13.41	12.07	11.40
56F925	W131MPCX-8		—	24	850	13.48	12.13	11.46

CLASS 132 MERCURY WETTED STD FORM A

Power Required: ½ watt nom.; Operating Time: 2 msec. average; Release Time: 2msec. average; Contact Bounce: None; Contact Load Rating: 50 VA at 3.0 amps, max. or 400VAC max.; non-inductive; Contact Resistance: 50 milliohms av.; Life Expectancy 25 million Hz.; Diel. str.; cont. to coil: 500VAC RMS; Ambient Temp. Range: – 37°F. to +185°F. Single Pole: – 2-5/8 X ¾ X 41/64".

56F484	W132MPCX-2	SPST-NO	—	6	70	9.72	8.75	8.26
56F485	W132MPCX-3		—	12	250	9.72	8.75	8.26
56F486	W132MPCX-4		—	24	1000	9.72	8.75	8.26

CONTACT NEAREST NEWARK FACILITY FOR LARGER QUANTITY PRICES

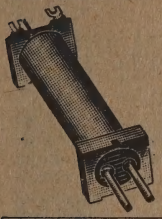
Magnecraft reed relays

CLASS 102M STD AXIAL LEAD FORM A

Operate, 3 ms. aver. Release, ½ ms. aver. Contact bounce, less than 1 ms. aver. Contact load rated 15 VA at 1 amp max. or 250V resistive max. Contact resistance, 100 milliohms aver. Life expectancy, 20 million cycles at full load; 100 million at ½ load. Capacitance across contacts, 0.9 pf aver. Operating position, any. Size: 3¼" lg. (incl. leads) x 19/32" w. x ½" h.

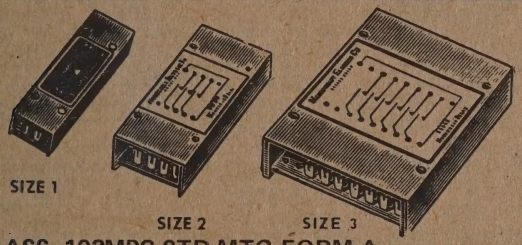
Stock Number	Type Number	Contacts	MA	Coil – DC Volts	Coil – DC Ohms	Prices 1-24	Prices 25-49	Prices 50-74
56F900	W102MX 1	SPST NO	40	—	100	2.52	2.27	2.14
56F901	W102MX 2		—	6	200	2.60	2.34	2.21
56F902	W102MX 3		—	12	500	2.60	2.34	2.21
56F903	W102MX 4		—	24	2000	2.86	2.57	2.43
56F899	W102MX 27		—	5	450	3.10	2.79	2.64

CLASS 103M STD AXIAL LEAD FORM C



Operate, 2 ms. aver. Release, ½ ms. aver. Contact bounce 4 ms. aver. or release, normally closed contacts. Contact load rated 10VA at ½ amp max. or 250V resistive max. Contact resistance 100 milliohms aver. Long life 25 million cycles at full load; 50 million at ½ load. Capacitance across contacts 3.0 pf aver. Operating position, any. Size: 3-7/16" x 19/32" w x ½" h.

56F905	W103MX 1	SPDT	—	6	200	4.89	4.40	4.16
56F906	W103MX 2		—	12	500	4.89	4.40	4.16
56F907	W103MX 3		—	24	2000	5.15	4.64	4.38
56F908	W103MX 4		5.5	—	5000	5.34	4.81	4.54



SIZE 1 SIZE 2 SIZE 3

CLASS 102MPC STD MTG FORM A

Modular-packaged dry reed relays ideal for printed circuit applications. Operate, 3 ms aver. Release, ½ ms aver. Contact load rated 15 VA at 1 amp max. or 250V resistive max. Contact resistance, 100 milliohms aver. Long life, 20 million cycles at full load; 100 million at ½ load. Capacitance across contacts 1.0 pf aver. Operating position any. Sizes: All lengths 2-5/8"; all heights - 41/64". Only variation is in width: Size 1 -3/4"; Size 2 - 1-3/16"; Size 3 - 1-31/64".

56F416	W102MPCX 6	SPST NO	Size 1	6	70	3.80	3.42	3.23
56F417	W102MPCX 7			12	250	3.80	3.42	3.23
56F418	W102MPCX 8			24	1000	3.80	3.42	3.23
56F300	W102MPCX 48	3PST NO	Size 2	6	50	6.51	5.86	5.53
56F301	W102MPCX 49			12	175	6.51	5.86	5.53
56F302	W102MPCX 50			24	750	6.68	6.01	5.68
56F987	W102MPCX 53	6PST NO	Size 3	12	100	10.77	9.69	9.15
56F306	W102MPCX 54			24	375	10.83	9.75	9.21

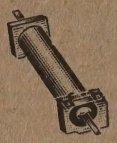
CLASS 103MPC STD PC MTG FORM C

Operate, 2 ms. aver. Release, ½ ms. aver. Contact bounce 4 ms. aver. or release, normally closed contacts. Contact load rated 10VA at ½ amp max. or 250V resistive max. Contact resistance 100 milliohms aver. Long life 25 million cycles at full load; 50 million at ½ load. Capacitance across contacts 2 0 pf aver. Operating position, any.

Size: (See dwgs. above)

56F422	W103MPCX 2	SPDT	Size 1	6	70	6.75	6.08	5.74
56F423	W103MPCX 3			12	250	6.75	6.08	5.74
56F424	W103MPCX 4			24	1000	6.75	6.08	5.74
56F308	W103MPCX 30	DPDT	Size 2	6	50	9.65	8.69	8.20
56F309	W103MPCX 31			12	175	9.65	8.69	8.20
56F310	W103MPCX 32			24	750	9.80	8.82	8.33
56F312	W103MPCX 34	4PDT	Size 3	6	25	16.91	15.22	14.37
56F314	W103MPCX 36			24	375	17.10	15.39	14.54

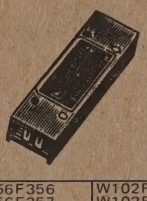
CLASS 102RM 3 AMP POWER REED



Low profile, printed circuit mounted relay with contact rating formerly available only in general purpose or telephone type relays. Contact Load Rating, 100VA @ 3 amps max. or 250VAC max. Operate Time, 1.5 ms. average. Release Time, 1 ms. average. Contact Bounce, 1 ms. average. Operating Position, any. Size: 3¼" lg (incl. leads)x19/32" w.x½ h.

Stock Number	Type Number	Contacts	MA	Coil – DC Volts	Coil – DC Ohms	Prices 1-24	Prices 25-49	Prices 50-74
56F296	W102RMX 5	SPST NO	—	6	200	5.07	4.56	4.31
56F297	W102RMX 6		—	12	500	5.12	4.61	4.35
56F298	W102RMX 7		—	24	2000	5.26	4.73	4.47
56F299	W102RMX 8		—	48	5000	5.50	4.95	4.68

CLASS 102RMPC PC MTG POWER REED



Operate, 1 ms. aver. Release, 1 ms. aver. Contact Bounce, 0.5 ms. average. Contact Resistance, 500 milliohms, aver. Contact Load Rating, 100VA, 3 amperes max., or 250 volts, max. Operating Position, any. Size: 2-5/8" L. x 41/64" H. x 3/4" W.

56F356	W102RMPCX 1	SPST NO	—	6	70	9.10	8.19	7.74
56F357	W102RMPCX 2		—	12	250	9.10	8.19	7.74
56F358	W102RMPCX 3		—	24	1000	9.19	8.27	7.81
56F359	W102RMPCX 4		—	48	4000	9.47	8.52	8.05

CLASS 102V 5,000 VOLT REED

Operates in any position. Size: 4½" x 15/16" x 7/8". Wt., 3 oz. Contact Load Rating: 50VA @ 3 amps max. or 5000 volts peak, max. resis. Nominal Coil Power: SPST-NO, 500 MW; SPST-NC, 200 MW. Operation Time: 3 ms average; Release Time: .5 ms average. Contact Bounce: .5 ms average. Contact Resistance: 100 milliohms average. Capacitance Across Contacts: 1.0 pf average. Life at Rated Load: 10 million operations, longer at reduced loads.

56F1031	W102VX 50	SPST NO	—	12	250	20.81	18.73	17.69
56F1032	W102VX 51		—	24	1000	20.88	18.79	17.75

CLASS 102HV 10,000 V

Contact Load Rating 10,000 volts peak at .001 amperes; Nominal Coil Power, 1.5W average. Operate Time, typically 25ms including bounce. Contact Resistance 100 milliohms average. Typical Life at Rated Load, 1 million - longer at reduced loads.

56F291	W102HVX 2	— — —	—	12	100	27.23	24.51	23.15
56F292	W102HVX 3	— — —	—	24	400	27.23	24.51	23.15

CLASS 103LMPC LATCHING FORM C REED

Operate, 2 ms. aver. Bounce, 3 ms. max. Contact Resistance, 150 milliohms aver. Contact Load Rating, 10VA 0.2 amp max. or 200V max., non-inductive. Life Expectancy, 25 million cycles at rated load.; longer at reduced loads. Operating Position, any. Nom. power, single coil 150MW, double coil 300 mw. Size: 2-5/8" x 41/64" x ¾". Weight: 1 oz.

Single Wound Coils								
56F392	W103LMPCX 5	SPDT	—	12	1000	8.57	7.71	7.28
56F393	W103LMPCX 6		—	24	4000	8.80	7.92	7.48
Double Wound Coils								
56F396	W103LMPCX 9	SPDT	—	6	120	10.11	9.10	8.59
56F398	W103LMPCX 11		—	24	1800	10.91	9.82	9.27

Magnecraft solid state and time delay

CLASS 211CP PLUG-IN HYBRID TIME DELAY

Combines solid state circuitry for timing functions with Class 88 electromechanical relay for output switching.

Four knob adjustable timing ranges. Reset time: 100 ms average. Temperature Range: Operate: -10° to +55°C; storage, -55° to +85°C. Timing Repeatability: ±5% of setting at nominal voltage at 25° C. Size: 1¾" x 2-3/8" x 2-7/8" h. (not including knob). Plug: Operate types, 8 pin; release types, 11 pin.

Stock Number	Type Number	Coil Volts	Time Delay	Prices 1-9	10-24	25-49
Operate Delay DPDT Contacts 10 Amps						
56F958	W211ACPSOX 5	120VAC	1-10	22.85	21.71	20.57
56F969	W211ACPSOX 7	120VAC	1-180	22.85	21.71	20.57
56F960	W211ACPSOX-8	120VAC	2-300	22.85	21.71	20.57
56F961	W211CPSOX 1	24VDC	1-10	22.85	21.71	20.57
56F962	W211CPSOX 3	24VDC	1-180	22.85	21.71	20.57
56F963	W211CPSOX-4	24VDC	2-300	22.85	21.71	20.57
Release Delay DPDT Contacts 10 Amps						
56F964	W211ACPSRX 5	120VAC	1-10	27.97	26.57	25.17
56F965	W211ACPSRX 7	120VAC	1-180	27.97	26.57	25.17
56F966	W211ACPSRX-8	120VAC	2-300	27.97	26.57	25.17
56F967	W211CPSRX-1	24VDC	1-10	27.97	26.57	25.17
56F968	W211CPSRX-3	24VDC	1-180	27.97	26.57	25.17
56F969	W211CPSRX-4	24VDC	2-300	27.97	26.57	25.17

CLASS 502 & 503 PC TIME DELAY

Class 502PCSO (1 Form A) Class 503PCSO (1 Form C)

Available: — 502PCSOX, SPST-NO, 1 amp., 15 VA or 250VAC maximum, resistive. 503PCSOX, SPDT, .5 amp., 10 VA or 250VAC maximum, resistive. Time Delay on operate. Timing Repeatability: ±5% at nominal voltage at 25°C after the first cycle and ±10% over voltage range or temperature range indicated. Polarity protection is a standard feature. Steady State Current: 25 ma typical. Temperature Range: Operate -10° C to 55° C; Storage -55° C to 85° C. Size: 2.25 X 1.25 X .75 inches.

Stock Number	Type Number	VDC	Time Range	Ext. Adj. Ohm/Sec.	Prices 1-9	10-24
Slow Operate SPST-NO (Form A)						
57F1200	W502PCSOX 2	12	100 MS to	60K	21.96	20.86
57F1201	W502PCSOX 3	24	100 SEC	60K	21.96	20.86
Slow Operate SPDT (Form C)						
57F1204	W503PCSOX 2	12	100 MS to	60K	24.10	22.90
57F1205	W503PCSOX 3	24	100 SEC	60K	24.10	22.90
57F1206	W503PCSOX 5	12	3 SEC to	10K	25.83	24.54
57F1207	W503PCSOX 6	24	M MIN	10K	25.83	24.54
Slow Release SPST-NO (Form A)						
57F1208	W502PCSRX 2	12	200 MS to	25K	30.94	29.39
57F1209	W502PCSRX 3	24	100 SEC	25K	30.94	29.39
Slow Release SPDT (Form C)						
57F1212	W503PCSRX 2	12	200 MS to	25K	33.10	31.45
57F1213	W503PCSRX 3	24	100 SEC	25K	33.10	31.45

CLASS 67TD MIN. PLUG-IN TIME DELAY

DPDT 5 amp contacts. Reset Time and Recycle Time: Typically 100 ms. Twice nominal input for 1 millisecond. Polarity Protection: Standard. Temperature Range: Operate -10° to 55°C, Storage, -50° to 85°C. Time Delay on operate.. Size: 1.374 x 1.358 x .734.

Stock Number	Type Number	VDC	Timing Range		External Resistance	Prices 1-9	10-24
Adjustable — DC Voltage							
56F1000	W67CPSOX 1	12	.1	30 sec.	Internal Potentiometer Adjusted	21.98	20.88
56F1001	W67CPSOX 2	24	.1	30 sec.		21.98	20.88
56F1002	W67CPSOX 3	12	1	240 sec.		23.78	22.59
56F1003	W67CPSOX 4	24	1	240 sec.		23.78	22.59
Fixed Resistance — DC Voltage							
56F1004	W67CPSOX 5	12	.1	30 sec.	65K/per sec.	18.07	17.17
56F1005	W67CPSOX 6	24	.1	30 sec.	65K/per sec.	17.71	16.82
56F1006	W67CPSOX 7	12	1	240 sec.	85K/per sec.	19.91	18.91
56F1007	W67CPSOX 8	24	1	240 sec.	85K/per sec.	19.91	18.91

CLASS 214CP PLUG-IN HYBRID TIME DELAY

Solid state timing with ±2% repeat accuracy. Contacts: DPDT, 5 amps @ 28 VDC or 115VAC resistive. Time Delay on operate. Size: 2-5/32" x 1-3/8" square. Weight: 3 oz. approximately.

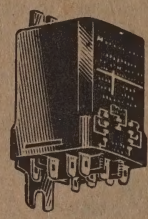
Stock Number	Type Number	Input Volts	Timing Range	Prices 1-9	10-24	25-49
47F1179	W214ACPSOX-1	120VAC	.3 to 30 sec.	26.09	24.79	23.48
47F1180	W214ACPSOX-2	120VAC	3 to 240 sec.	26.09	24.79	23.48
47F1181	W214CPSOX-3	24VDC	.3 to 30 sec.	26.09	24.79	23.48
47F1182	W214CPSOX-4	24VDC	3 to 240 sec.	26.09	24.79	23.48

CLASS 218 PANEL MOUNT TIME DELAY

Ideal for industrial timing applications. Three fully adjustable timing ranges. Reset and recycle time 100 ms. Time Delay on operate. 10 amp SPDT contacts. Size: 4" x 3-5/16" x 2½".

56F1008	W218ACSOSX-2	120VAC	1 to 10 sec.	19.65	18.67	17.69
56F1009	W218ACSOSX-4	120VAC	1 to 180 sec.	19.65	18.67	17.69
56F1010	W218ACSOSX-5	120VAC	2 to 300 sec.	19.65	18.67	17.69

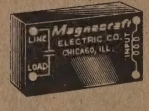
CLASS 388 LOW COST TIME DELAY



Contacts: DPDT 12 amps @ 28VDC or 115VAC, res. Steady State Current: 20 ma @ 120VAC 75 ma @ 24 VDC. Delay on operate. Temp. Range: -10°C to 55°C operating -55°C to 85°C storage. Reset and Recycle Time: Less than 100 ms. Size: Flange-Mount — 1-17/32" w. x 1-13/32" d. x 2-29/32" h.; Plug-In — 1-17/32" w. x 1-13/32" d. x 1-29/32" h. overall. Weight: 3 oz. approx.

Stock Number	Type Number	Input Voltage	Timing Range Seconds	External Resistor	Prices 1-9	10-24
Plug-In						
47F1236	W388ACPSOX-1	120VAC	1-20	200K	16.32	15.50
47F1237	W388ACPSOX-2	120VAC	1-120	2.4 MEG	17.76	16.87
47F1238	W388CPSOX-1	24VDC	1-10	160K	18.80	17.86
47F1239	W388CPSOX-2	24VDC	1-120	2 MEG	20.40	19.38
Flange Mount						
47F1240	W388ACQSOX-1	120VAC	1-10	200K	16.32	15.50
47F1241	W388ACQSOX-2	120VAC	1-120	2.4MEG	17.76	16.87
47F1242	W388CQSOX-1	24VDC	1-10	160K	18.80	17.86
47F1243	W388CQSOX-2	24VDC	1-120	2 MEG	20.40	19.38

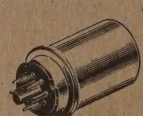
CLASS 501QPC SOLID STATE POWER RELAY



The expected life of the Class 501QPC is approximately 25 million operations. Load rating 3 amps @ 120VAC RMS or 200VDC peak at 25°C. Surge rating: 100 amps for .016 seconds. SPST-NO (1 form A) solid state output. Operate time .003 seconds. Size: Series 501QPC, 2¼" w. x ¾" d. x 1¼" h. (pins, .04" dia. x 1/8" h) Weight: 2 ozs. approx.

Stock Number	Type Number	VDC	Input Ohms	Watts	VAC Switching Capability	Prices 1-9
56F1015	W501QPCX-1	5	1000	40 MW	3 amps @ 120	13.74
56F1016	W501QPCX-7	24	1500	400 MW	3 amps @ 120	13.74
56F1017	W501QPCX-11	5	1000	40 MW	3 amps @ 240	14.36
56F1018	W501QPCX-17	24	1500	400 MW	3 amps @ 240	14.36

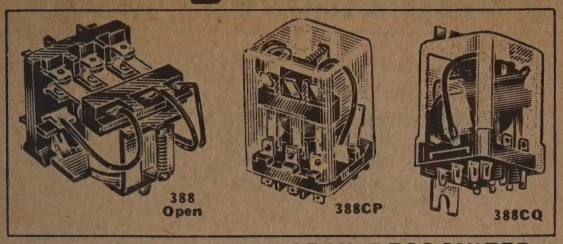
CLASS 501QCP SOLID STATE POWER RELAY



The expected life of the Class 501QCP is approximately 25 million operations. SPST-NO (1 form A) solid state output. Load rating: 6 amps at 120VAC RMS or 200VDC peak at 25°C. Surge rating: 100 amps for .016 seconds. Operate time .003 seconds. Size: Series 501QCP, 1-21/32" overall dia. x 2-11/32" height less pins. Wt. 3 ozs. approx.

56F1019	W501QCPX-2	5	1000	40 MW	6 amps @ 120	18.39
56F1020	W501QCPX-5	24	1500	400 MW	6 amps @ 120	18.39
56F1021	W501QCPX-7	5	1000	40 MW	6 amps @ 240	19.21
56F1022	W501QCPX-10	24	1500	400 MW	6 amps @ 240	19.21

Magnecraft general purpose relays



CLASS 388 SQUARE BASE UL RECOGNIZED

Low cost, UL recognized, general purpose relay. AC and DC operated, 11, 12 & 13 Amps SPST, DPDT, or 3PDT silver alloy, gold flashed contacts. Terminals are 3 way for plug-in, solder, or quick connect. Plug-in version size 1 - 17/32 x 1 - 13/32 x 2 - 3/16 high overall.

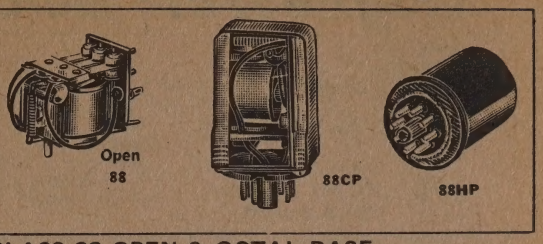
Stock Number	Type Number	Cont Comb.	Coil Volts	Coil Ohms	Prices 1-9	Prices 10-24	Prices 25-49
AC Open Relays							
56F620	W388AX-2	SPDT	12	----	4.52	4.29	4.07
56F621	W388AX-3		24	----	4.52	4.29	4.07
47F1222	W388AX-4		120	----	4.52	4.29	4.07
56F622	W388AX-7	DPDT	12	----	5.60	5.32	5.04
56F623	W388AX-8		24	----	5.60	5.32	5.04
47F1228	W388AX-9		120	----	5.60	5.32	5.04
56F625	W388AX-12	3PDT	12	----	6.33	6.01	5.70
47F1224	W388AX-13		24	----	6.33	6.01	5.70
47F1225	W388AX-14		120	----	6.33	6.01	5.70
DC Open Relay							
47F1229	W388X-2	SPDT	12	120	4.32	4.10	3.89
47F1230	W388X-3		24	470	4.32	4.10	3.89
47F1231	W388X-6	DPDT	12	120	4.96	4.71	4.46
47F1232	W388X-7		24	470	4.96	4.71	4.46
47F1233	W388X-10	3PDT	12	120	5.78	5.49	5.20
47F1234	W388X-11		24	470	5.78	5.49	5.20
AC Voltage Specified — Dust Cover							
47F1186	W388ACPX-2	SPDT	12	----	4.78	4.54	4.30
47F1187	W388ACPX-3		24	----	4.78	4.54	4.30
47F1188	W388ACPX-4		120	----	4.78	4.54	4.30
47F1191	W388ACPX-7	DPDT	12	----	5.84	5.55	5.26
47F1192	W388ACPX-8		24	----	5.84	5.55	5.26
47F1193	W388ACPX-9		120	----	5.84	5.55	5.26
47F1196	W388ACPX-12	3PDT	12	----	6.54	6.21	5.89
47F1197	W388ACPX-13		24	----	6.54	6.21	5.89
47F1198	W388ACPX-14		120	----	6.54	6.21	5.89
DC Voltage Specified — Dust Cover							
47F1201	W388CPX-2	SPDT	12	120	4.63	4.40	4.17
47F1202	W388CPX-3		24	470	4.63	4.40	4.17
47F1205	W388CPX-6	DPDT	12	120	5.28	5.02	4.75
47F1206	W388CPX-7		24	470	5.28	5.02	4.75
47F1209	W388CPX-10	3PDT	12	120	6.05	5.75	5.45
47F1210	W388CPX-11		24	470	6.05	5.75	5.45
AC Voltage Specified — Flange Cover							
56F600	W388ACQX-2	SPDT	12	----	4.78	4.54	4.30
56F601	W388ACQX-3		24	----	4.78	4.54	4.30
56F602	W388ACQX-4		120	----	4.78	4.54	4.30
56F603	W388ACQX-7	DPDT	12	----	5.84	5.55	5.26
56F604	W388ACQX-8		24	----	5.84	5.55	5.26
56F605	W388ACQX-9		120	----	5.84	5.55	5.26
47F1213	W388ACQX-12	3PDT	12	----	6.54	6.21	5.89
47F1214	W388ACQX-13		24	----	6.54	6.21	5.89
56F606	W388ACQX-14		120	----	6.54	6.21	5.89
DC Voltage Specified — Flange Cover							
56F615	W388CQX-2	SPDT	12	120	4.63	4.40	4.17
56F616	W388CQX-3		24	470	4.63	4.40	4.17
47F1215	W388CQX-6	DPDT	12	120	5.28	5.02	4.75
47F1216	W388CQX-7		24	470	5.28	5.02	4.75
47F1218	W388CQX-10	3PDT	12	120	6.05	5.75	5.45
47F1219	W388CQX-11		24	470	6.05	5.75	5.45

CLASS 388 SOCKETS

UL Recognized

Heavy duty molded thermoplastic screw terminal socket has closed back construction that requires no insulation. Nylon sockets offer choice of solder, quick connect, or printed circuit.

Stock Number	Type Number	Description	Prices 1-9	Prices 10-24	Prices 25-49
47F1244	70 124 1	Nylon Solder Terminal	.88	.84	.79
47F1245	70 124 2	Nylon Quick Connect	1.35	1.28	1.22
47F1246	70 178 1	Nylon Printed Circuit	1.00	.95	.90
47F1249	70 233	Screw Terminal 11 Pin accepts all Class 388 relays	4.44	4.22	4.00



CLASS 88 OPEN & OCTAL BASE

High reliability general purpose relay has glass melamine insulation for high dielectric strength and resistance to humidity or temperature change. Molded nylon bobbin. Hinge-pin armature. Contacts SPDT, DPDT, or 3PDT rated 10 amps. Open styles have tinned solder terminals. Plug-in versions have 8-pin octal or 3PDT 11-pin octal base. Plug-in version size: 1-3/8 X 1-3/8 X 2-1/8 high.

Stock Number	Type Number	Cont 10 Amps	Coil Volts	Coil Ohms	Prices 1-9	Prices 10-24	Prices 25-49
AC Voltage Specified — Open Style							
47F1051	W88AX-2	SPDT	12	----	4.82	4.58	4.34
47F1052	W88AX-3		24	----	4.82	4.58	4.34
47F1053	W88AX-4		115	----	4.82	4.58	4.34
56F626	W88AX-6	DPDT	12	----	5.64	5.36	5.08
47F1056	W88AX-7		24	----	5.64	5.36	5.08
56F511	W88AX-8		115	----	5.64	5.36	5.08
47F1059	W88AX-10	3PDT	12	----	6.27	5.96	5.64
47F1060	W88AX-11		24	----	6.27	5.96	5.64
56F519	W88AX-12		115	----	6.27	5.96	5.64
DC Voltage Specified — Open Style							
56F627	W88X-2	SPDT	6	25	4.31	4.09	3.88
56F525	W88X-3		12	100	4.31	4.09	3.88
56F526	W88X-4		24	400	4.31	4.09	3.88
56F628	W88X-5	SPDT	110	8000	5.07	4.82	4.56
56F533	W88X-7	DPDT	12	100	4.99	4.74	4.49
56F534	W88X-8		24	400	4.99	4.74	4.49
56F541	W88X-11	3PDT	12	100	5.55	5.27	5.00
56F542	W88X-12		24	400	5.55	5.27	5.00
DC Current Specified — Open Style							
56F629	W88X-14	SPDT	7.2	2500	4.96	4.71	4.46
56F630	W88X-16		3.6	10000	5.61	5.33	5.05
56F554	W88X-17	DPDT	10	2500	5.29	5.03	4.76
56F556	W88X-19		5.0	10000	5.94	5.64	5.35
56F631	W88X-20	3PDT	12.3	2500	5.85	5.56	5.27
56F632	W88X-22		6.1	10000	6.52	6.19	5.87
88 Plug-In AC Voltage							
47F1075	W88ACPX-3	SPDT	24	----	7.58	7.20	6.82
47F1076	W88ACPX-4		115	----	7.58	7.20	6.82
47F1078	W88ACPX-6	DPDT	12	----	8.45	8.03	7.61
47F1079	W88ACPX-7		24	----	8.45	8.03	7.61
56F515	W88ACPX-8		115	----	8.45	8.03	7.61
47F1081	W88ACPX-10	3PDT	12	----	10.55	10.02	9.50
47F1082	W88ACPX-11		24	----	10.55	10.02	9.50
56F523	W88ACPX-12		115	----	10.55	10.02	9.50
88 Plug-In DC Voltage							
47F1063	W88CPX-2	SPDT	12	100	7.44	7.07	6.70
56F530	W88CPX-3		24	400	7.44	7.07	6.70
56F536	W88CPX-5	DPDT	6	25	8.40	7.98	7.56
56F537	W88CPX-6		12	100	8.40	7.98	7.56
56F538	W88CPX-7		24	400	8.40	7.98	7.56
56F633	W88CPX-8		110	8000	9.24	8.78	8.32
56F545	W88CPX-10	3PDT	12	100	10.43	9.91	9.39
56F546	W88CPX-11		24	400	10.43	9.91	9.39
DC Current Specified - Plug-In							
47F1068	W88CPX-14	SPDT	5.0	5000	8,14	7.73	7.33
47F1070	W88CPX-16	DPDT	10	2500	8.52	8.09	7.67
47F1071	W88CPX-17		7.2	5000	8.60	8.17	7.74
47F1072	W88CPX-18		5.0	10000	9.17	8.71	8.25
47F1073	W88CPX-19	3PDT	12.3	2500	10.50	9.98	9.45
Plug-In W/Neon "On" Light							
56F344	W88ANCPX-2	DPDT	115	3	9.74	9.25	8.77
47F1086	W88ANCPX-3	3PDT	115		11.80	11.21	10.62
Hermetically Sealed AC Voltage							
56F402	W88AHPX-23		24		19.47	18.50	17.52
56F403	W88AHPX-24		115		19.47	18.50	17.52
56F354	W88AHPX-36		115		22.34	21.22	20.11
Hermetically Sealed DC Voltage							
56F405	W88HPX-33		12	100	18.76	17.82	16.88
56F406	W88HPX-34		24	400	18.76	17.82	16.88
56F355	W88HPX-51		24	400	21.60	20.52	19.44

CONTACT NEAREST NEWARK FACILITY FOR LARGER QUANTITY PRICES

Magnecraft mercury displacement relays

60 AMPERES
35 AMPERES
STEEL TUBE DESIGN
LOW COST
1, 2, OR 3 POLES N.O. OR N.C.

FILE NO. E52197
CSA Approved

4-3/4H
1-15/16W
2-3/8D

M35A
M60A

4-3/4H
3-1/2W
2-1/2D

M35AA
M60AA

4-3/4H
3-3/4W
3-1/4D

M35AAA
M60AAA

FEATURES

LIQUID MERCURY CONTACTS means a new contact surface after every operation. Perpetually self-renewing, it cannot pit, weld, disintegrate, or oxidize.

HERMETICALLY SEALED Contactor tubes are hermetically sealed to provide maximum life, protection from adverse environments, and user protection from arcing and hazards of switching heavy loads

QUIETER Eliminates "knocking" associated with conventional hard contactors. Mercury displacement contactor tube operates in relative silence.

HYBRID TIME DELAY MDR PACKAGES AVAILABLE

Stock Number	Type Number	Contacts	Coil Volts 50/60 Hz	Prices 1-9	50-Up	10-49
57F1325	WM35A-120A	SPST-NO	120 VAC	14.35	11.34	9.61
57F1327	WM35B-120A	SPST-NO	120 VAC	14.35	11.34	9.61
57F1326	WM35A-240A	SPST-NO	240 VAC	15.58	12.31	10.44
57F1328	WM35AA-120A	DPST-NO	120 VAC	25.73	20.33	17.24
57F1329	WM35AAA-120A	3PST-NO	120 VAC	38.22	30.19	25.61
56F216	WM60A-120A	SPST-NO	120 VAC	23.20	18.33	15.54
56F217	WM60B-120A	SPST-NO	120 VAC	23.20	18.33	15.54
56F218	WM60A-240A	SPST-NO	240 VAC	24.37	19.25	16.33
56F219	WM60AA-120A	DPST-NO	120 VAC	41.75	32.98	27.97
56F220	WM60AAA-120A	3PST-NO	120 VAC	62.47	49.35	41.85

SPECIFICATIONS

LIFE EXPECTANCY
Mechanical Life: 10 million minimum
General Purpose Load: 5 million minimum
Tungsten Load: 120,000 minimum
Frequency of Operation: Maximum 60 per minute

COIL RATING FOR 120V 60 Hz
Nominal Current: 65 MA-Single Pole
150 MA-Two Pole, 200MA-Three Pole
Inrush Current: (50% higher than nominal)
Pull In Voltage: 80V typical
Drop Out Voltage: 78V typical

CONTACT LOAD RATING M35 PER POLE

TYPE OF LOAD	AC VOLTS 120	240	277	480	600	DC VOLTS 24	48	125	250
General Purpose and Tungsten ** Amperes	35**	35	35	35	30	35	35	30	20
Inductive Amps @ 40% PF	35	35	30	•	•	•	•	•	•

CONTACT LOAD RATING M60 PER POLE

TYPE OF LOAD	AC VOLTS 120	240	277	480	600	DC VOLTS 24	48	125	250
General Purpose and Tungsten ** Amperes	60**	60	60	60	50	60	60	50	40
Inductive Amps @ 40%PF	60	60	50	•	•	•	•	•	•

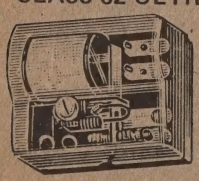
Magnecraft special purpose relays

CLASS 120 MINIATURE COAXIAL RELAYS

The Class 120 is ideally suited for applications where space and weight must be kept to a minimum. SPDT contacts for switching RF circuits are silver alloy, gold flashed, conservatively rated 100 watts of RF power; impedance matched to 50 ohm cable. VSWR 1.25: 1 maximum from 0 to 500 megacycles. Size: 1-47/64" x 43/64" d x 1-13/16" h. Cables are RG58A/U 12" long, unterminated.

Stock Number	Type Number	Contacts	Coil Volts	Coil Ohms	Prices 1-9	10-24	25-49
57F1279	W120X-14	SPDT	12VDC	100	11.22	10.10	9.54

CLASS 62 ULTRA-SENSITIVE 5MW



The Class 62 is an ultra-sensitive, durable, dustite and fully adjustable relay incomparable for use in any DC circuit restricted to a few thousandths of a watt power consumption. Mounting Data: 2 holes 9/64" dia. Contacts: 1 amp resistive at 115 VAC or 28VDC. Size 2-1/16" x 1-9/16" x 2-5/8".

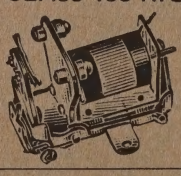
Stock Number	Type Number	Coil Current	Coil Ohms	Prices 1-24	25-49	50-99
57F1288	W62SCX-1	1000MA	.005	18.58	17.65	16.72
57F1289	W62SCX-2	2.25MA	1,000	18.58	17.65	16.72
57F1290	W62SCX-3	1.80MA	1,600	18.58	17.65	16.72
57F1291	W62SCX-4	1.50MA	2,200	18.58	17.65	16.72
57F1292	W62SCX-5	1.20MA	3,500	18.75	17.81	16.88
57F1293	W62SCX-6	0.95MA	5,500	18.96	18.01	17.06
57F1294	W62SCX-7	0.75MA	8,700	19.20	18.24	17.28
57F1295	W62SCX-8	0.70MA	10,000	19.55	18.57	17.60
57F1296	W62SCX-9	0.60MA	14,000	19.95	18.95	17.96
57F1297	W62SCX-10	0.50MA	20,000	20.44	19.42	18.40
57F1298	W62SCX-11	0.40MA	30,000	21.89	20.80	19.70
57F1299	W62SCX-12	0.35MA	40,000	22.80	21.66	20.52

CLASS 151 R.F. RELAY 10 AMP ½ KW.

½ Kilowatt R.F. Switching. Mounting Data: 2 tapped holes; 6-32 NC-2; 2" centers. Size: 1-15/32" x 1-21/32" x 2-13/16".

Stock Number	Type Number	Contacts	Coil Volts	Coil Ohms	Prices 1-24	25-49	50-99
DC Voltage Specified							
57F1280	W151X-2	DPDT	12	72	24.57	23.34	22.11
57F1281	W151X-3	DPDT	24	288	24.57	23.34	22.11
AC Voltage Specified							
57F1282	W151AX-1	DPDT	115	480	27.09	25.73	24.38
57F1283	W151AX-2	DPDT	115	480	29.74	28.25	26.77

CLASS 158 HIGH VOLTAGE RELAY – 5000V



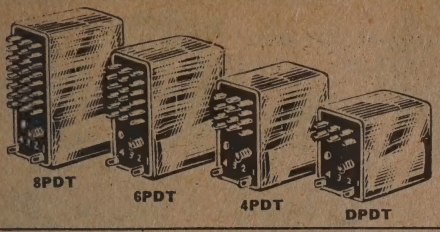
The Class 158 Relay was developed especially for making and breaking high voltage circuit. The silver alloy contacts will break up to 5000 volts. RMS at 200 milliamps current. Size: 1-29/32" x 3-1/16" x 2-7/32".

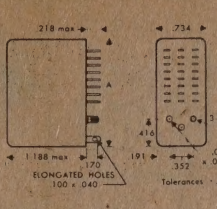
Stock Number	Type Number	Contacts	Coil Volts	Coil Ohms	Prices 1-24	25-49	50-99
DC Voltage Specified							
57F1286	W158HVX-1	SPDT	24	120	27.58	26.20	24.82
57F1287	W158HVX-2	DB-DM	110	3,000	28.58	27.15	25.72

CONTACT YOUR
NEWARK FACILITY
FOR MAGNECRAFT
STOCK CATALOG AND WALL CHART

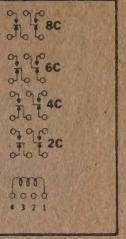
CONTACT NEAREST NEWARK FACILITY FOR LARGER QUANTITY PRICES

Magnecraft miniature industrial relays





A MAX.	2C	4C	6C	8C
B	.938	1.156	1.374	1.592
	.344	.562	.780	1.000



CLASS 67 ENCLOSED PLUG-IN OR PANEL MOUNT RELAYS 3 OR 5 AMP 2 TO 8 FORM C REGULAR OR BIFURCATED CONTACTS

The Class 67 miniature industrial relays are designed for applications requiring 2 to 8 Form C contacts where space, weight and low cost are of prime importance. Single and bifurcated crossbar contacts of silver alloy gold flashed rated 3 to 5 amps at 28VDC or 115VAC resistive load. All relays feature plastic dust covers and combination solder plug-in terminals with 3-48 NC stud. Voltage specified relays pull-in at 75% of nominal or less for DC relays and 85% of nominal or less for AC relays at 25°C. Resistance values +10% measured at 25°C. Size: 2 Form C, 0.734" X 0.938" X 1.188"; 4 Form C, 0.734" X 1.156" X 1.188"; 6 Form C, 0.734" X 1.375" X 1.188"; 8 Form C, 0.734" X 1.592" X 1.188".

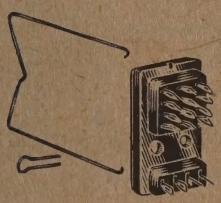
Stk. No.	Type No.	Contact Rating	Coil Volts	Coil Ohms	1-24	25 -49	50 -99
2 FORM C							
56F1033	W67CSX-1	3 Amps	6	52	3.82	3.63	3.44
56F1034	W67CSX-2		12	185	3.82	3.63	3.44
56F1035	W67CSX-3		24	700	3.82	3.63	3.44
56F1036	W67CSX-4		48	2,500	3.82	3.63	3.44
56F1037	W67CSX-5		115	15,000	6.08	5.78	5.47
56F1053	W67RCSX-1	5 Amps	6	52	3.98	3.78	3.58
56F1054	W67RCSX-2		12	185	3.98	3.78	3.58
56F1055	W67RCSX-3		24	700	3.98	3.78	3.58
56F1056	W67RCSX-4		48	2,500	3.98	3.78	3.58
56F1057	W67RCSX-5		115	15,000	6.23	5.92	5.61
56F1074	W67TCSX-2	3* Amps	12	185	4.29	4.08	3.86
56F1075	W67TCSX-3		24	700	4.29	4.08	3.86
56F1101	W67TRCSX-2	5* Amps	12	185	4.35	4.13	3.92
56F1102	W67TRCSX-3		24	700	4.35	4.13	3.92
6 FORM C							
56F1044	W67CSX-12	3 Amps	12	90	5.78	5.49	5.20
56F1045	W67CSX-13		24	430	5.78	5.49	5.20
56F1064	W67RCSX-12	5 Amps	12	90	6.27	5.96	5.64
56F1065	W67RCSX-13		24	430	6.27	5.96	5.64
56F1084	W67TCSX-12	3* Amps	12	90	6.57	6.24	5.91
56F1085	W67TCSX-13		24	430	6.57	6.24	5.91
56F1111	W67TRCSX-12	5* Amps	12	90	6.96	6.61	6.26
56F1112	W67TRCSX-13		24	430	6.96	6.61	6.26

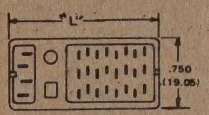
*Bifurcated Contacts

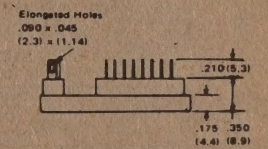
Stk. No.	Type No.	Contact Rating	Coil Volts	Coil Ohms	1-24	25 -49	50 -99
4 FORM C							
56F1038	W67CSX-6	3 Amps	6	52	4.25	4.04	3.83
56F1039	W67CSX-7		12	185	4.25	4.04	3.83
56F1040	W67CSX-8		24	700	4.25	4.04	3.83
56F1041	W67CSX-9		48	2,500	4.25	4.04	3.83
56F1042	W67CSX-10		115	15,000	6.50	6.18	5.85
56F1058	W67RCSX-6	5 Amps	6	52	4.57	4.34	4.11
56F1059	W67RCSX-7		12	185	4.57	4.34	4.11
56F1060	W67RCSX-8		24	700	4.57	4.34	4.11
56F1061	W67RCSX-9		48	2,500	4.57	4.34	4.11
56F1062	W67RCSX-10		115	15,000	6.80	6.46	6.12
56F1079	W67TCSX-7	3* Amps	12	185	4.82	4.58	4.34
56F1080	W67TCSX-8		24	700	4.82	4.58	4.34
56F1106	W67TRCSX-7	5* Amps	12	185	5.22	4.96	4.70
56F1107	W67TRCSX-8		24	700	5.22	4.96	4.70
8 FORM C							
56F1049	W67CSX-17	3 Amps	12	72	8.87	8.43	7.98
56F1050	W67CSX-18		24	350	8.87	8.43	7.98
56F1069	W67RCSX-17	5 Amps	12	72	9.36	8.89	8.42
56F1070	W67RCSX-18		24	350	9.36	8.89	8.42
56F1089	W67TCSX-17	3* Amps	12	72	9.78	9.29	8.80
56F1090	W67TCSX-18		24	350	9.78	9.29	8.80
56F1116	W67TRCSX-17	5* Amps	12	72	10.02	9.52	9.02
56F1117	W67TRCSX-18		24	350	10.02	9.52	9.02

*Bifurcated Contacts

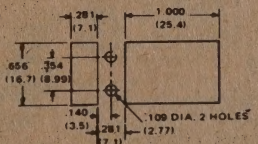
CLASS 67 SOCKETS

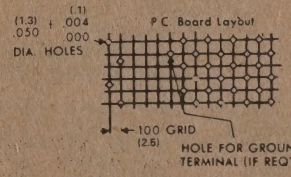






Fit all Class 67 relays from 2 to 8 Form C contacts. Available in both PC and Solder Terminal versions. Retaining and grounding clips included.



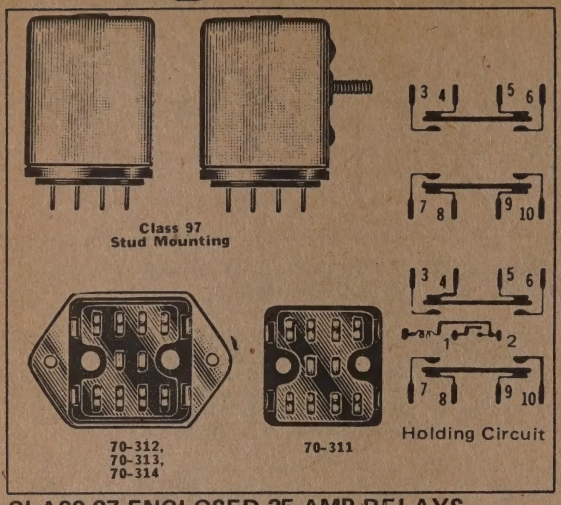


Retainer clip included with all sockets.

Stk. No.	Type No.	Description	Dim. "L"	1-24	25 -49	50 -99
56F1120	70-303	2 Pole Solder Terminal	.959	.64	.61	.58
56F1121	70-304	2 Pole PC Terminal	1.047	.64	.61	.58
56F1122	70-305	4 Pole Solder Terminal	1.170	.82	.78	.74
56F1123	70-306	4 Pole PC Terminal	1.280	.82	.78	.74
56F1124	70-307	6 Pole Solder Terminal	1.385	1.10	1.05	.99
56F1125	70-308	6 Pole PC Terminal	1.516	1.10	1.05	.99
56F1126	70-309	8 Pole Solder Terminal	1.596	2.00	1.90	1.80
56F1127	70-310	8 Pole PC Terminal	1.596	2.00	1.90	1.80

CONTACT NEAREST NEWARK FACILITY FOR LARGER QUANTITY PRICES

Magnecraft heavy duty power relays



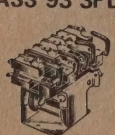
CLASS 97 ENCLOSED 25 AMP RELAYS UL RECOGNIZED

The Class 97 is a low cost 25 amp relay for 1 and 2 pole, 120/240 VAC applications. It is available with socket for plug-in applications or for use with standard quick-connect terminals for simplicity and ease in wiring. The Class 97 relay offers high quality, dependable performance and long life.

These relays are ideal for use in appliances, automation equipment, motor starting and heater circuits, clock controlled systems, laundry equipment, vending machines, machine tools, furnace controls, panel boards and air conditioners. Size: 1- 29/32" x 1-9/16" square.

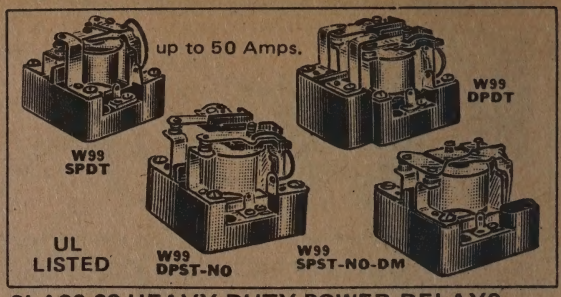
Stock Number	Type Number	Coil		Prices		
		Volts	Ohms	1-9	10-24	25-49
Stud Mounting Relays						
56F776	W97ACSX-1	12VAC	3.5	15.29	14.53	13.76
56F777	W97ACSX-2	24VAC	13.2	15.11	14.35	13.60
56F778	W97ACSX-3	115VAC	265	15.29	14.53	13.76
56F779	W97ACSX-4	220VAC	920	15.11	14.35	13.60
56F780	W97CSX-1	12VDC	50	14.91	14.16	13.42
56F781	W97CSX-2	24VDC	220	14.91	14.16	13.42
Plug-In Relays						
56F782	W97ACPX-1	12VAC	3.5	14.91	14.16	13.42
56F783	W97ACPX-2	24VAC	13.2	14.60	13.87	13.14
56F784	W97ACPX-3	115VAC	265	14.91	14.16	13.42
56F785	W97ACPX-4	220VAC	9.20	15.11	14.35	13.60
56F786	W97CPX-1	12VDC	50	14.60	13.87	13.14
56F787	W97CPX-2	24VDC	220	14.60	13.87	13.14
Holding Circuit (Plug-In)						
67F250	W97ALCPX-1	115VAC	265	17.27	16.41	15.54
67F251	W97ALCPX-2	220VAC	920	17.71	16.82	15.94
Sockets						
67F252	70-311 Without Flange			2.78	2.64	2.50
67F253	70-312 Without Ground Lug			2.92	2.77	2.63
67F254	70-313 With Ground Lug			3.72	3.53	3.35
67F255	70-314 With Grd. Lug & U.L. Approved			3.72	3.53	3.35

CLASS 93 3PDT OR 5PDT 20 AMP



Mounting Data: 4 tapped holes 6-32 ½" x 1-5/16" centers. Contacts: ¼" dia. silver – 20 amps resistive at 115VAC or 28VDC. Size: 3PDT, 2" x 1-13/16" x 2-5/16"; 5PDT, 2" x 2-9/16" x 2-5/16".

Stock Number	Type Number	Cont Amp	Coil		Prices		
			Volts	Ohms	1-24	25-49	50-99
DC Voltage Specified							
56F634	W93X-3	3PDT	24	218	17.80	16.91	16.02
56F635	W93X-4	5PDT	24	164	22.87	21.73	20.58
AC Voltage Specified							
56F636	W93AX-3	3PDT	24	12.5	19.27	18.31	17.34
56F637	W93AX-4	5PDT	24	9.6	23.87	22.68	21.48
56F638	W93AX-5	3PDT	115	253	19.27	18.31	17.34
56F639	W93AX-6	5PDT	115	194	23.87	22.68	21.48

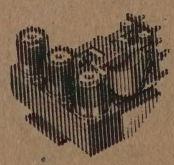


CLASS 99 HEAVY DUTY POWER RELAYS

Dimensionally interchangeable with relays made by others. Superior quality hinge-pin design, molded nylon bobbin and adjustment stability features give it longer life. Standard dielectric strength: 1500 VAC, RMS. Screw type terminals and molded phenolic base. Contacts: Silver alloy, 5/16" dia. gold flashed. Choice of SPDT, DPDT, DPST-NO and SPST-NO double break. Size: SPDT (2-7/8" L., 1-15/16" H., 2" W.)-DPDT (3-3/16" L., 2-3/8" H., 2-1/2" W.)-DPST-NO (2-1/2" L., 2-3/8" H., 2-1/2" W.)-SPST-NO (2-1/2" L., 2" H., 2" W.)

Stock Number	Type Number	Contacts	Coil		Prices		
			Volts	Ohms	1-9	10-24	25-49
-AC Voltage Specified -25A Contacts							
56F955	W99AX-2	SPDT	115	----	6.56	5.90	5.58
56F956	W99AX-3		230	----	6.77	6.09	5.75
DC Voltage Specified -25 A Contacts							
56F957	W99X-2	SPDT	12	70	6.43	5.79	5.47
-AC Voltage Specified -25A Contacts							
56F949	W99AX-8	DPST-NO	24	----	7.19	6.47	6.11
56F950	W99AX-9		115	----	7.21	6.49	6.13
56F951	W99AX-10		230	----	7.41	6.67	6.30
DC Voltage Specified -25A Contacts							
56F642	W99X-10	DPST-NO	12	70	7.21	6.49	6.13
56F952	W99X-11		24	290	7.24	6.52	6.15
-AC Voltage Specified -25A Contacts							
56F971	W99AX-5	DPDT	115	----	9.20	8.28	7.82
56F972	W99AX-6		230	----	9.42	8.48	8.01
47F1094	W99AX-7		440	----	9.47	8.52	8.05
DC Voltage Specified -25A Contacts							
56F641	W99X-6	DPDT	12	70	9.30	8.37	7.91
56F973	W99X-7		24	290	9.32	8.39	7.92
56F974	W99X-8		110	6000	9.77	8.79	8.30
-AC Voltage Specified -50A Contacts							
47F1103	W99ADX-2	SPST-NO-DM	115	----	6.22	5.60	5.29
56F644	W99ADX-3		230	----	6.45	5.81	5.48
.DC Voltage Specified -50A Contacts							
47F1104	W99DX-2	SPST-NO-DM	12	70	6.18	5.56	5.25
47F1105	W99DX-3		24	290	6.20	5.58	5.27
56F643	W99DX-4		110	6000	6.63	5.97	5.64

CLASS 128 COAXIAL RELAY



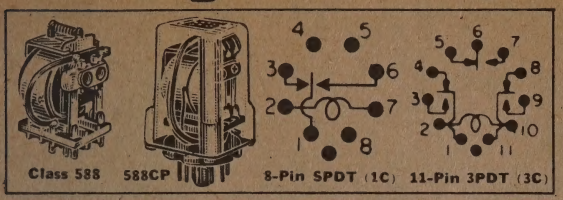
The coaxial contact structure is enclosed in a heavy duty precision machined brass cavity with removable plug for convenient inspection of contacts.

SPDT contacts for switching RF circuits are silver alloy, gold flashed, conservatively rated 500 watts of RF power; impedance matched to 50 ohm cable using standard type UHF connectors VSWR 1.25; 1 max. from up to 500 megacycles.

Stock Number	Type Number	Contacts	Coil		Prices		
			Volts	Ohms	1-24	25-49	50-99
Without Auxiliary Contact							
56F243	W128AX-7	SPDT	115VAC	---	31.77	28.59	27.00
56F244	W128X-9	SPDT	12VDC	100	31.34	28.21	26.69
56F245	W128X-10	SPDT	24VDC	400	31.43	28.29	26.72
With DPDT Auxiliary Contact							
56F246	W128AX-11	SPDT	115VAC	---	34.79	31.31	29.57
56F247	W128X-14	SPDT	12VDC	100	33.74	30.37	26.68
56F248	W128X-15	SPDT	24VDC	400	33.81	30.43	28.74

CONTACT NEAREST NEWARK FACILITY FOR LARGER QUANTITY PRICES

Magnecraft general purpose relays

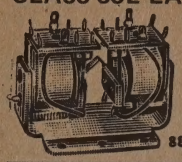


CLASS 588 OPEN OR PLUG-IN UL RECOGNIZED

Class 588 low cost UL recognized continuous duty general purpose relays. Engineered for maximum efficiency and reliable performance at lowest cost. These relays are ideal for use in test equipment, business machines, automation and communication equipment and all applications requiring a multi-pole general purpose relay. Contacts are silver alloy, gold flashed rated 5 or 10 amps. Plug-in version size: 1-3/8 x 1-3/8 x 2-1/8 high.

Stock Number	Type Number	Cont. Amps	Coil Volts	Coil Ohms	Prices 1-24	Prices 25-49	Prices 50-99
OPEN RELAYS – DC VOLTAGE							
56F1128	W588X-2	5 A SPDT	12	120	4.63	4.40	4.17
56F1129	W588X-3		24	480	4.63	4.40	4.17
56F1130	W588X-6	5 A DPDT	12	120	5.07	4.82	4.56
56F1131	W588X-7		24	480	5.07	4.82	4.56
56F1132	W588X-10	5 A 3PDT	12	120	5.78	5.49	5.20
56F1133	W588X-11		24	480	5.78	5.49	5.20
56F1134	W588X-14	10 A SPDT	12	120	4.68	4.45	4.21
56F1135	W588X-15		24	480	4.68	4.45	4.21
56F1136	W588X-18	10 A DPDT	12	120	5.27	5.01	4.74
56F1137	W588X-19		24	480	5.27	5.01	4.74
56F1138	W588X-22	10 A 3PDT	12	120	6.00	5.70	5.40
56F1139	W588X-23		24	480	6.00	5.70	5.40
OPEN RELAYS – AC VOLTAGE							
56F1151	W588AX-3	5 A SPDT	24	96	4.78	4.54	4.30
56F1152	W588AX-4		115	2,200	4.78	4.54	4.30
56F1154	W588AX-7	5 A DPDT	24	96	5.84	5.55	5.26
56F1155	W588AX-8		115	2,200	5.84	5.55	5.26
56F1157	W588AX-11	5 A 3PDT	24	96	6.30	5.99	5.67
56F1158	W588AX-12		115	2,200	6.30	5.99	5.67
56F1160	W588AX-15	10 A SPDT	24	96	4.84	4.60	4.36
56F1161	W588AX-16		115	2,200	4.84	4.60	4.36
56F1163	W588AX-19	10 A DPDT	24	96	5.96	5.66	5.36
56F1164	W588AX-20		115	2,200	5.96	5.66	5.36
56F1166	W588AX-23	10 A 3PDT	24	96	6.54	6.21	5.89
56F1167	W588AX-24		115	2,200	6.54	6.21	5.89
PLUG-IN RELAYS – DC VOLTAGE							
56F1168	W588CPX-2	5 A SPDT	12	120	7.92	7.52	7.13
56F1169	W588CPX-3		24	480	7.92	7.52	7.13
56F1170	W588CPX-6	5 A DPDT	12	120	9.01	8.56	8.11
56F1171	W588CPX-7		24	480	9.01	8.56	8.11
56F1172	W588CPX-10	5 A 3PDT	12	120	11.09	10.54	9.98
56F1173	W588CPX-11		24	480	11.09	10.54	9.98
56F1174	W588CPX-14	10 A SPDT	12	120	8.06	7.66	7.25
56F1175	W588CPX-15		24	480	8.06	7.66	7.25
56F1176	W588CPX-18	10 A DPDT	12	120	9.11	8.65	8.20
56F1177	W588CPX-19		24	480	9.11	8.65	8.20
56F1178	W588CPX-22	10 A 3PDT	12	120	11.32	10.75	10.19
56F1179	W588CPX-23		24	480	11.32	10.75	10.19
PLUG-IN RELAYS – AC VOLTAGE							
56F1181	W588ACPX-3	5 A SPDT	24	96	8.15	7.74	7.34
56F1182	W588ACPX-4		115	2,200	8.15	7.74	7.34
56F1184	W588ACPX-7	5 A DPDT	24	96	9.07	8.62	8.16
56F1185	W588ACPX-8		115	2,200	9.07	8.62	8.16
56F1187	W588ACPX-11	5 A 3PDT	24	96	11.25	10.69	10.13
56F1188	W588ACPX-12		115	2,200	11.25	10.69	10.13
56F1190	W588ACPX-15	10 A SPDT	24	96	8.18	7.77	7.36
56F1191	W588ACPX-16		115	2,200	8.18	7.77	7.36
56F1193	W588ACPX-19	10 A DPDT	24	96	9.17	8.71	8.25
56F1194	W588ACPX-20		115	2,200	9.17	8.71	8.25
56F1196	W588ACPX-23	10 A 3PDT	24	96	11.39	10.82	10.25
56F1197	W588ACPX-24		115	2,200	11.39	10.82	10.25

CLASS 88L LATCHING RELAYS—10 AMPS


88L

Class 88L: 4PDT and 6PDT, AC or DC operation. Contacts rated 10 amps at 115VAC or 28VDC. Size: 3" x 1¾" x 1-15/16". Approximate Weight: 6½ oz.

Stock Number	Type Number	Cont 10 Amps	Coil Volts	Coil Ohms	Prices 1-9	Prices 10-24	Prices 25-49
Latching Relays AC Voltage							
57F1218	W88ALX-4	4PDT	115	----	13.71	13.02	12.34
57F1220	W88ALX-7	6PDT	115	----	16.50	15.68	14.85
Latching Relays DC Voltage							
57F1221	W88LX-2	4PDT	12	50	12.46	11.84	11.21
57F1222	W88LX-3		24	200	12.46	11.84	11.21
56F640	W88LX-6	6PDT	12	50	15.14	14.38	13.63
57F1223	W88LX-7		24	200	15.14	14.38	13.63

CLASS 88KD LOW COST SPST-NO-DM-50 AMP

88KD SPST-NO-DM

Silver alloy, gold flashed contacts for power switching. Terminal boards designed to accept AMP Faston "250" series receptacles on contacts, or "110" series receptacle on coil. Tapped with one 6-32 mounting hole and locating boss. Size 1-15/16 x 1-1/16 x 1½". Wt., 3 oz. Contacts 50 amps SPST-NO-DM.

DC Voltage							
56F945	W88KDX-2	SPST	12	100	5.64	5.36	5.08
56F946	W88KDX-3	SPST	24	400	5.64	5.36	5.08
AC Voltage							
56F947	W88KADX-1	SPST	24	----	6.35	6.03	5.72
56F948	W88KADX-2	SPST	115	----	6.35	6.03	5.72

CLASS 89CQ FLANGE MOUNT-20 AMP

The Class 89CQ low cost relay is equipped with quick connect terminals (0.250), clear polycarbonate crackproof dust cover. 20 amp contacts. Size: 2-1/8" x 1-15/16" x 2-27/64". Weight 4.5 oz. approx.

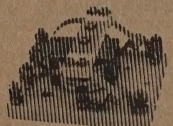
Flange Mount AC Voltage							
47F1087	W89ACQX-2	DPDT	12	----	11.92	11.32	10.73
47F1088	W89ACQX-3		24	----	11.92	11.32	10.73
47F1089	W89ACQX-4		120	----	11.92	11.32	10.73
Flange Mount DC Voltage							
47F1091	W89CQX-2	DPDT	12	53	11.75	11.16	10.58
47F1092	W89CQX-3		24	210	11.75	11.16	10.58

CLASS 328 HIGH POWER COAXIAL RELAY

The Class 328 Coaxial Relay is unsurpassed for meeting the problems of coaxial cable switching. This unit is designed for switching up to 1 Kilo - watt on 52 ohms coaxial lines. Size: 3-19/32 length, 1-13/32 width, 3-9/39 height

Stock Number	Type Number	Contact	Coil Volts	Coil Ohms	Prices 1-24	Prices 25-49	Prices 50-99
AC VERSION							
56F249	W328AX-1	SPDT	115VAC	280	57.98	49.28	46.38
DC VERSION							
56F250	W328X-2	SPDT	12VDC	70	57.28	45.29	42.62

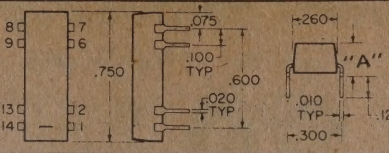
CLASS 155 HIGH VOLTAGE RELAYS

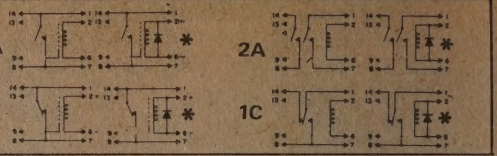


The Class 155 Relay is designed for switching high voltage industrial and radio frequency loads. Rated at 1 Kw. Size: 3-19/32 L x 2-25/32 W x 1-21/32 H.

Stock Number	Type Number	Contact	Coil Volts	Coil Ohms	Prices 1-24	Prices 25-49	Prices 50-99
AC VERSION							
56F251	W155AX-1	DPDT	115VAC	400	30.22	28.71	27.20

Magnecraft® DIP reed relays





CONTACT FORM	1A	2A	1B	1C
Contact Rating	10VA at .5 Amp max.	8VA at .35 Amp max.	8VA at .35 Amp max.	8VA at .25 Amp max.
Op Time Typ.	300 Microseconds	600 Microseconds	400 Microseconds	500 Microseconds
Bounce Time Typ.	200 Microseconds	300 Microseconds	100 Microseconds	200 Microseconds
CR. Typ.	200 Milliohms			
IR. Typ.	10^{10} Ohms			
Life Typ.	25×10^6	15×10^6	15×10^6	10×10^6
Dielectric Between Contacts	250VDC min.	200VDC min.	250VDC min.	250VDC min.
Between Coil & Contacts	1000VDC min.			
Shock	100 G's, 11 milliseconds @ ½ sinewave			
Vibration	20 G's 0 – 5000 Hz operating			
Ambient Temp.	–55°C to 85°C			

Class 171 Dip, SPST-NO, 1 Form A, "A" Dimension .275

Stock Number	Type Number	Coil		Prices		
		Volts	Ohms	1-24	25-49	50-74
47F1137	W171DIP-2	5	500	3.51	3.16	2.98
47F1138	W171DIP-3	6	500	3.09	2.78	2.63
47F1139	W171DIP-4	12	500	3.09	2.78	2.63
47F1140	W171DIP-5	24	2200	3.48	3.13	2.96
47F1142	W171DIP-7*	5	500	4.12	3.71	3.50
47F1143	W171DIP-8*	6	500	3.74	3.37	3.18
47F1144	W171DIP-9*	12	500	3.74	3.37	3.18
47F1145	W171DIP-10*	24	2200	4.12	3.71	3.50

Class 171 Dip, SPST-NC, 1 Form B, "A" Dimension .275

47F1147	W171DIP-12	5	500	4.17	3.75	3.54
56F1023	W171DIP-13	6	500	3.95	3.56	3.36
56F1024	W171DIP-14	12	500	3.95	3.56	3.36
56F1025	W171DIP-15	24	2200	4.14	3.73	3.52
56F1027	W171DIP-17*	5	500	4.46	4.01	3.79
56F1028	W171DIP-18*	6	500	4.24	3.82	3.60
56F1029	W171DIP-19*	12	500	4.24	3.82	3.60
56F1030	W171DIP-20*	24	220C	4.45	4.01	3.78

Class 107 Dip, SPST-NO, 1 Form A, "A" Dimension .187

Stock Number	Type Number	Coil		Prices		
		Volts	Ohms	1-24	25-49	50-99
47F1106	W107DIP-1	5	500	4.41	3.97	3.75
47F1107	W107DIP-2	6	500	3.86	3.47	3.28
47F1108	W107DIP-3	12	500	3.86	3.47	3.28
47F1109	W107DIP-4	24	1,200	4.14	3.73	3.52
47F1110	W107DIP-5*	5	500	5.19	4.67	4.41
56F252	W107DIP-6*	6	500	4.63	4.17	3.94
56F253	W107DIP-7*	12	500	4.63	4.17	3.94
56F254	W107DIP-8*	24	1,200	4.90	4.41	4.17

* Internal Clamping Diode

Class 171 Dip, DPST-NO, 2 Form A, "A" Dimension.275

Stock Number	Type Number	Coil		Prices		
		Volts	Ohms	1-24	25-49	50-74
47F1148	W171DIP-21	5	200	5.71	5.14	4.85
47F1149	W171DIP-22	6	200	5.49	4.94	4.67
47F1150	W171DIP-23	12	500	5.49	4.94	4.67
47F1151	W171DIP-24	24	2200	6.51	5.86	5.53
47F1152	W171DIP-25*	5	200	6.67	6.00	5.67
47F1153	W171DIP-26*	6	200	6.56	5.90	5.58
47F1154	W171DIP-27*	12	500	6.56	5.90	5.58
47F1155	W171DIP-28*	24	2200	6.81	6.13	5.79

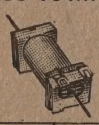
Class 172 Dip, SPST, 1 Form C, "A" Dimension .275

47F1156	W172DIP-1	5	200	5.79	5.21	4.92
47F1157	W172DIP-2	6	200	5.48	4.93	4.66
47F1158	W172DIP-3	12	500	5.48	4.93	4.66
47F1159	W172DIP-4	24	2200	5.83	5.25	4.96
47F1160	W172DIP-5*	5	200	6.17	5.55	5.24
47F1161	W172DIP-6*	6	200	5.93	5.34	5.04
47F1162	W172DIP-7*	12	500	5.93	5.34	5.04
47F1163	W172DIP-8*	24	2200	6.29	5.66	5.35

Stock Number	Type Number	Coil		Prices		
		Volts	Ohms	1-24	25-49	50-99
Class 117 Dip, SPST-NO, 1 Form A, "A" Dimension .210						
56F255	W117DIP-68	5	500	4.22	3.80	3.59
56F256	W117DIP-69	6	500	3.86	3.47	2.28
56F257	W117DIP-70	5	500	5.05	4.55	4.29
56F258	W117DIP-71	6	500	4.63	4.17	3.94
47F1113	W117DIP-3	12	500	3.56	3.26	3.03
47F1114	W117DIP-4	24	1,200	3.78	3.40	3.21
47F1115	W117DIP-5	5	200	4.75	4.28	4.04
47F1116	W117DIP-6	6	200	4.33	3.90	3.68
47F1117	W117DIP-7	5	500	4.33	3.90	3.68
47F1118	W117DIP-8	6	1,200	4.60	4.14	3.91
Class 117 Dip, SPST-NC, 1 Form B, "A" Dimension .210						
47F1123	W117DIP-13	5	500	4.80	4.32	4.08
Class 117 Dip, DPST-NO,2 Form A, "A" Dimension .210						
47F1119	W117DIP-9	5	200	6.34	5.71	5.39
47F1120	W117DIP-10	6	200	5.82	5.24	4.95
47F1121	W117DIP-11	12	500	5.82	5.24	4.95
47F1122	W117DIP-12	24	1,200	6.17	5.55	5.24

Magnecraft ic compatible reed relays

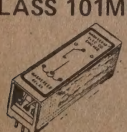
CLASS 101M AXIAL LEAD FORM A



Contact load rated 10VA @ .5 amp max. or 100VDC resistive max. Typical life at rated load of 5 million cycles. Capacitance across contacts .5 pf average. Weight: 1 oz. approximately. Size: 1" x 7/16" x ½".

Stock Number	Type Number	Contacts	Coil DC		Price		
			Volts	Ohms	1-24	25-49	50-74
56F976	W101MX-41	SPST-NO	3	250	2.95	2.66	2.51
56F975	W101MX-35		5	500	2.95	2.66	2.51

CLASS 101MPC PC MTG FORM A



Contact load rated 10VA @ .5 amp max. or 100VDC resistive max. Typical life at rated load of 5 million cycles. Capacitance across contacts, .5 pf average. Weight: 1 oz. approximately. Size: 1-1/8" x 3/8" x 13/32".

56F977	W101MPCX-104	SPST-NO	5	450	4.55	4.10	3.87

CLASS 104M AXIAL LEAD FORM C

Contact load rated 3VA @ .25 amp max. or 28VDC resistive max. Typical life at rated load of 5 million cycles. Capacitance across contacts, 1.5 pf average. Weight 1 oz. approximately. Size: 1" x 7/16" x ½".

Stock Number	Type Number	Contacts	Coil DC		Prices		
			Volts	Ohms	1-24	25-49	50-74
56F979	W104MX-10	SPDT	3	250	6.84	6.16	5.81
56F978	W104MX-9	SPDT	5	500	6.84	6.16	5.81

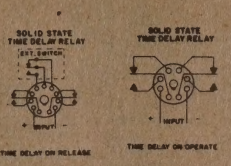
CLASS 104MPC PC MTG FORM C

Contact load rated 3VA @ .25 amp max. or 28VDC. Typical life at rated load of 5 million cycles. Capacitance across contacts, 1.5 pf average. Weight 1 oz. approximately. Size: 1-1/8" x 3/8" x 13/32".

56F980	W104MPCX-46	SPDT	5	300	7.91	7.12	6.72

CONTACT NEAREST NEWARK FACILITY FOR LARGER QUANTITY PRICES

Magnecraft extended time delay relays



CLASS 211CP EXTENDED TIME DELAY RELAY

The Class 211CP Time Delay Relay makes use of Hybrid Circuitry, combining Solid State Circuitry for timing function with an EMR for DPDT 10 Amperes output switching. The 211CP offers the following outstanding features.

Stock Number	Part Number	Timing	Voltage	Prices 1-9	10-24	25-49	50-99
		SLOW OPERATE					
56F259	W211ACPSOX-60	1-15 Min.	120VAC	34.90	33.16	31.41	27.92
56F260	W211ACPSOX-61	2-30 Min.	120VAC	34.90	33.16	31.41	27.92
56F261	W211ACPSOX-62	4-60 Min.	120VAC	34.90	33.16	31.41	27.92
56F263	W211ACPSOX-63	8-120 Min.	120VAC	34.90	33.16	31.41	27.92
56F264	W211CPSOX-40	1-15 Min.	24VDC	34.90	33.16	33.16	27.92
56F265	W211CPSOX-41	2-30 Min.	24VDC	34.90	33.16	33.16	27.92
56F266	W211CPSOX-42	4-60 Min.	24VDC	34.90	33.16	33.16	27.92
56F267	W211CPSOX-43	8-120 Min.	24VDC	34.90	33.16	33.16	27.92
		SLOW RELEASE					
56F268	W211ACPSRX-60	1-15 Min.	120VAC	37.40	35.53	33.66	29.92
56F269	W211ACPSRX-61	2-30 Min.	120VAC	37.40	35.53	33.66	29.92
56F270	W211ACPSRX-62	4-60 Min.	120VAC	37.40	35.53	33.66	29.92
56F271	W211ACPSRX-63	8-120 Min.	120VAC	37.40	35.53	33.66	29.92
56F272	W211CPSRX-40	1-15 Min.	24VDC	37.40	35.53	33.66	29.92
56F273	W211CPSRX-41	2-30 Min.	24VDC	37.40	35.53	33.66	29.92
56F274	W211CPSRX-42	4-60 Min.	24VDC	37.40	35.53	33.66	29.92
56F275	W211CPSRX-43	8-120 Min.	24VDC	37.40	35.53	33.66	29.92

FEATURES

1. Available in 9 different timing ranges
2. AC or DC operation
3. Functions of delay on operate, delay on release
4. Plug in mounting
5. Knob adjustable timing
6. Nylon dust cover
7. Reverse polarity protection (DC Models)

SPECIFICATIONS

Repeat Accuracy: ± 2% of setting at nominal voltage at 25°C
Contact Combination: DPDT Standard
Reset Time: 100 ms Typically
Temperature Range: Operate - 10°C to 55°C
Storage - 55°C to 85°C

Transient protection of 2000V for 8MS standard on all AC models. (Optional on DC models)

Magnecraft® general purpose relays

CLASS 78 GENERAL PURPOSE INDUSTRIAL RELAY

UL Recognized

FEATURES

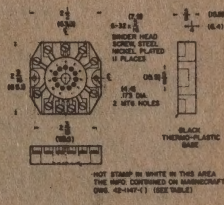
- 4PDT
- 3 Amp Contacts
- Plug-in or P.C. terminal
- Dust proof enclosure

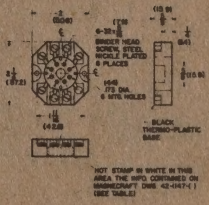
Class 78 relays are most widely used of all general purpose industrial relays. Slightly larger than one cubic inch, these relays are interchangeable with all comparable types. Dimensions: 1.4" x 1.1" x .86"

Stock Number	Type Number	Volts	Ohms	Prices 1-24	25-49	50-99
AC Coil - Solder Lug/Plug-in Version						
56F280	W78ACSX-3	24	157	5.82	5.53	5.24
56F281	W78ACSX-5	115	3,500	5.82	5.53	5.24
56F282	W78ACSX-6	220	12,500	6.60	6.27	5.94
DC Coil - Solder lug/Plug-in Version						
56F276	W78CSX-1	6	4	4.79	4.55	4.31
56F277	W78CSX-2	12	160	4.79	4.55	4.31
56F278	W78CSX-3	24	650	4.79	4.55	4.31
56F279	W78CSX-4	110	11,000	5.04	4.79	4.54
AC Coil - Printed Circuit Version						
56F288	W78APCX-3	24	157	5.82	5.53	5.24
56F289	W78APCX-5	110	3,500	5.82	5.53	5.24
56F303	W78APCX-6	220	12,500	6.60	6.27	5.94
DC Coil - Printed Circuit Version						
56F283	W78PCX-1	6	40	4.79	4.55	4.31
56F284	W78PCX-2	12	160	4.79	4.55	4.31
56F285	W78PCX-3	24	650	4.79	4.55	4.31
56F286	W78PCX-4	48	655	5.04	4.79	4.54
56F287	W78PCX-6	110	11,000	5.52	5.24	4.97

INDUSTRIAL SCREW TERMINAL SOCKETS

These heavy duty molded thermo plastic screw terminal sockets are rated at 10 amperes. Closed back construction requires no insulation.


BINDER HEAD SCREW, STEEL, NICKEL PLATED 11 PLACES
.173 DIA. 2 MTG. HOLES
BLACK THERMO-PLASTIC BASE
HOT STAMP IN WHITE IN THIS AREA THE INFO. CONTAINED ON MAGNECRAFT DWG. 42-1147-( ) (SEE TABLE)


BINDER HEAD SCREW, STEEL, NICKLE PLATED 8 PLACES
.173 DIA. 6 MTG. HOLES
BLACK THERMO-PLASTIC BASE
HOT STAMP IN WHITE IN THIS AREA THE INFO. CONTAINED ON MAGNECRAFT DWG. 42-1147-( ) (SEE TABLE)

Stock No.	Type No.	Description	1-9	10-24	25-49	50-99
47F1247	70-170	Screw Terminal 11 pin Octal	4.15	3.94	3.74	3.53
47F1248	70-169	Screw Terminal 8 pin Octal	2.75	2.61	2.48	2.34

SIGMA General Purpose Relays

SERIES 11 SPDT RELAYS

Small, low cost relays for 1 ampere switching at 28 VDC/115 VAC resistive. DC types are designed for sliding current or on-off 50 mw signals. AC is used for .3 VA on-off signals. Good environmental capability. UL and CSA listed. 11F with solder lug terminals. 1 7/32" x 1 3/16" x 1 1/16". 11 FP shoulder lug mounting with printed circuit terminals, 1 7/32" sq. x 1 5/12". Temp. range: -40 to +122°F. Shpg. wt. 1.2 oz.

DC RELAYS

Stock No.	Type and Coil ohms	Ma DC	Nominal Voltage	1-99	100-249	250-499
24F1987	11F-250-G-SIL	14.0	6VDC	4.25	4.04	3.82
24F1988	11F-550-G-SIL	9.5		4.25	4.04	3.82
24F360	11F-1000-G-SIL	7.0	12VDC	4.25	4.04	3.82
24F361	11F-2300-G-SIL	4.6		4.25	4.04	3.82
24F362	11F-6000-G-SIL	2.9	24VDC	4.65	4.42	4.19
24F363	11F-9000-G-SIL	2.4		5.00	4.75	4.50
24F1990	11FP-1000-G-SIL	7.0	12VDC	4.30	4.09	3.87
24F1991	11FP-2300-G-SIL	4.6		4.30	4.09	3.87
24F3161	11FP-6000-G-SIL	2.9	24VDC	5.00	4.75	4.50

SERIES 50 DPDT, 3PDT RELAYS

Enclosed, plug-in, compact, multipole relay for switching of industrial loads of 5 or 10 amps. 10 million oper. mech. life. Temp. range: +14°F to +141°F. Contact rating: 10 amps at 28 VDC/115 VAC. 2.125"H x 1.4" Sq. **50R0L2:** 8-pin plug. **50R03,** 11-pin plug. UL/CSA listed. Shpg. wt. 4 oz.

Stock No.	Type SCO & Coil V.	Coil Ohms	Action	1-49	50-74	75-99
24F2705	50R02-12AC	23.5	DPDT	7.65	7.27	6.89
24F2706	50R02-24AC	95	DPDT	7.65	7.27	6.89
24F2707	50R02-120AC	2300	DPDT	7.65	7.27	6.89
24F3139	50R0L2-120AC	2300	DPDT	9.30	8.84	8.37
24F2709	50R02-12DC	95	DPDT	7.65	7.27	6.89
24F2710	50R02-24DC	430	DPDT	7.65	7.27	6.89
24F2019	50R02-48DC	1630	DPDT	7.65	7.27	6.89
24F2711	50R02-110DC	10000	DPDT	8.15	7.74	7.34
24F2714	50R03-24AC	95	3PDT	8.80	8.36	7.92
24F2715	50R03-120AC	2300	3PDT	8.80	8.36	7.92
24F2717	50R03-12DC	95	3PDT	8.80	8.36	7.92
24F2718	50R03-24DC	430	3PDT	8.80	8.36	7.92
24F2719	50R03-110DC	10000	3PDT	9.35	8.88	8.42

SERIES 67 AC AND DC—4PDT

Switches 5 ampere loads from 1.2 VA or 900 MW signals. Solder or printed circuit terminals. Temp. range of -4°F. to +140°F. 14-prong plug, designed for stud MNT. 1 5/16" x 1 7/64" x 55/64" UL-CSA listed. Shpg. wt. 1.3 oz.

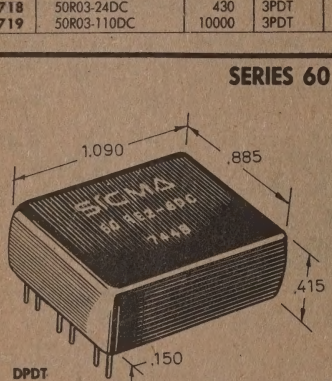
Stock No.	Type and Coil Volts	Ohms Coil	1-49	50-74	75-99
24F2829	67R4-12AC	43	6.05	5.95	5.45
24F2830	67R4-24AC	160	6.05	5.95	5.45
24F2831	67R4-120AC	3900	6.55	6.22	5.90
24F2832	67R4-6DC	40	5.35	5.08	4.82
24F2833	67R4-12DC	160	5.35	5.08	4.82
24F2834	67R4-24DC	650	5.35	5.08	4.82
24F2835	67R4-48DC	2600	5.60	5.32	5.04
24F2836	67R4-110DC	11000	6.15	5.84	5.54
(*) with Arc Barrier & additional rating of 120 VAC, 1/10 H.P per pole					
45F365	67RV4-12DC-SCO*	160	5.35	5.08	4.82
45F366	67RV4-24DC-SCO*	650	5.35	5.08	4.82
45F367	67RV4-120AC-SCO*	3900	6.55	6.22	5.90
24F2837	AD113-1 Solder Term. Skt.		.70	.67	.63
24F2838	AD113-3 PC Socket		.70	.67	.63

SERIES 68 AC & DC—SPDT, DPDT, 3PDT RELAYS

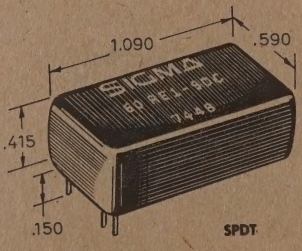
Versatile low-cost, general purpose relay for production-line switching of light to medium power loads. Fast installation— .187" terminals. Contact rating 10 amps at 28 VDC/115 VAC. 5 x 10^5 operations. Nominal power AC 1-and 2-pole types, 2.1 VA; 3-pole types, 2.5 VA, DC, 1.2 w. Minimum operating temperature: -49°F. Maximum: AC 1- and 2-pole, +131°F; 3-pole, +113°F; DC, +158°F. Polycarbonate cover. 68R34 has flange mtg. SCO contacts. 2.900"h. U/L listed. Weight 2.7 oz.

Stock No.	Type Coil Volts	Coil Ohms	Action	1-49	50-74	75-99	100-249
24F3125	68R1-120AC-SCO	2250	SPDT	4.30	4.09	3.87	3.44
24F3126	68R1-12DC-SCO	120	SPDT	4.15	3.94	3.74	3.32
24F3127	68R1-24DC-SCO	470	SPDT	4.15	3.94	3.74	3.32
24F3128	68R2-120AC-SCO	2250	DPDT	5.25	4.99	4.73	4.20
24F3129	68R2-12DC-SCO	120	DPDT	4.70	4.47	4.23	3.76
24F3130	68R2-24DC-SCO	470	DPDT	4.70	4.47	4.23	3.76
24F3131	68R3-120AC-SCO	2000	3PDT	5.90	5.61	5.31	4.72
24F3132	68R3-12DC-SCO	120	3PDT	5.35	5.08	4.82	4.28
24F3133	68R3-24DC-SCO	470	3PDT	5.35	5.08	4.82	4.28
24F3134	68R34-120AC-SCO	2000	3PDT	5.90	5.61	5.31	4.72
24F3135	68R34-12DC-SCO	120	3PDT	5.35	5.08	4.82	4.28
24F3136	68R34-24DC-SCO	470	3PDT	5.35	5.08	4.82	4.28
24F3137	AD63 P.C. term socket			.95	.90	.86	.76
24F3138	AD62-Solder term. socket			.85	.81	.77	.68

SERIES 60 LOW-PROFILE 2-AMP RELAY FOR PC BOARDS



- Low 0.415" Height
- Switches Up To 2 Amps



- Terminal Pins Can Be Safely Bent
- Case Seals Out Dirt And Solvents

Low-profile relay designed for high density PC board applications requiring a machine-solderable relay capable of switching higher currents than a reed relay. Can switch capacitive, lamp, and inductive loads that would weld the contacts of a reed relay, and can be operated from TTL-driver circuits. Available in both SPDT and DPDT models, with a choice of sensitive or standard coils. Uses standard 0.1" grid pin spacing. Ultrasonically welded polyester case protects the contacts against contaminants, and withstands normal vapors and sprays of most flux-cleaning solvents. Rugged terminal pins. Typical applications include: telephone switching equipment, alarm systems, business machines, control systems, communications equipment, and data processing equipment. Type No. Suffix represents Nominal coil VDC. UL/CSA approved.

SPDT—STANDARD COIL

Stk. No.	Type	Max. Cont. VDC	Pick-Up (max) VDC	Coil Res. Ohms	1-9	10-49	50-99	100-249
53F774	60RE1-5DC	7.3	3.8	43	2.85	2.57	2.28	2.00
53F800	60REI-6DC	8.2	3.9	47	2.85	2.57	2.28	2.00
53F801	60RE1-12DC	17	8.2	200	2.85	2.57	2.28	2.00
53F802	60RE1-24DC	37	17	950	3.00	2.70	2.40	2.10

SPDT—SENSITIVE COIL

Stk. No.	Type	Max. Cont. VDC	Pick-Up (max) VDC	Coil Res. Ohms	1-9	10-49	50-99	100-249
53F803	60RE1S-5DC	8.2	3.2	64	2.95	2.66	2.36	2.07
53F804	60RE1S-6DC	9.7	3.2	66	2.95	2.66	2.36	2.07
53F805	60RE1S-12DC	21	7.1	310	2.95	2.66	2.36	2.07
53F806	60RE1S-24DC	37	12.3	950	3.10	2.79	2.48	2.17

DPDT—STANDARD COIL

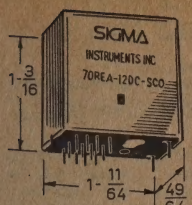
53F807	60RE2-5DC	7.5	3.6	32	3.70	3.33	2.96	2.59
53F808	60RE2-6DC	9	4.3	45	3.70	3.33	2.96	2.59
53F809	60RE2-12DC	17	8.3	170	3.70	3.33	2.96	2.59
53F810	60RE2-24DC	35	17	670	3.80	3.42	3.04	2.66

DPDT—SENSITIVE COIL

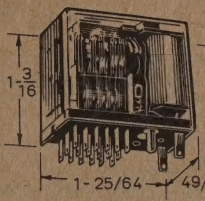
53F811	60RE2S-5DC	8.5	3.6	42	3.90	3.51	3.12	2.73
53F812	60RE2S-6DC	10	4.1	60	3.90	3.51	3.12	2.73
53F813	60RE2S-12DC	21	8.8	260	3.90	3.51	3.12	2.73
53F814	60RE2S-24DC	35	14	670	4.00	3.60	3.20	2.80

General Purpose Series 70 Relays

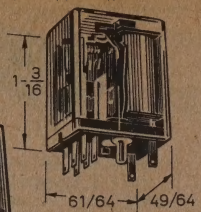
SIGMA



70R2

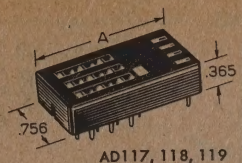


70RE42

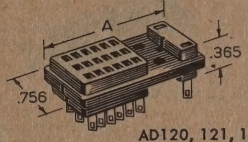


70R6

Miniature industrial relay for low-level to 5 amp multiple-circuit switching. Choice of voltage adjusted (with either standard or bifurcated contacts) or current sensitive adjusted. Voltage adjusted types with bifurcated contacts rated at 50 million operations. Sensitive current adjusted types pick up from signals as low as 10 mW. Choice of solder or printed circuit terminal sockets, for fast, easy connection. Typical applications include use in communications and data processing equipment, measuring instruments, process controls, recording devices, and alarm systems. Temp.: −67° F to ±158°F.



AD117, 118, 119



AD120, 121, 122

Socket	Dim. A
AD117	.944
AD118	1.172
AD119	1.378
AD120	.940
AD121	1.168
AD122	1.372

SOLDER AND PC TERMINAL SOCKETS

Stk. No.	Type No.	Description	1-49	50-74	75-99
38F1600	AD117	Solder terminal socket for DPDT	.65	.62	.59
38F1601	AD118	Solder terminal socket for 4PDT	.75	.71	.68
38F1602	AD119	Solder terminal socket for 6PDT	1.05	1.00	.95
38F1603	AD120	PC terminal socket for DPDT	.65	.62	.59
38F1604	AD121	PC terminal socket for 4PDT	.75	.71	.68
38F1605	AD122	PC terminal socket for 6PDT	1.05	1.00	.95

SOLDER TERMINALS, VOLTAGE ADJUSTED

2 AMPS—Standard Contacts

Stk. No.	Type No.	Contacts	Coil Ohms	Nominal Power	1-49	10-49	50-99
67F535	70R2-12DC	DPDT	185	800mW	3.75	3.38	3.00
38F1647	70R2-24DC	DPDT	700	800mW	3.75	3.38	3.00
67F536	70R2-110DC	DPDT	15,000	800mW	5.20	4.68	4.16
38F1650	70R4-12DC	4PDT	185	800mW	4.20	3.78	3.36
38F1651	70R4-24DC	4PDT	700	800mW	4.20	3.78	3.36
67F537	70R4-110DC	4PDT	15,000	800mW	5.70	5.13	4.56
67F538	70R6-12DC	6PDT	90	1.6 W	5.35	4.82	4.28
38F1654	70R6-24DC	6PDT	430	1.4 W	5.35	4.82	4.28
67F539	70R6-110DC	6PDT	9,000	1.5 W	6.40	5.76	5.12

5 AMPS—Standard Silver Cadmium Oxide Contacts

38F1648	70R2-2DC	DPDT	185	800mW	3.75	3.38	3.00
38F1649	70R2-24DC	DPDT	700	800mW	3.75	3.38	3.00
67F540	70R2-110DC	DPDT	15,000	800mW	5.20	4.68	4.16
38F1652	70R4-12DC	4PDT	185	800mW	4.20	3.78	3.36
38F1653	70R4-24DC	4PDT	700	800mW	4.20	3.78	3.36
67F580	70R4-110DC	4PDT	15,000	800mW	5.70	5.13	4.56
67F581	70R6-12DC	6PDT	90	1.6 W	5.35	4.82	4.28
67F582	70R6-24DC	6PDT	430	1.4 W	5.35	4.82	4.28
67F583	70R6-110DC	6PDT	9,000	1.5 W	6.40	5.76	5.12

2 AMP—Bifurcated Contacts

67F584	70R2T-12DC	DPDT	185	700mW	4.25	3.83	3.40
67F585	70R2T-24DC	DPDT	700	700mW	4.25	3.83	3.40
67F586	70R2T-110DC	DPDT	15,000	700mW	5.60	5.04	4.48
67F587	70R4T-12DC	4PDT	185	700mW	4.85	4.37	3.88
67F588	70R4T-24DC	4PDT	700	700mW	4.85	4.37	3.88
67F589	70R4T-110DC	4PDT	15,000	700mW	6.20	5.58	4.96
67F450	70R6T-12DC	6PDT	90	1.4 W	5.90	5.31	4.72
67F451	70R6T-24DC	6PDT	430	1.4 W	5.90	5.31	4.72
67F452	70R6T-110DC	6PDT	9,000	1.4 W	7.20	6.48	5.76

PC TERMINALS, CURRENT ADJUSTED

2 AMPS—Standard Contacts

Stk. No.	Type No.	Coil Ohms	Nominal Power	1-9	10-49	50-99
67F471	70RE22-12DC	185	700mW	3.75	3.38	3.00
67F511	70RE22-24DC	700	700mW	3.75	3.38	3.00
67F512	70RE22-110DC	15,000	700mW	5.20	4.68	4.16
67F513	70RE42-12DC	185	700mW	4.20	3.78	3.36
67F514	70RE42-24DC	700	700mW	4.20	3.78	3.36
67F515	70RE42-110DC	15,000	700mW	5.70	5.13	4.56
67F516	70RE62-12DC	90	1.4 W	5.35	4.82	4.28
67F517	70RE62-24DC	430	1.4 W	5.35	4.82	4.28
67F518	70RE62-110DC	9,000	1.4 W	6.40	5.76	5.12

5 AMP—Standard Silver Cadmium Oxide Contacts

67F519	70RE22-12DC	185	700mW	3.75	3.38	3.00
67F520	70RE22-24DC	700	700mW	3.75	3.38	3.00
67F521	70RE22-110DC	15,000	700mW	5.20	4.68	4.16
67F522	70RE42-12DC	185	700mW	4.20	3.78	3.36
67F523	70RE42-24DC	700	700mW	4.20	3.78	3.36
67F524	70RE42-110DC	15,000	700mW	5.70	5.13	4.56
67F525	70RE62-12DC	80	1.4 W	5.35	4.82	4.28
67F526	70RE62-24DC	430	1.4 W	5.35	4.82	4.28
67F527	70RE62-110DC	9,000	1.4 W	6.40	5.76	5.12

2 AMP—Bifurcated Contacts

67F528	70RE2T-12DC	185	700mW	4.25	3.83	3.40
67F529	70RE2T-24DC	700	700mW	4.25	3.83	3.40
67F530	70RE2T-110DC	15,000	700mW	5.60	5.04	4.48
67F531	70RE4T-12DC	185	700mW	4.85	4.37	3.88
67F532	70RE4T-24DC	700	700mW	4.85	4.37	3.88
67F533	70RE4T-110DC	15,000	700mW	6.20	5.58	4.96
67F534	70RE6T-12DC	90	1.4 W	5.90	5.31	4.72
67F472	70RE6T-24DC	430	1.4 W	5.90	5.31	4.72
67F473	70RE6T-110DC	9,000	1.4 W	7.20	6.48	5.76

SOLDER TERMINAL, SENSITIVE VERSION

1 AMP CURRENT SENSITIVE TYPES

Stk. No.	Type	Contacts	Coil Ohms	Pickup Power mW	1-9	10-49	50-99
38F1655	70R2S-2500	DPDT	2500	85	4.20	3.78	3.36
38F1656	70R2S-5000	DPDT	5000	85	4.60	4.14	3.68
38F1657	70R2S-10,000	DPDT	10K	85	5.10	4.59	4.08
38F1658	70R4S-2500	4PDT	2500	175	4.60	4.14	3.68
38F1659	70R4S-5000	4PDT	5000	175	5.10	4.59	4.08
38F1660	70R4S-10,000	4PDT	10K	175	5.55	5.00	4.44

1 AMP SUPER CURRENT SENSITIVE

53F753	70R2H-1000	DPDT	1000	40	4.75	4.28	3.80
53F754	70R2H-2500	DPDT	2500	40	4.75	4.28	3.80
53F755	70R2H-5000	DPDT	5000	40	5.30	4.77	4.24
53F756	70R4H-1000	4PDT	1000	80	5.90	5.31	4.72
53F757	70R4H-2500	4PDT	2500	80	5.90	5.31	4.72
53F758	70R4H-5000	4PDT	5000	80	6.50	5.85	5.20

1 AMP SUPER VOLTAGE SENSITIVE

53F759	70R2VH-6DC	DPDT	500	40	4.75	4.28	3.80
53F760	70R2VH-12DC	DPDT	2000	40	4.75	4.28	3.80
53F761	70R2VH-24DC	DPDT	7500	40	5.30	4.77	4.24
53F762	70R4VH-6DC	4PDT	250	80	5.90	5.31	4.72
53F763	70R4VH-12DC	4PDT	1000	80	5.90	5.31	4.72
53F764	70R4VH-24DC	4PDT	3700	80	6.50	5.85	5.20

1 AMP VOLTAGE SENSITIVE

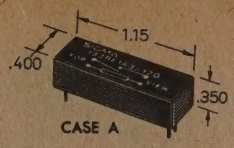
Stk. No.	Type	Contacts	Coil Ohms	Pickup Power mW	1-9	10-49	50-99
53F765	70R2VS-6-DC	DPDT	200	100	4.20	3.78	3.36
53F766	70R2VS-12DC	DPDT	800	100	4.60	4.14	3.68
53F767	70R2VS-24DC	DPDT	3200	100	5.10	4.59	4.08
53F768	70R4VS-6DC	4PDT	110	175	4.60	4.14	3.68
53F769	70R4VS-12DC	4PDT	450	175	5.10	4.59	4.08
53F770	70R4VS-24DC	4PDT	1800	175	5.55	5.00	4.44
53F771	70R6VS-6DC	6PDT	80	250	5.90	5.31	4.72
53F772	70R6VS-12DC	6PDT	320	250	6.50	5.85	5.20
53F773	70R6VS-24DC	6PDT	1200	250	7.50	6.75	6.00

CONTACT NEAREST NEWARK FACILITY FOR LARGER QUANTITY PRICES

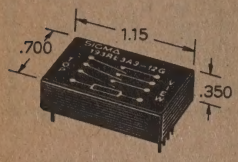
SIGMA Reed and General Purpose Relays

SERIES 193 REED RELAYS

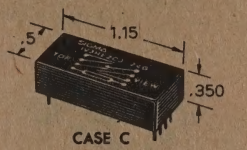
- 26 Contact Combinations
- Magnetically Shielded for Minimum Interaction



CASE A



CASE B



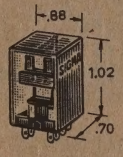
CASE C

Enclosed reed relays. SPST thru 3PST, SPDT thru 3PDT. Form A capsules for single throw switching; Form C for double throw switching. Printed circuit type pin contacts are on 1.000" x 0.100" PC grid spacing. Magnetically shielded for minimum interaction and housed in a molded plastic case. All have standoffs. Contact Rating: 0.5 amp.

Stock No.	Mfr's. Type	Case	Coil Ohms	Contacts	1-49	50-74	75-99
53F820	193RE1A3-6G	A	100	1A	3.10	2.95	2.79
45F330	193RE1A3-12G	A	420	1A	3.10	2.95	2.79
45F337	193RE1A3-24G	A	2300	1A	3.10	2.95	2.79
53F821	193RE1C3-6G	A	100	1C	5.15	4.89	4.64
45F331	193RE1C3-12G	A	420	1C	5.15	4.89	4.64
45F338	193RE1C3-24G	A	2300	1C	5.15	5.89	4.64
53F822	193RE2A3-6G	B	70	2A	4.00	3.80	3.60
45F332	193RE2A3-12G	B	280	2A	4.00	3.80	3.60
45F339	193RE2A3-24G	B	1500	2A	4.00	3.80	3.60
53F823	193RE2C3-6G	B	70	2C	6.85	6.51	6.17
45F333	193RE2C3-12G	B	280	2C	6.85	6.51	6.17
45F340	193RE2C3-24G	B	1500	2C	6.85	6.51	6.17
53F824	193RE3A3-6G	C	30	3A	4.60	4.37	4.14
53F825	193RE3A3-12G	C	120	3A	4.60	4.37	4.14
53F826	193RE3A3-24G	C	640	3A	4.60	4.37	4.14
53F727	193RE3C3-6G	C	30	3C	9.60	9.12	8.64
53F828	193RE3C3-12G	C	120	3C	9.60	9.12	8.64
53F829	193RE3C3-24G	C	640	3C	9.60	9.12	8.64

SERIES 77AC/DC, DPDT, 3PDT

Miniature relay for use in business machines, alarm systems, automatic toys, communication systems. Silver, gold-plated contacts provide 100,000 operations at 28VDC or 120VAC at 2 amp resistive load. Temp.: +14° to +150°F.



SOLDER TERMINALS

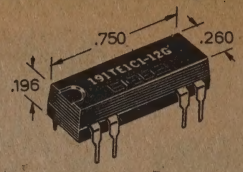
Stk. No.	Type No.	Resis. Ohms	Contacts	1-49	50-74	75-99
67F453	77R2-6DC	31	DPDT	2.55	2.42	2.30
38F1666	77R2-12DC	125	DPDT	2.55	2.42	2.30
38F1667	77R2-24DC	500	DPDT	2.55	2.42	2.30
67F454	77R3-6DC	31	3PDT	4.55	4.32	4.10
67F455	77R3-12DC	125	3PDT	4.55	4.32	4.10
38F1671	77R3-24DC	500	3PDT	4.55	4.32	4.10
38F1668	77R2-24AC	250	DPDT	3.40	3.23	3.06
38F1669	77R2-120AC	5750	DPDT	4.30	4.09	3.87
67F456	77R3-24AC	250	3PDT	4.60	4.37	4.14
67F457	77R3-120AC	5750	3PDT	5.55	5.27	5.00

PC TERMINALS

67F458	77RE2-6DC	31	DPDT	2.55	2.42	2.30
67F459	77RE2-12DC	125	DPDT	2.55	2.42	2.30
38F1670	77RE2-24DC	500	DPDT	2.55	2.42	2.30
67F460	77RE3-6DC	31	3PDT	4.55	4.32	4.10
67F461	77RE3-12DC	125	3PDT	4.55	4.32	4.10
67F462	77RE3-24DC	500	3PDT	4.55	4.32	4.10
67F463	77RE2-24AC	250	DPDT	3.40	3.23	3.06
67F464	77RE2-120AC	5750	DPDT	4.30	4.09	3.87
67F465	77RE3-24AC	250	3PDT	4.60	4.37	4.14
67F466	77RE3-120AC	5750	3PDT	5.55	5.27	5.00

SOCKETS FOR SERIES 77 RELAY

Stk. No.	Type No.	Description	1-49	50-74	75-99
38F1608	AD82	Solder terminal sockets	1.20	1.14	1.08
38F1609	AD83	Printed circuit terminal sockets	1.40	1.33	1.26

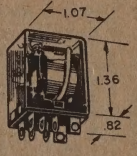


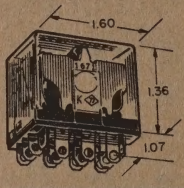
SERIES 191 REED RELAYS

- Form A—One or Two Pole
- Form C—One Pole

Standard .300" wide, dual-in-line packaged reed relays. Best suited for test and computer peripheral equipment. Operating Time: 1.0 milliseconds maximum at nominal coil voltage. Isolation Resistance: 10^9 ohms min. Internal coil suppression diode and electrostatic shielding optional.

Stock No.	Mfr's. Type & Nom. VDC	Resis. Ohms	Contacts	Max. Ratings	1-49	50-74	75-99
38F1675	191TE1A1-5S	500	1A	0.5 A			
38F1676	191TE1A1-5G	200	1A	100 VDC			
38F1677	191TE1A1-6S	500	1A	10 W	3.30	3.14	2.97
38F1678	191TE1A1-6G	200	1A				
38F1679	191TE1A1-12G	1250	1A				
38F1680	191TE1A1-12L	500	1A				
38F1681	191TE2A1-5G	200	2A	0.25 A			
53F857	191TE2A1-6G	200	2A	28 VDC	6.10	5.80	5.49
53F858	191TE2A1-12G	500	2A	3W			
53F859	191TE2A1-24L	1200	2A				
38F1682	191TE1C1-5S	200	1C	0.5 A			
38F1683	191TE1C1-5G	150	1C	50 VDC			
38F1684	191TE1C1-6S	200	1C	10 W	5.00	4.75	4.50
38F1685	191TE1C1-6G	150	1C				
38F1686	191TE1C1-12G	500	1C				
53F860	191TE1C1-24L	1250	1C				





SERIES 76 AC/DC —DPDT, 4PDT

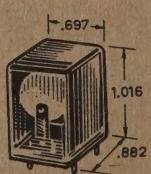
- Handles 10 Amp Resistive Loads in 1¼ cu. inches
- 100K Operations Electrical Life

Compact relay for heavy duty industrial or consumer applications. Provides multipole switching of resistive loads up to 10 amps each pole at 120 VAC. Temperature range: −40°F. to +131°F. AC and +158°F. DC. UL/CSA approved.

Stk. No.	Type No.	Resis. Ohms	Contacts	1-49	50-74	75-99
67F474	76R2-6DC-SCO	40	DPDT	4.55	4.32	4.10
38F1661	76R2-12DC-SCO	160	DPDT	4.55	4.32	4.10
38F1662	76R2-24DC-SCO	650	DPDT	4.55	4.32	4.10
67F475	76R4-6DC-SCO	25	4PDT	6.20	5.89	5.58
67F476	76R4-12DC-SCO	100	4PDT	6.20	5.89	5.58
38F1664	76R4-24DC-SCO	350	4PDT	6.20	5.89	5.58
67F477	76R2-24AC-SCO	160	DPDT	5.10	4.85	4.59
38F1663	76R2-120AC-SCO	3900	DPDT	5.60	5.32	5.04
67F478	76R4-24AC-SCO	78	4PDT	6.70	6.37	6.03
38F1665	76R4-120AC-SCO	2400	4PDT	7.55	7.17	6.80

SOCKETS FOR SERIES 76 RELAY

Stk. No.	Type No.	Description	1-49	50-74	75-99
38F1606	AD74	Solder terminal socket for DPDT	.95	.90	.86
38F1607	AD75	Solder terminal socket for 4PDT	1.05	1.00	.95
38F1610	AD84	PC terminal socket for DPDT	.95	.90	.86
38F1611	AD85	PC terminal socket for 4PDT	1.05	1.00	.95



SERIES 78 AC/DC—SPDT

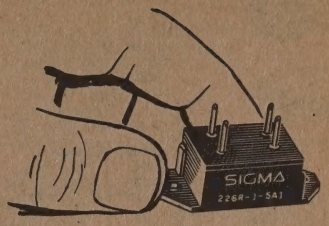
- For Printed Circuit Use
- Polypropylene Case
- Withstands solder flux and degreasing solvents

Subminiature relay for PC's. Life rated at a minimum of 100,000 operations at 3 amps, 28VDC/12VAC.

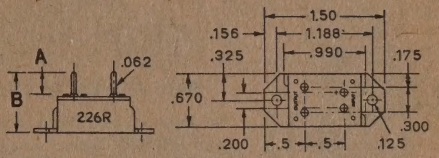
Stk. No.	Type No.	Nominal Volts	Ohms	1-99	100-249	250-499
67F479	78RE1-6DC	6DC	100	1.45	1.38	1.31
38F1672	78RE1-12DC	12DC	400	1.45	1.38	1.31
38F1673	78RE1-24DC	24DC	1600	1.70	1.62	1.53
38F1674	78RE1-120AC	120AC	5500	2.55	2.42	2.30

SERIES 226 SOLID-STATE RELAYS

- Handle Loads From 50 Milliamps to 7 Amps. • Integral Heat Sink Permits 1½ Amps of Continuous Load Current. • Mates with Standard TO-3 Style Transistor Heat Sink.
- Compatible with Standard TTL Gates.



Miniature solid-state relay will handle loads from 50 milliamps to 7 amps. Unit is encapsulated internally and cover is ultrasonically sealed. Comes with an integral heat sink designed for mating with standard TO-3 style transistor heat sinks for increased current handling capacity. By itself, the integral heat sink permits 1½ amps of continuous load current. Connections can be made via standard slip-on connectors or the unit can be inverted and inserted directly into a pc board for wave soldering. Termination pins are on standard 0.1" grid pin spacing and are polarized to prevent reverse plug-in. 15 milliamps maximum input requirement makes the unit compatible with standard TTL gates. High sensitivity, coupled with 2,500V rms and 10^{12} ohms isolation ratings, make it an ideal output device when going from low level logic to line voltage loads. Designed for application in computer interface equipment, programmable controllers, process controls, machine tool controls, vending machines, electronic games, temperature controllers, and a host of other industrial and commercial uses.



Dimension	Chassis Mount	PC Mount
A	.315"	.155"
B	.780"	.620"

CHASSIS MOUNT

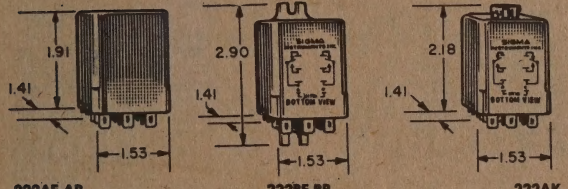
Stk. No.	Type	Input		Output		Net
		Voltage	Current	Voltage	Current	
27F1150	226R-1-5A1	5DC	15ma	120	7A#	6.90
27F1153	226R-1-12A1	12DC	15ma	120	7A#	6.90
27F1157	226R-2-12A1	5DC	15ma	240	7A#	7.90
27F1155	226R-2-12A1	12DC	15ma	240	7A#	7.90

#With 2°c/w heat sink added.

PRINTED-CIRCUIT MOUNT

Stk. No.	Type	Input		Output		Net
		Voltage	Current	Voltage	Current	
27F1152	226RE-1-5A1	5DC	15ma	120	7A#	6.90
27F1156	226RE-1-12A1	12DC	15ma	120	7A#	6.90
27F1154	226RE-2-5A1	5DC	15ma	240	7A#	7.90
27F1151	226RE-2-12A1	12DC	15ma	240	7A#	7.90

TIME DELAY RELAYS-SERIES 222 AC AND DC—DPDT



222AF-AR 222BF-BR 222AK

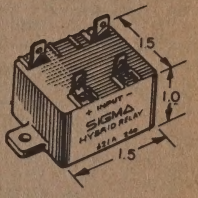
- Timing Intervals From 1 to 120 Seconds
- 100,000 Operations Minimum Electrical Life
- 10 Million Operations Minimum Mechanical Life

Solid state time delay relay with timing intervals from 1 to 120 seconds. Available in **fixed time delay on operate, ††resistor adjustable and ‡ knob adjustable in either AC or DC. For use in automated and semi-automated industrial applications. Life Rated: 100,000 operations, minimum electrical life; 10 million operations, minimum merchanical life. Reset time, 150 milliseconds, nom. Recycle time, 150 msec., nom. Operating temperature range: +14°F to +122°F.

Stock No.	Mfr's. Type & Nom. Coil Volts	Time Delay Sec.	Est. Resis. Required Ohms	1-9	10-49	50-99	100-249
53F836	222AF-010-24DC**	10	....	15.65	14.09	12.52	10.96
53F837	222AF-120-24DC**	120	....	17.40	15.66	13.92	12.18
53F838	222AR-010-24DC††	1-10	160K	16.50	14.85	13.20	11.55
53F839	222AR-120-24DC††	1-120	2.0 meg	17.95	16.16	14.36	12.57
53F840	222BF-010-24DC**	10	....	15.65	14.09	12.52	10.96
53F841	222BF-120-24DC**	120	....	17.40	15.66	13.92	12.18
53F842	222BR-010-24DC††	1-10	160K	16.50	14.85	13.20	11.55
53F843	222BR-120-24DC††	1-120	2.0 meg	17.95	16.16	14.36	12.57
53F844	222AF-010-24AC**	10	....	15.65	14.09	12.52	10.96
53F845	222AF-010-120AC**	10	....	15.65	14.09	12.52	10.96
53F846	222AF-120-120AC**	1-120	....	17.40	15.66	13.92	12.18
53F847	222AR-010-120AC††	1-10	180K	16.50	14.85	13.20	11.55
53F848	222AR-120-120AC††	1-20	2.4 meg	17.95	16.16	14.36	12.57
53F849	222AK-010-120AC‡	1-10	....	17.95	16.16	14.36	12.57
53F850	222AK-120-120AC‡	1-120	....	19.65	17.69	15.72	13.76
53F851	222BF-010-24AC**	10	....	15.65	14.09	12.52	10.96
53F852	222BF-010-120AC**	10	....	15.65	14.09	12.52	10.96
53F853	222BF-120-120AC**	120	....	17.40	15.66	13.92	12.18
53F854	222BR-010-24AC††	1-10	180K	16.50	14.85	13.20	11.55
53F855	222BR-010-120AC††	1-10	180K	16.50	14.85	13.20	11.55
53F856	222BR-120-120AC††	1-120	2.4 meg	17.95	16.16	14.36	12.57

SERIES 221 HYBRID RELAYS

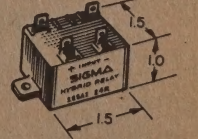
For photocopy equipment, process controls, instrumentation. Uses reed relay to sense and provide gating to an AC semiconductor. Compatible with TTL logic; used to switch inductive, capacitive, tungsten or resistive loads. Operate time, 2 msec. max., 60 Hz. Release time, 9 msec. max., 60 Hz. Dielectric strength, between all insulated points, 1500 VAC rms. *Output, 120 VAC; †Output, 240, VAC.



Stock No.	Mfr's. Type & Input VDC	Output Amps	Input Impeds Ohms	1-49	50-74	75-99	100-249
53F861	221A-1-5D*	4	525	10.70	9.63	8.56	7.49
53F863	221A-1-12D*	4	420	10.15	9.14	8.12	7.11
53F864	221A-1-24D*	4	2150	10.15	9.14	8.12	7.11
53F865	221A-2-5D†	4	525	11.30	10.17	9.04	7.91
53F867	221A-2-12D†	4	420	10.70	9.63	8.56	7.49
53F868	221A-2-24D†	4	2150	10.70	9.63	8.56	7.49
53F869	221A-3-5D*	10	525	12.20	10.98	9.76	8.54
53F871	221A-3-12D*	10	420	11.60	10.44	9.28	8.12
53F872	221A-3-24D*	10	2150	11.60	10.44	9.28	8.12
53F873	221A-4-5D†	10	525	12.75	11.48	10.20	8.93
53F875	221A-4-12D†	10	420	12.20	10.98	9.76	8.54
53F876	221A-4-24D†	10	2105	12.20	10.98	9.76	8.54

SERIES 223 SOLID-STATE RELAYS

For use in vending machines, process controls, machine tools. Isolates power input from low level control circuits. Utilizes an optical coupler to control an AC semiconductor. Can be operated from either AC or DC sources. Operate time, 60 Hz, 50 milliseconds. Release time, 60 Hz, 50 milliseconds. Dielectric strength, between all insulated points, 1000 VAC rms. Output, 120 VAC.



Stock No.	Mfr's. Types & Input VDC/VAC	Output Amps	Input mA	1-49	50-74	75-99	100-249
53F877	223A-1-6	4	50	10.15	9.14	8.12	7.11
53F878	223A-3-6	10	50	11.60	10.44	9.28	8.12
53F879	223A-1-12	4	24	10.15	9.14	8.12	7.11
53F880	223A-3-12	10	24	11.60	10.44	9.28	8.12
53F881	223A-1-24	4	24	10.15	9.14	8.12	7.11
53F882	223A-3-24	10	24	11.60	10.44	9.28	8.12
53F883	223A-1-120	4	1.3	10.15	9.14	8.12	7.11
53F884	223A-3-120	10	1.3	11.60	10.44	9.28	8.12

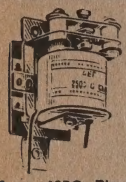
SIGMA

Sensitive Relays

SERIES 4—SPDT DC RELAYS

For vacuum tube and transistor drives; and applications requiring high dropout or narrow differential. Ideal for circuits where energizing current does not drop to zero. Pickup power, 20 mW. Contact rating 2 amps at 28 VDC/120 VAC resistive. Temperature range, +32 to +122°F. **4F:** unenclosed, screw mounting, solder terminals. Shpg. wt. 2¼ oz. **4R:** UL listed for use in burglary protection equipment. Dust cover, 5-pin plug. Shpg. wt. 3¾ oz.

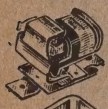
Stock No.	Type & Coil Ohms	Pickup Max. mADC	Dropout Min. mADC	1-49	50-74	75-99	100-249
24F352	4F-1000S-SIL	4.5	2.0	11.85	11.25	10.67	9.48
24F353	4F-2500S-SIL	3.0	1.3	11.85	11.25	10.67	9.48
24F354	4F-5000S-SIL	2.0	.90	12.45	11.83	11.21	9.96
24F350	4F-8000S-SIL	1.6	.75	12.90	12.26	11.61	10.32
24F1700	4F-10,000S-SIL	1.4	.65	12.90	12.26	11.61	10.32
24F2770	4R-1000S-SIL	4.5	2.0	16.20	15.39	14.58	12.96
24F2771	4R-5000S-SIL	2.0	.90	16.70	15.87	15.03	13.36
24F2772	4R-8000S-SIL	1.6	.75	17.15	16.29	15.44	13.72



SERIES 48—SPST DC RELAYS

For alarm systems requiring operation from 10 mW. Bridge type contact. Compliant armature. Contact rating: 2 amp; Temp: -4 to +158°F. **48F:** unenclosed, screw mounting, solder terminals, 1 17/64×2 9/32×1 7/16 Shpg. wt. 3 oz. **48RO:** Plastic dust cover, 8 pin octal plug. 1 23/64 sq.×2 7/64". UL-CSA listed. Shpg. wt. 4 oz.

Stock No.	Type & Coil Ohms	Pickup Max. mADC	Dropout Min. mADC	1-49	50-74	75-99	100-249
24F2779	48F-1000G-SIL	3.2	.32	9.70	9.22	8.73	7.76
24F2780	48F-2500G-SIL	2.0	.2	9.70	9.22	8.73	7.76
24F2783	48RO-1000G-SIL	3.2	.32	11.30	10.74	10.17	9.04
24F2784	48RO-2500G-SIL	2.0	.2	11.30	10.74	10.17	9.04



SERIES 41—AC & DC—SPDT

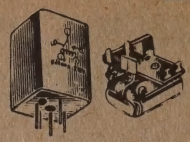
Industrial relay. Operates from on-off AC/DC signals. Adjustment S: 40 mW; ACS: 2 VA; ACG: .4 VA. Contact rating: ACG, 5 amps at 28 VDC/120 VAC; S, ACS: 2 amps. Temp. range, -67 to +185°F, except plastic covers, to +158°F. All UL/CSA listed. **41F, 41FZ:** unenclosed, screw mtg., solder terminals. **41RO, 41ROZ:** aluminum dust cover, 8-pin. **41RO6:** Plastic dust cover, 8-pin. **41JOZ:** Hermetically sealed, 8-pin. **41R,41RZ:** Dust cover, 5-pin. Wts: enclosed, 5½ oz.; unenclosed, 2½ oz. Pickup power, 200 mW; contact rating 10 amps.

AC TYPES

Stock No.	Type & Coil Ohms	Nom Volts	1-49	50-74	75-99	100-249
24F3164	41FZ-200ACG-BSL	24	7.55	7.17	6.80	6.04
24F369	41FZ-5000ACG-BSL	120	7.55	7.17	6.80	6.04
53F775	41JOZ-10,000ACS-SIL	120	22.80	21.66	20.52	18.24
24F2787	41JOZ-12,000ACS-SIL	120	22.25	21.14	20.03	17.80
24F2788	41ROZ-5,000ACG-BSL	120	11.60	11.02	10.44	9.28
24F2789	41RZ-5,000ACG-BSL	120	10.60	10.07	9.54	8.48

DC TYPES

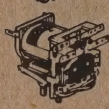
Stock No.	Type & Coil Ohms	Nom. Volts	1-49	50-74	75-99	100-249
24F2790	41F-200S-SIL	6	7.95	7.55	7.16	6.36
24F2791	41F-500S-SIL	...	7.95	7.55	7.16	6.36
24F1714	41F-1,000S-SIL	12	7.95	7.55	7.16	6.36
24F2792	41F-5,000S-SIL	24	8.30	7.89	7.47	6.64
24F1747	41F-10,000S-SIL	...	8.75	8.31	7.88	7.00
53F777	41F-200G-BSL*	12	7.55	7.17	6.80	6.04
53F778	41F-1,000G-BSL*	24	7.55	7.17	6.80	6.04
24F3169	41R-5,000S-SIL	24	12.20	11.59	10.98	9.76
53F781	41R-8,000S-SIL	...	12.70	12.07	11.43	10.16
24F1716	41RO-1,000S-SIL	12	12.45	11.83	11.21	9.96
53F782	41RO-2,500 S-SIL	...	12.45	11.83	11.21	9.96
24F2793	41RO-5,000 S-SIL	24	12.95	12.30	11.66	10.36
24F2794	41RO-10,000 S-SIL	...	13.35	12.68	12.02	10.68
24F2795	41RO6-1,000 S-SIL	12	11.35	10.78	10.22	9.08
24F2796	41RO6-2,500 S-SIL	...	11.35	10.78	10.22	9.08
24F2797	41RO6-5,000 S-SIL	24	11.55	10.97	10.40	9.24



SERIES 5—SPDT DC RELAY

Sensitive type for overload-underload detection. Withstands overloads of 30:1. Contact ratings: S: 1 amp; SS, .25 amp. Temp.: S: -40 to +158°F; SS, +50 to 140°F. 5F: Unenclosed, screw mtg., solder terminals. Wt., 4½ oz. 5JO: hermetically sealed; 8-pin plug. Wt. 7½ oz. 5R: dust cover; 5-pin plug. 5RO: 8-pin Wt. 5¾oz.

Stock No.	Type & Coil Ohms	Pickup Max. mADC	Dropout Min. mADC	1-49	50-74	75-99	100-249
24F355	5F-1,000 S-SIL	2.3	.80	16.30	15.49	14.67	13.04
24F357	5F-5,000 S-SIL	1.0	.40	17.40	16.53	15.66	13.92
24F2774	5F-1,000 SS-PAL	1.0	.40	22.95	21.80	20.66	18.36
53F785	5JO-2,500S-SIL	1.4	.50	29.80	28.31	26.82	23.84
53F787	5JO-10,000 S-SIL	.70	.25	32.50	30.88	29.25	26.00
53F788	5JO-16,000 S-SIL	.55	.20	34.35	32.63	30.92	27.48
24F2778	5R-5,000 S-SIL	1.0	.40	21.60	20.52	19.44	17.28
24F1742	5R-10,000 S-SIL	.70	.25	23.10	21.95	20.79	18.48
24F1743	5R-16,000 S-SIL	.55	.20	24.95	23.70	22.46	19.96
53F789	5R-1,000 SS-PAL	1.0	.40	28.60	27.17	25.74	22.88
53F790	5R-10,000 SS-PAL	.30	.13	31.55	29.97	28.40	25.24
24F3174	5RO-1,000 S-SIL	2.3	.80	22.15	21.04	19.94	17.72
53F791	5RO-2,500 S-SIL	1.4	.50	22.15	21.04	19.94	17.72
53F792	5RO-5,000 S-SIL	1.0	.40	23.20	22.04	20.88	18.56
24F3177	5RO-10,000 S-SIL	.70	.25	24.95	23.70	22.46	19.96
53F793	5RO-16,000 S-SIL	.55	.20	26.80	25.46	24.12	21.44



SERIES 42—DPDT AC AND DC RELAYS

100 mW for 1-billion-operation mechanical life. Adjustment S: 100 mW; G: 200 mW; ACS: .3 VA; ACG: 5VA. Contact ratings (at 28 VDC/120 VAC resistive): ACG, G: 5A; ACS, S: 2A. Temp.: -67 to +185°F, except plastic covers, to +158°F. UL and CSA listed.
42RO, 42ROZ: Plastic dust cover, 8-pin octal plug.
42RO6, 42RO6Z: Differ in wiring only. **42JOZ:** Hermetically sealed, 8-pin plug. 42F: unenclosed, stud mounting,solder terminals. Shpg. wt. 5¼ oz.

AC TYPES

Stock No.	Type & Coil Ohms	Nom. Volts	1-49	50-74	75-99	100-249
24F2798	42JOZ-4000 ACG-SIL	120	20.75	19.71	18.68	16.60
24F2799	42ROZ-8ACG-SIL	6	12.05	11.45	10.85	9.64
24F2800	42ROZ-50 ACG-SIL	12	12.05	11.45	10.85	9.64
24F2802	42ROZ-4000 ACG-SIL	120	12.05	11.45	10.85	9.64
24F2049	42RO6Z-4000 ACG-SIL	120	12.10	11.50	10.89	9.68
24F2803	42ROZ-7000 ACS-SIL	120	14.35	13.63	12.92	11.48
53F794	42RO6Z-8 ACG-SIL	120	12.45	11.83	11.21	9.96

DC TYPES

Stock No.	Type & Coil Ohms	Nom. Volts	1-49	50-74	75-99	100-249
53F797	42F-1,000 G-SIL	24	9.35	8.88	8.42	7.48
53F798	42F-2,500 G-SIL	48	9.35	8.88	8.42	7.48
53F799	42RO-50 G-SIL	6	12.70	12.07	11.43	10.16
53F815	42RO-100 G-SIL	...	12.70	12.07	11.43	10.16
24F2804	42RO-200 G-SIL	12	12.05	11.45	10.85	9.64
24F2805	42RO-500 G-SIL	...	12.05	11.45	10.85	9.64
24F2806	42RO-1,000 G-SIL	24	12.05	11.45	10.85	9.64
24F2807	42RO-2,500 G-SIL	48	12.05	11.45	10.85	9.64
24F2808	42RO-5,000 G-SIL	...	12.45	11.83	11.21	9.96
24F2809	42RO-10,000 G-SIL	...	12.85	12.21	11.57	10.28
24F1810	42RO-12,000 G-SIL	...	13.45	12.78	12.11	10.76
53F816	42RO-100 S-SIL	...	13.80	13.11	12.42	11.04
24F2811	42RO-150 S-SIL	6	13.25	12.59	11.93	10.60
24F2812	42RO-500 S-SIL	12	13.25	12.59	11.93	10.60
24F2813	42RO-1,000 S-SIL	...	13.25	12.59	11.93	10.60
24F2814	42RO-2,500 S-SIL	24	13.25	12.59	11.93	10.60
24F2815	42RO-5,000 S-SIL	...	13.70	13.02	12.33	10.96
53F819	42RO6-50 G-SIL	6	12.70	12.07	11.43	10.16
24F2041	42RO6-500 G-SIL	...	12.05	11.45	10.85	9.64
24F2010	42RO6-1,000 G-SIL	24	12.05	11.45	10.85	9.64
24F2043	42RO6-2,500 G-SIL	48	12.05	11.45	10.85	9.64
24F2011	42RO6-5,000 G-SIL	...	12.45	11.83	11.21	9.96
24F2045	42RO6-10,000 G-SIL	...	12.85	12.21	11.57	10.28
24F2009	42RO6-500 S-SIL	12	13.80	13.11	12.42	11.04
24F2817	42RO6-1,000 S-SIL	...	13.25	12.59	11.93	10.60
24F3179	42RO6-2,500 S-SIL	24	13.25	12.59	11.93	10.60

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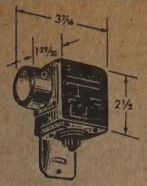
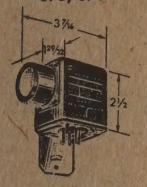
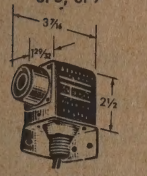
Photo-Electric & Opto Isolator Components SIGMA



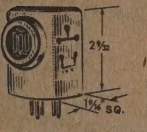
8P3, 8P8



8P5, 8P9



8P6, 8P10



8RC01A, 8RC02A

SERIES 8

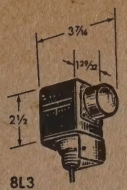
- Positive "Light" or "Dark" Operation
- Replaceable Low-Voltage Lamps
- Replaceable Plug-Type Output Relay
- For Light-Beam Control

Economical and compact systems. For light-beam control of moving objects in material handling, processing, production, packaging. High-efficiency optical systems for positive "light" or "dark" operation. Replaceable incandescent lamps operate from low voltage for maximum life. High-speed receivers 8P8, 8P9, 8P10 operate over 12-foot range. Output relay replaceable plug-type. Minimum life 100,000 electrical operations; 100,000,000 mechanical operations.

General purpose receivers 8P3, 8P5, 8P6 operate 600 times per minute over 12-foot range. Minimum life 10,000,000 operations. Power consumption, all types, 2.5 volt amps. Temperature range: +32°F to +112°F. Housings: NEMA-1. Miniature receivers 8RC01A, 8RC02A operate 120 times per minute over 12-foot range or 1,000,000 electrical operations, minimum; 1,000,000,000 mechanical. Rugged plug-in unit 8ROC1A UL listed, has 5/16" light sensitive aperture. 8ROC2A has plastic shield with 3/32" aperture for positive Light Source, 8L3. Used with all integral receivers lamp rated for 10,000 hour life. Operating distance 12 feet max.

Stock No.	Type	Operations/ Minute	Source Voltage (AC)	Contact Arrangement	Rating (amperes)	1-49
24F427	8P3-115	600	115	SPDT	10*	42.10
24F3032	8P3-230	600	230	SPDT	10*	42.10
24F428	8P8-115	1200	115	SPDT	5**	84.30
24F3033	8P8-230	1200	230	SPDT	5**	84.30
24F437	8P5-115	600	115	DPDT	10*	42.05
24F3034	8P5-230	600	230	DPDT	10*	42.05
24F3035	8P9-115	1200	115	DPDT	5**	84.30
24F3036	8P9-230	1200	230	DPDT	5**	84.30
24F438	8P6-115	600	115	SPDT	10*	40.35
24F3037	8P6-230	600	230	SPDT	10*	40.35
24F3038	8P10-115	1200	115	SPDT	5**	80.55
24F3039	8P10-230	1200	230	SPDT	5**	80.55
24F1719	8RCO1A	120	115	SPDT	3	34.95
24F1720	8RCO2A	120	115	SPDT	3	34.95

* at 28 VDC/115 VAC resistive; at 230 VAC resistive, 5 amperes
** at 28 VDC/115 VAC resistive; at 230 VAC resistive, 2.5 amperes



8L3

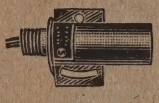
LIGHT SOURCES

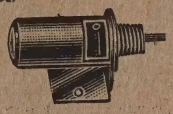
Bracket, ½" conduit, leads #18 AWG, 19". Weight 13 ounces.

Stock No.	Type	Source Volts (AC)	1-49
24F430	8L3-115	115	30.65
24F3040	8L3-230	230	30.65

RECEIVERS, LIGHT SOURCES AND AMPLIFIERS

8P7-8L7


8P4


8L4

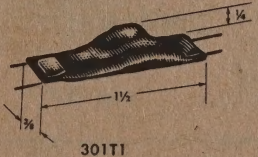
8A, 8A3

Subminiature receiver 8P7 and light source 8L3 operate 600 times a minute over 12-inch range. 8P4 and light source 8L4 operate 600 times a minute over a 25-foot maximum range. Adjustable-focus light source can be connected to 4.5 volt amplifier terminal for 25-foot operation with 40,000-hour lamp life, or to 5.5 volt terminal for 25-foot operation. 4,000-hour lamp life. Amplifiers 8A and 8A3 receive and amplify signals from sensing elements. 8A responds instantaneously. Replaceable plug-type relay. All circuitry except output relay solid state. 8A3: Variable time delay, 50 milliseconds to 20 seconds. 11½ inches high by 10 13/16 inches wide by 4¼ inches deep. Shipping Weight: 9 lbs., 4 oz.

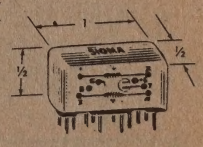
Stock No.	Type	Oper. Dis. Max.	Source Volt. (AC)	Contact Arrangement	Rating (amp)	1-49
24F431	8P7 (Receiver) and	12 in.	115/230	Amplifier provides		27.85
24F432	8L7 (Light Source)	12 in.	115/230	system output		20.20
24F433	8P4 (Receiver) and	25 ft.	115/230	Amplifier provides		30.65
25F434	8L4 (Light Source)	25 ft.	115/230	system output		26.80
24F435	8A (Amplifier)		115/230	DPDT	5	114.85
24F436	8A3 (Amplifier)		115/230	DPDT	10	154.45
24F3041	AT373-1 (Housing)					30.25

SERIES 301—1, 2 and 4 POLE

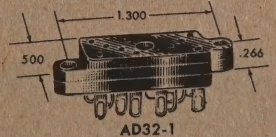
Stock No.	Type No. after "R" ind. no. of poles	Input Characteristics Lamp: Voltage	Current (milliamperes)	Output Characteristics —Photocell (at 25°C): On Resistance, R_L (ohms, max.)	Voltage Rating (DC or AC peak)	Power Dissipation, Each Cell (mw)	1-49	50-74	75-99	100-249
24F1588	301R1-6	6	40	400	250	500				
24F1589	301R1-12	12	19	500	250	500	4.40	4.18	3.96	3.52
24F1590	301R1-24	24	40	200	250	175				
24F1591	301R1-150	150	2	500	250	500				
24F1592	301R2-6	6	40	400	250	400				
24F1593	301R2-12	12	19	500	250	400	6.90	6.56	6.21	5.52
24F1594	301R2-24	24	40	200	250	175				
24F1595	301R2-150	150	2	500	250	400				
24F1596	301R4-6	6	80	650	250	175	9.65	9.17	8.69	7.72
24F1597	301R4-12	12	38	1000	250	175	9.65	9.17	8.69	7.72
24F1598	301R4-24	24	40	500	250	75	9.65	9.17	8.69	7.72
24F3042	301T1-2A1	2	40	2000	250	200	1.85	1.67	1.48	1.30
24F3043	301T1-2A2	2	40	800	100	200	1.85	1.67	1.48	1.30
24F3044	301T1-2B1	2	25	1000	250	400	2.75	2.48	2.20	1.93
45F344	301T1-6B1	6	50	400	250	400	1.80	1.62	1.44	1.26
45F345	301T1-12B1	12	24	400	250	400	1.80	1.62	1.44	1.26
24F3045	301T1-120A1	120	1.3	1200	250	400	1.95	1.76	1.56	1.37
24F1599	AD32-1	Socket for solder Term. mounting					1.05	1.00	.95	.84
45F347	AD58-1	PC Board Socket					1.05	1.00	.95	.84



301T1



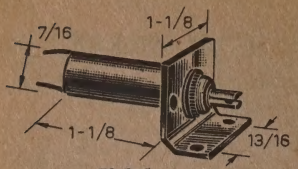
301R1, 2, 4



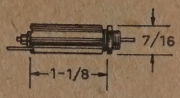
AD32-1

Opto-isolators feature solid state construction, 1000 Vrms min. isolation between output and input circuits. Signal applied to the input is coupled by means of light to one, two or four mutually isolated photoconductive cells. Suitable for AC/DC input/output. Cell has 300mW dissipation capability. Visual on/off state indication in plug-in models. High reliability switching functions include logic circuits, data sampling, audio switching and data processing. Other applications: noiseless audio level control, tremolo circuits, RC oscillator tuning. Temp.: −40°C to +50°C.

Tubular Solenoids



T3.5x9



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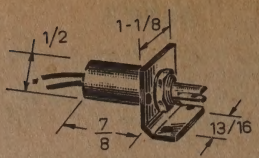
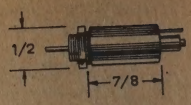


T4x7



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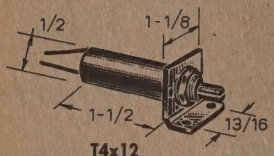

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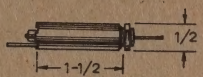

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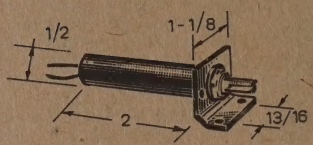

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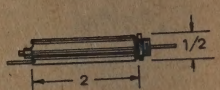

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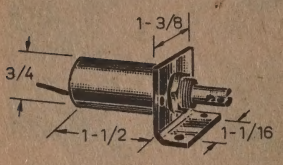

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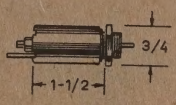

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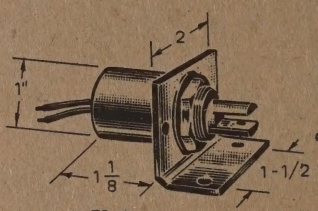

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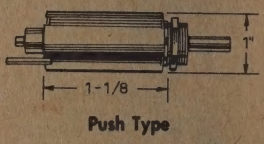

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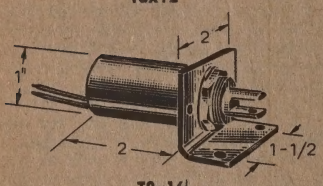

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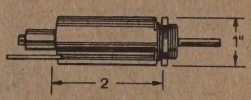

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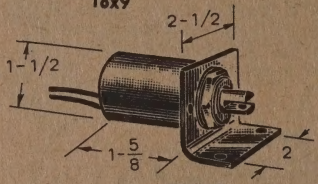

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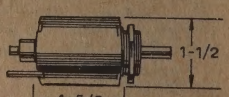

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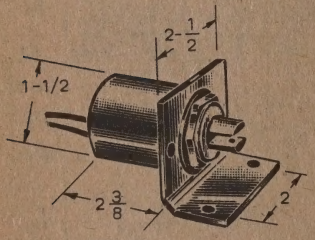

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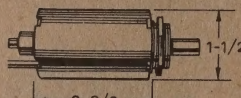
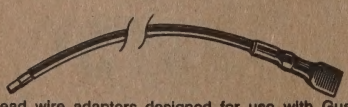


Push Type

TUBULAR 24 VDC, except where indicated 12v (*) UL Model.
TP Denotes Push Type

Stk. No.	Type	Duty	Lifts and Strokes Minimum	Lifts and Strokes Maximum	Ohms	Watts	1-24	25-49
24F2971	T3.5x9*	Inter.	11 oz. at 1/32"	1 oz. at 1/2"	57	10	5.06	4.81
24F2980	T3.5x9*	Cont.	4.5 oz. at 1/32"	.25 at 1/16"	260	2	5.33	5.06
67F5608	T3.5x9*(12V)	Inter.	11 oz. at 1/32"	1 oz. at 1/2"	14	10	5.06	4.81
67F5609	T3.5x9*(12V)	Cont.	4 oz. at 1/32"	.25 oz. at 1/16"	80	2	5.33	5.06
24F3434	TP3.5x9	Inter.	9 oz. at 1/32"	0.5 oz. at 1/2"	57	10	6.13	5.82
24F3438	TP3.5x9	Cont.	3.5 oz. at 1/32"	.25 oz. at 1/4"	260	2	6.38	6.06
24F2972	T4x7*	Inter.	10 oz. at 1/32"	1 oz. at 1/4"	80	7	5.21	4.95
24F2981	T4x7*	Cont.	4 oz. at 1/32"	.25 oz. at 1/32"	240	2.4	5.33	5.06
67F5610	TP4x7	Inter.	5 oz. at 1/16"	.75 oz. at 1/4"	80	7	6.43	6.11
67F5611	TP4x7	Cont.	1.5 oz. at 1/16"	.25 at 1/8"	240	2.4	6.53	6.20
24F2973	T4x12*	Inter.	15 oz. at 1/32"	1 oz. at 3/4"	38	15	5.36	5.09
24F2982	T4x12*	Cont.	8 oz. at 1/32"	1 oz. at 3/16"	160	3.5	5.48	5.21
24F3435	TP4x12	Inter.	12 oz. at 1/32"	0.5 oz. at 3/8"	38	15	6.32	6.00
24F3439	TP4x12	Cont.	6 oz. at 1/32"	0.5 oz. at 3/16"	160	3.5	6.57	6.24
24F2974	T4x16*	Inter.	17 oz. at 1/32"	2 oz. at 1 1/8"	24	20	5.92	5.62
24F2983	T4x16*	Cont.	10 oz. at 1/32"	.5 oz. at 3/8"	145	4	5.94	5.64
67F5612	T4x16*(12v)	Inter.	17 oz. at 1/32"	2 oz. at 1 1/8"	6	20	5.92	5.62
67F5613	T4x16*(12v)	Cont.	10 oz. at 1/32"	.5 oz. at 3/4"	36	4	5.94	5.64
24F3436	TP4x16	Inter.	14 oz. at 1/32"	.5 at 1 1/8"	24	20	7.14	6.78
24F3440	TP4x16	Cont.	8 oz. at 1/32"	.05 oz. at 3/4"	145	4	7.16	6.80
24F2975	T6x12*	Inter.	30 oz. at 1/16"	2 oz. at 3/8"	25	22	5.63	5.35
24F2984	T6x12*	Cont.	16 oz. at 1/16"	1.5 oz. at 1/2"	165	3.5	5.74	5.45
67F5614	T6x12*(12v)	Inter.	30 oz. at 1/16"	2 oz. at 3/8"	6.5	22	5.63	5.35
67F5615	T6x12*(12v)	Cont.	16 oz. at 1/16"	1 oz. at 1/2"	41	3.5	5.74	5.45
24F3437	TP6x12	Inter.	25 oz. at 1/16"	1 1/2 oz. at 1/8"	25	22	6.41	6.09
24F3441	TP6x12	Cont.	13 oz. at 1/16"	1 oz. at 1/2"	165	3.5	6.51	6.18
24F2976	T8x9*	Inter.	50 oz. at 1/16"	1 oz. 1/16"	30	19	6.28	5.97
24F2985	T8x9*	Cont.	13 oz. at 1/16"	1 oz. at 3/8"	145	4	6.41	6.09
67F5616	TP8x9	Inter.	40 oz. at 1/16"	1 oz. at 1/16"	30	19	7.94	7.54
67F5617	TP8x9	Cont.	11 oz. at 1/16"	1 oz. at 3/8"	145	4	8.06	7.66
24F2977	T8x16*	Inter.	80 oz. at 1/16"	2 oz. at 1 1/4"	15	38	6.88	6.54
24F2986	T8x16*	Cont.	32 oz. at 1/16"	2 oz. at 3/8"	105	5.5	6.93	6.58
67F5618	T8x16*(12v)	Inter.	80 oz. at 1/16"	2 oz. at 1 1/4"	2.7	38	6.88	6.54
67F5619	T8x16*(12v)	Cont.	32 oz. at 1/16"	2 oz. at 3/8"	26	5.5	6.93	6.58
24F2978	T12x13*	Inter.	150 oz. at 1/8"	8 oz. at 7/8"	14	40	9.32	8.85
24F2987	T12x13*	Cont.	48 oz. at 1/8"	1 oz. at 3/4"	85	6.6	9.35	8.88
67F5620	TP12x13	Inter.	120 oz. at 1/8"	6.5 oz. at 7/8"	14	40	10.12	9.61
67F5621	TP12x13	Cont.	48 oz. at 1/8"	1 oz. at 3/4"	85	7	10.16	9.65
24F2979	T12x19*	Inter.	165 oz. at 1/8"	6 oz. at 1 1/8"	9.5	60	9.91	9.41
24F2988	T12x19*	Cont.	80 oz. at 1/8"	1 oz. at 1 1/4"	59	10	10.00	9.50
67F5622	TP12x19	Inter.	130 oz. at 1/8"	5 oz. at 1 1/8"	9.5	60	11.36	10.79
67F5623	TP12x19	Cont.	65 oz. at 1/8"	1 oz. at 1"	59	10	11.45	10.88

UNI-GUARD II LEADS

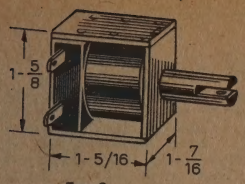


Lead wire adapters designed for use with Guardian's new Uni-Guard II coil construction which features QC lug termination. Each lead has a min. length of 6" and made of 22 gauge wire (U/L style 1015 w/temp. rating of 105°C). Termination at one end is in choice of .187" or .110" insulated female QC lug. Wire at other end stripped 1/4" min. Two lead wire adptrs. required for conversion of each solenoid from QC to lead termination.

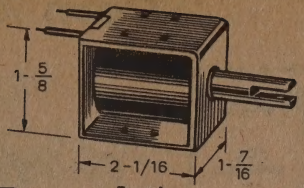
Stk. No.	Type	Lug Size	Package of 50
67F5691	LW-22.187	.187"	3.75
67F5692	LW-22.110	.110"	3.75

Solenoids

GUARDIAN



Type2



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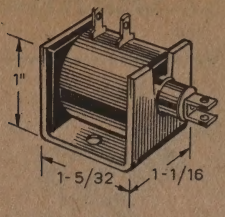
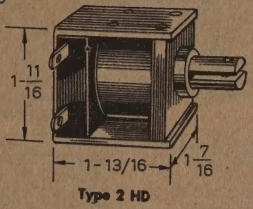


Type 9



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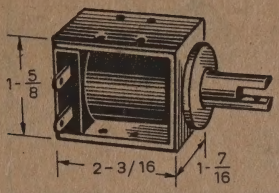
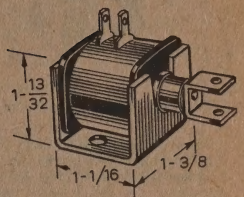


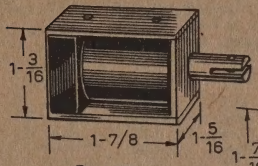
Type 4 HD



Type 10

RECOGNIZED BY UNDERWRITER'S LABORATORIES
except types marked with (*)

Stock No.	Type	Volts	Duty	Ohms	Lifts and Strokes Oz. at in. (Min.)	Lifts and Strokes Oz. at in. (Max.)	1-24	25-49
24F078	2	120AC	Inter.	60	45 oz. @ 1/8"	11 oz. @ 7/8"	5.96	5.66
24F079	2	120AC	Cont.	166	14 oz @ 1/8"	3 oz. @ 7/8"	6.04	5.94
62F1897	2HD	120AC	Inter.	36	70 oz @ 1/8"	16 oz @ 3/4"	10.21	9.70
62F1898	2HD	120AC	Cont.	113	25 oz @ 1/8"	6 oz @ 3/4"	10.21	9.70
62F1899	2HD	24DC	Inter.	20	96 oz @ 1/8"	10 oz @ 3/4"	10.52	9.99
62F1900	2HD	24DC	Cont.	64	48 oz @ 1/8"	6 oz @ 3/4"	10.52	9.99
24F872	4	120AC	Inter.	37	36 oz @ 1/8"	26 oz @ 1"	7.46	7.09
24F873	4	120AC	Cont.	133	8 oz @ 1/8"	7 oz @ 1"	7.46	7.09
24F885	4	24DC	Inter.	15	115 oz @ 1/8"	16 oz @ 1"	7.46	7.09
24F886	4	24DC	Cont.	54	63 oz @ 1/8"	6 oz @ 7/8"	7.46	7.09
24F887	4	110DC	Inter.	346	115 oz @ 1/8"	16 oz @ 1"	7.46	7.09
24F888	4	110DC	Cont.	1300	63 oz @ 1/8"	6 oz @ 7/8"	7.46	7.09
62F1901	4HD	24DC	Inter.	15	145 oz @ 1/8"	23 oz @ 3/4"	7.55	7.17
62F1902	4HD	24DC	Cont.	50	75 oz @ 1/8"	8 oz @ 3/4"	7.55	7.17
62F1903	4HD	110DC	Inter.	350	145 oz @ 1/8"	23 oz @ 3/4"	7.55	7.17
62F1904	4HD	110DC	Cont.	1200	75 oz @ 1/8"	8 oz @ 3/4"	7.55	7.17
62F5600	9*	120AC	Inter.	220	18 oz @ 1/8"	7 oz @ 1/2"	4.43	4.21
67F5601	9*	120AC	Cont.	350	11 oz @ 1/8"	2 oz @ 1/2"	4.43	4.21
67F5604	10*	120AC	Inter.	74	42 oz @ 1/8"	25 oz @ 1/2"	4.60	4.37
67F5605	10*	120AC	Cont.	172	15 oz @ 1/8"	7 oz @ 1/2"	4.60	4.37
24F081	11	120AC	Inter.	85	21 oz @ 1/8"	11 oz @ 3/4"	4.16	3.95
24F082	11	120AC	Cont.	200	12 oz @ 1/8"	6 oz @ 3/4"	4.16	3.95
24F889	11	6DC	Inter.	2	40 oz @ 1/8"	6 oz @ 3/4"	4.16	3.95
24F083	11	6DC	Cont.	4.5	24 oz @ 1/8"	3 oz @ 3/4"	4.16	3.95
24F891	11	24DC	Inter.	31	40 oz @ 1/8"	6 oz @ 3/4"	4.16	3.95
24F084	11	24DC	Cont.	72	24 oz @ 1/8"	3 oz @ 3/4"	4.16	3.95
24F3443	11P	120AC	Inter.	85	16.8 oz @ 1/8"	8.8 oz @ 3/4"	4.82	4.58
24F3454	11P	120AC	Cont.	200	9.6 oz @ 1/8"	4.8 oz @ 3/4"	4.82	4.58
24F3444	11P	6DC	Inter.	2	32 oz @ 1/8"	4.8 oz @ 3/4"	4.82	4.58
24F3445	11P	24DC	Inter.	31	32 oz @ 1/8"	4.8 oz @ 3/4"	4.82	4.58
24F3454	11P	6DC	Cont.	4.5	19.2 oz @ 1/8"	2.4 oz @ 3/4"	4.82	4.58
24F3456	11P	24DC	Cont.	72	19.2 oz @ 1/8"	2.4 oz @ 3/4"	4.82	4.58
24F086	12	120AC	Inter.	100	48 oz @ 1/8"	9 oz @ 7/8"	6.20	5.89
24F087	12	120AC	Cont.	150	28 oz @ 1/8"	6 oz @ 7/8"	6.20	5.89
24F874	14	120AC	Inter.	11	108 oz @ 1/8"	56 oz @ 1 1/2"	8.65	8.22
24F875	14	120AC	Cont.	18	75 oz @ 1/8"	40 oz @ 1 1/2"	8.65	8.22
24F090	16	120AC	Inter.	41	110 oz @ 1/8"	28 oz @ 3/4"	6.26	5.95
24F876	16	120AC	Cont.	85	63 oz @ 1/8"	15 oz @ 3/4"	6.26	5.95
24F892	16	240AC	Inter.	200	110 oz @ 1/8"	28 oz @ 3/4"	6.30	5.99
24F893	16	240AC	Cont.	350	63 oz @ 1/8"	15 oz @ 3/4"	6.30	5.99
24F3446	16P	120AC	Inter.	41	63 oz @ 1/8"	15 oz @ 3/4"	7.18	6.82
24F3457	16P	120AC	Cont.	85	88 oz @ 1/8"	22.5 oz @ 3/4"	7.18	6.82
24F092	18	120AC	Inter.	8.8	50.5 oz @ 1/8"	12 oz @ 3/4"	8.21	7.80
24F093	18	120AC	Cont.	19.7	350 oz @ 1/8"	208 oz @ 7/8"	8.21	7.80
24F894	18	240AC	Inter.	45	152 oz @ 1/8"	100 oz @ 2 1/8"	8.34	7.92
24F895	18	240AC	Cont.	78	350 oz @ 1/8"	208 oz @ 2 1/8"	8.34	7.92
24F3447	18P	120AC	Inter.	8.8	152 oz @ 1/8	100 oz @ 2 1/8"	9.68	9.20
24F3458	18P	120AC	Cont.	19.7	315 oz @ 1/8"	187 oz @ 7/8"	9.68	9.20
24F756	22	6DC	Inter.	4	137 oz @ 1/8"	90 oz @ 7/8"	3.46	3.29
24F757	22	6DC	Cont.	9	20 oz @ 1/16"	20 oz @ 3/8"	3.46	3.29
24F758	22	24DC	Inter.	60	12 oz @ 1/16"	1.7 oz @ 3/8"	3.46	3.29
24F759	22	24DC	Cont.	144	20 oz @ 1/16"	2 oz @ 3/8"	3.46	3.29
24F754	24	120AC	Inter.	310	12 oz @ 1/16"	1.7 oz @ 3/8"	4.02	3.82
24F755	24	120AC	Cont.	500	17 oz @ 1/16"	4 oz @ 3/8"	4.02	3.82
24F177	28	24AC	Cont.	17.4	10 oz @ 1/16"	2 oz @ 3/8"	3.72	3.53
24F178	28	120AC	Inter.	220	40 oz @ 1/16"	7 oz @ 1/2"	4.02	3.82
24F179	28	120AC	Cont.	400	24 oz @ 1/16"	5 oz @ 1/2"	4.02	3.82
24F218	28	6DC	Inter.	3.3	40 oz @ 1/16"	3 oz 2 1/2"	3.70	3.52
24F219	28	6DC	Cont.	7.7	25 oz @ 1/16"	2 oz @ 1/2"	3.70	3.52
24F220	28	12DC	Inter.	13	40 oz @ 1/16"	3 oz @ 1/2"	3.70	3.52
24F221	28	12DC	Cont.	27	25 oz @ 1/16"	2 oz 2 1/2"	3.70	3.52
24F222	28	24DC	Inter.	50	40 oz @ 1/16"	3 oz @ 1/2"	3.70	3.52
24F223	28	24DC	Cont.	104	25 oz 2 1/16"	2 oz @ 1/2"	3.70	3.52
62F1905	34	120AC	Inter.	400	18 oz @ 1/16"	4.5 oz @ 3/16"	3.30	3.14
62F1906	34	120AC	Cont.	865	9 oz @ 1/16"	1.5 oz @ 3/16"	3.30	3.14



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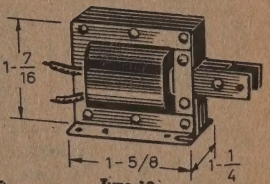

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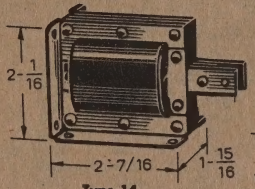

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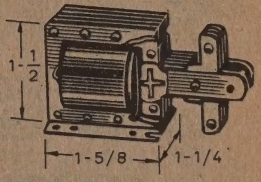

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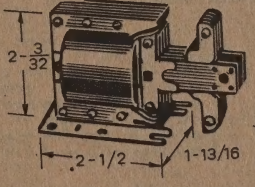

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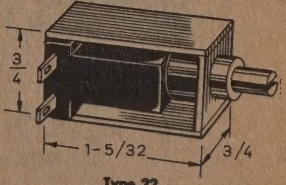

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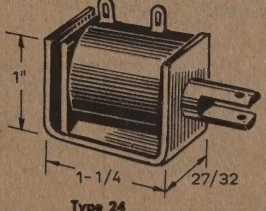

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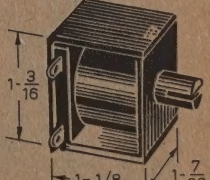

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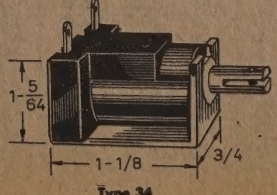
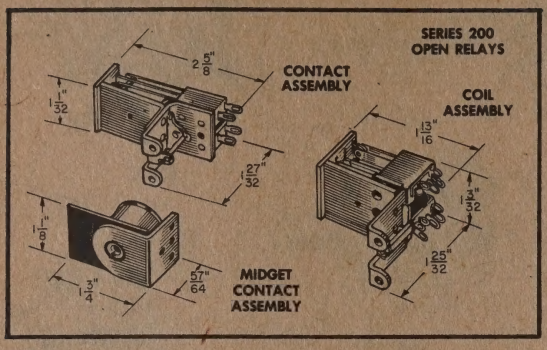


Type 34

Guardian

Open Relays



Coil consists of coil and field piece. Contact assembly consists of blades, armature, spring & bracket. Midget Contact Assembly interchangeable with Series 200. Available with SPDT, DPDT or 4PDT switch assembly. Use with any AC or DC coil.

SERIES 200 RELAY

Stk. No.	Type	Volts	1-24	25-49	50-99
24F810	200-6A	6AC	2.61	2.48	2.35
24F811	200-12A	12AC	2.61	2.48	2.35
24F812	200-24A	24AC	2.61	2.48	2.35
24F813	200-120A	120AC	3.05	2.90	2.75
24F814	200-240A	240AC	4.04	3.84	3.64
24F820	200-6D	6DC	2.84	2.70	2.56
24F821	200-12D	12DC	2.84	2.70	2.56
24F822	200-24D	24DC	2.84	2.70	2.56
24F824	200-110D	110DC	3.75	3.56	3.38

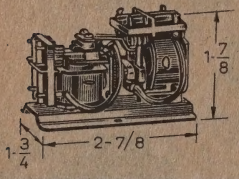
CONTACT SWITCH ASSEMBLIES

Stk. No.	Type	Cont. Amps.	Cont. Comb.	1-24	25-49	50-99
24F800	200-1	8	SPDT	2.40	2.28	2.16
24F801	200-2	8	DPDT	3.14	2.98	2.83
24F802	200-4	12.5	DPDT	3.53	3.35	3.18
24F805	200-5	8	4PDT	5.53	5.25	4.98
24F803	200-M1	10	SPDT	2.26	2.15	2.03
24F804	200-M2	10	DPDT	2.76	2.62	2.48
24F806	200-M5	8	4PDT	4.48	4.26	4.03

CONTACT SWITCH PARTS

Stk. No.	Type	Desc.	1-24	25-49	50-99
24F830	200-3	Standard	2.39	2.27	2.15
24F831	200-M3	Midget	2.39	2.27	2.15

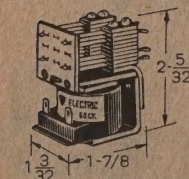
INTERLOCKING RELAY SERIES 1200/1200



Two interlocking AC relays in sturdy metal frame bracket. Used to maintain circuits without coil power consumption. Electrically pulse operated with mechanical hold and electrical release. Rated for 10 amps @60 Hz, 120VAC, non-inductive load. Coil resistance is 1,100 ohms. Shpg wt., 5.5 oz.

Stk. No.	Type	Cont. Comb.	1-24	25-49	50-99
24F868	1200/1200-4C-120A	4PDT	13.96	13.26	12.56

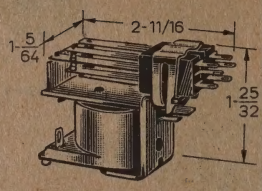
SERIES 640U— 10 AMPERE



All purpose economy relay. Capable of unusually heavy power control for its size. All are AC with selection of contact combinations. Contacts ratings at 60 Hz. 120V non-inductive load. 8/32 single screw, ctr. hole mtg. Shpg. wt., 3.5 oz. U/L recognized.

Stk. No.	Type 640U-	Coil Res.	VAC	Cont. Comb.	1-24	25-49	50-99
24F004	A-24A	24	24	SPST	3.89	3.70	3.50
24F005	C-24A	24	24	SPDT	4.40	4.18	3.96
24F006	2C-24A	24	24	DPDT	5.33	5.06	4.80
24F007	4C-24A	24	24	4PDT	7.36	6.99	6.62
24F008	A-120A	550	120	SPST	3.89	3.70	3.50
24F009	C-120A	550	120	SPDT	4.40	4.18	3.96
24F010	2C-120A	550	120	DPDT	5.33	5.06	4.80
24F011	4C-120A	550	120	4PDT	7.36	6.99	6.62
24F012	2C-240A	2950	240	DPDT	5.69	5.41	5.12

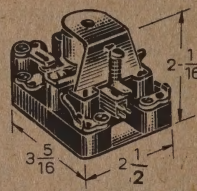
900-905/910-915 DPDT 10 AMP RELAYS



Number of parts and assembly time reduced by 50%. Eliminates cold flow while maintaining accurate adjustments. 1-piece switch mounting clip and return spring. Resistive load 120 VAC. Single screw mounting. Unitary field and core, no gap between core and field piece. Contacts: DPDT can control up to 10 amps. Mechanical life in excess of 1,000,000 operations. Size 2 11/16" x 1 25/32" x 1 5/64"; Shipping Weight: 6 oz. U/L recognized, CSA approved.

Stk. No.	Type & Coil Volts	Stk. No.	Type & Coil Volts	1-24	25-up
62F1875	900-2C-24VAC	24F2444	910-2C-24AC	2.26	2.05
62F1876	900-2C-120VAC	24F2445	910-2C-120AC	2.26	2.05
62F1877	900-2C-240VAC	24F2446	910-2C-240AC	2.26	2.05
62F1878	905-2C-6VDC	24F2447	915-2C-6DC	2.26	2.05
62F1879	905-2C-12VDC	24F2448	915-2C-12DC	2.26	2.05
62F1880	905-2C-24VDC	24F2449	915-2C-24DC	2.26	2.05

SERIES 2600/2620 25-AMP POWER RELAYS



Inverted coil construction protects armature and contacts from mechanical damage or electrical shorting. Series 2600U and 2605U have screw type terminals and are DPDT. Press to test armature lever makes for convenient manual circuit testing. Series 2620U and 2625U are manufactured with the same specs, but are DPST. For mounting there are two .196" dia. holes in base. Size 3 5/16" x 2½" x 2 1/16". Shpg. wt. 8 oz. Recessed SPDT, auxiliary switch has solder lug blade tails rated for 10 amp. operation. Terminal kit for easy do it yourself conversion. U/L recognized, CSA approved. U/L recognized, CSA approved

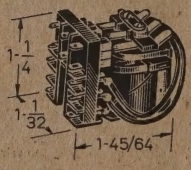
DPDT

Stock No.	Type	Volts	1-24	25-49	50-99
24F3415	2600U-DPDT-24A	24AC	11.13	10.57	10.02
24F3416	2600U-DPDT-120A	120AC	11.13	10.57	10.02
24F3417	2600U-DPDT-240A	240AC	11.47	10.90	10.32
24F3418	2605U-DPDT-12D	12DC	11.13	10.57	10.02
24F3419	2605U-DPDT-24D	24DC	11.13	10.57	10.02

DPST

24F3421	2620U-DPST-24A	24AC	10.56	10.03	9.50
24F3422	2620U-DPST-120A	120AC	10.56	10.03	9.50
24F3423	2620U-DPST-240A	240AC	10.88	10.34	9.79
24F3424	2625U-DPST-24D	24DC	10.56	10.03	9.50
24F3426	2600U-SPDT-Aux.-SW	....	2.05	1.95	1.85

10 AMP MEDIUM POWER AC/DC RELAY



Highly efficent relay for communications; remote control switching circuits, automation and laboratory applications. All terminals are solder lug type and molded in phenolic panel block for coils as well as contacts. Barrier in panel block raised to meet U/L over-surface spacing. Contacts rated 10 amps at 60 cycles, 120 VAC, Non-inductive load. Mounting: Single mounting hole, 6-32 tap. Size: 1 45/64 x 1¼ x 1 1/32". Shipping Weight: 2.5 oz. U/L recognized, CSA approved.

TYPE 1240 AC VOLTS

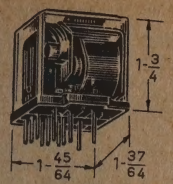
Stk. No.	Type and Coil Volts	Contacts	1-24	25-49	50-99
24F3400	1240-2C-6A	DPDT	4.81	4.57	4.33
24F3401	1240-3C-6A	3PDT	5.45	5.18	4.91
24F3402	1240-2C-24A	DPDT	4.81	4.57	4.33
24F3403	1240-3C-24A	3PDT	5.45	5.18	4.91
24F3404	1240-2C-120A	DPDT	4.81	4.57	4.33
24F3405	1240-3C-120A	3PDT	5.45	5.18	4.91
24F3406	1240-2C-240A	DPDT	5.02	4.77	4.52
24F3527	1240-3C-240A	3PDT	5.69	5.41	5.12

TYPE 1245-DC VOLTS

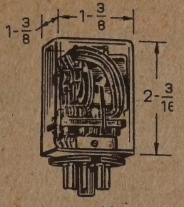
24F3407	1245-2C-6D	DPDT	4.77	4.53	4.29
24F3408	1245-3C-6D	3PDT	5.38	5.11	4.84
24F3409	1245-2C-12D	DPDT	4.77	4.53	4.29
24F3410	1245-3C-12D	3PDT	5.38	5.11	4.84
24F3411	1245-2C-24D	DPDT	4.77	4.53	4.29
24F3412	1245-3C-24D	3PDT	5.38	5.11	4.84
24F3413	1245-2C-110D	DPDT	5.41	5.14	4.87
24F3414	1245-3C-110D	3PDT	5.69	5.41	5.12

Enclosed and Heavy Duty Relays

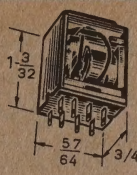
GUARDIAN



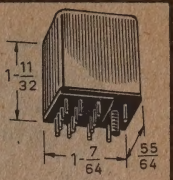
1220, 1225
AC Relay



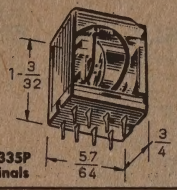
1330-1335
Plug-in



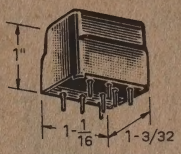
1210-1215
Relay



1310
Relay



1330P-1335P
PC Terminals



1360PC/1365PC

ENCLOSED PLUG-IN 10 AMP RELAY

- Transparent-Lightweight Case
- UL Listed
- Resistant to 200°F

Enclosed in a transparent, lightweight Lexan case, resistant to temp. of 200°F. 8 pin octal plug for DPDT and 11 pin for 3PDT. Rated for 10 amps @ 60 Hz, 120VAC, non-inductive load. U.L. Recognized. Size: 2-3/16"x1-⅜"x1-⅜".

TYPE 1210-AC VOLTS

Stock No.	Type	Coil Volt.	Cont. Comb.	1-24	25-49	50-99
24F117	1210-2C-24A	24	DPDT	7.83	7.44	7.05
24F118	1210-3C-24A	24	3PDT	9.45	8.98	8.51
24F119	1210-2C-120A	120	DPDT	7.83	7.44	7.05
24F120	1210-3C-120A	120	3PDT	9.45	8.98	8.51
24F2457	1210-2C-240A	240	DPDT	8.25	7.84	7.43
24F2458	1210-3C-240A	240	3PDT	9.77	9.28	8.79

TYPE 1215-DC VOLTS

24F121	1215-2C-6D	6	DPDT	7.83	7.44	7.05
24F122	1215-3C-6D	6	3PDT	9.45	8.98	8.51
24F2459	1215-2C-12D	12	DPDT	7.83	7.44	7.05
24F2460	1215-3C-12D	12	3PDT	9.45	8.98	8.51
24F123	1215-2C-24D	24	DPDT	7.83	7.44	7.05
24F2461	1215-2C-110D	110	DPDT	8.32	7.90	7.49

TYPE 1201N

Neon lamp lights when coil is energized or indicates circuit fault when lamp is dark. 10 A @ 120 VAC. Coil Res.: 1110 ohms.

Stock No.	Type 1210N-	Cont. Comb.	1-24	25-49	50-99
24F191	2C-120A	DPDT	9.09	8.64	8.18
24F192	3C-120A	3PDT	10.77	10.23	9.69

1220-AC AND 1225-DC 10 AMP RELAYS

Features "UNI-GUARD" continuous loop moving blades; AMP Faston 110 Series quick connect or socket plug-in. 1220 Relay comes complete with mtg. bracket. U/L recognized.

Stock No.	Type	Coil Volt	1-24	25-49	50-99
62F1882	1220-2C-24A	24AC	5.51	5.23	4.96
62F1883	1220-2C-120A	120AC	5.51	5.23	4.96
62F1887	1220-3C-120A	120AC	5.91	5.61	5.32
67F5693	1225-2C-12D	12DC	5.51	5.23	4.96
67F5694	1225-2C-24D	24DC	5.51	5.23	4.96
67F5695	1225-2C-110D	110DC	5.51	5.23	4.96
67F5696	1225-3C-24D	24DC	5.91	5.61	5.32
67F5697	1225-3C-110D	110DC	5.91	5.61	5.32

1220 SOCKETS

U/L component recognized when used with Guardian Relays. **SOC-2**, 1-31/32" high; 1-5/15" wide; ½" thick.

Stock No.	Type	1-24	25-Up
24F3470	1220-SOC-1	.78	.71
24F3471	1220-SOC-2	.78	.71

MINIATURE 5 AMP RELAY

1310 AC, 1315 DC. Contact; 4PDT rated @120 VAC or 30 VDC resistive. Power req. 1.2 volt amp. @nom. voltage for AC, 0.9 watts for DC. Temp. range: -45°C to 70°C. Shpg. wt. 1⅛ oz.

Stock No.	Type	Coil Volt.	1-24	25-49	50-99
24F3233	1310-4C	12AC	5.20	4.94	4.68
24F3234	1310-4C	24AC	5.20	4.94	4.68
24F3235	1310-4C	120AC	5.41	5.14	4.87
24F3237	1315-4C	12DC	4.68	4.45	4.21
24F3238	1315-4C	24DC	4.68	4.45	4.21
24F3239	1315-4C	110DC	5.05	4.80	4.54

PRINTED CIRCUIT RELAYS

1310P AC, 1315P DC. Rated at 5 amp at 30 VDC or 115 VAC. Wt. 1⅛ oz.

Stock No.	Type	Coil Volt.	1-24	25-49	50-99	100-249
24F3242	1310P-4C	24AC	5.20	4.94	4.68	3.90
24F3244	1315P-4C	6DC	4.68	4.45	4.21	3.51
14F3245	1315P-4C	12DC	4.68	4.45	4.21	3.51
24F3246	1315P-4C	24DC	4.68	4.45	4.21	3.51
24F3247	1315P-4C	110DC	5.05	4.80	4.55	3.79

1310 SERIES SOCKETS

Panel cutout for socket should measure 1.015" x .858" with .025" radii at all four corners.

Stock No.	Type	NET
24F3472	1310-1ST	.65
24F3473	1310-2PC	.65
24F3474	1310-3SN	.65

MINIATURE ENCLOSED RELAYS

Model 1330 & 1335 Plug. 1330P & 1335P are Printed Circuit, DPDT. Rated: 5 A @30VDC or 120 VAC. Heat resistant Lexan cover. For business, photocopy, computers and appliances. Wt. ¾ oz.

Stock No.	Type	Coil Volt.	1-24	25-49	50-99
67F5624	1330-2C-6A	6AC	3.96	3.76	3.56
67F5625	1330-2C-12A	12AC	3.96	3.76	3.56
67F5626	1330-2C-24A	24AC	3.96	3.76	3.56
67F5627	1330-2C-120A	120AC	3.96	3.76	3.56
67F5628	1335-2C-6D	6DC	3.87	3.68	3.48
67F5629	1335-2C-12D	12DC	3.87	3.68	3.48
67F5630	1335-2C-24D	24DC	3.87	3.68	3.48
67F5631	1330P-2C-6A	6AC	3.96	3.76	3.56
67F5632	1330P-2C-12A	12AC	3.96	3.76	3.56
67F5633	1330P-2C-24A	24AC	3.96	3.76	3.56
67F5634	1330P-2C-120A	120AC	3.96	3.76	3.56
67F5635	1335P-2C-6D	6DC	3.87	3.68	3.48
67F5636	1335P-C-12D	12DC	3.87	3.68	3.48
67F5637	1335P-2C-24D	24DC	3.87	3.68	3.48

1330 SERIES SOCKETS

Stock No.	Type	Net
67F5638	1330-1ST	.55
67F5639	1330-2PC	.55

1360PC/1365PC DPDT SWITCHING

For low power solid state circuitry .060" dia. terms. on .1" grid spacing. Solders on PC brd. or use mating socket. 1 W. 3500 Ω res. 5 amp. res. 120 VAC 60 Hz. **1360 SOCKET.** Solder to PC board or snap thru underside of chassis. Cutout should measure 1.265"x1.078".

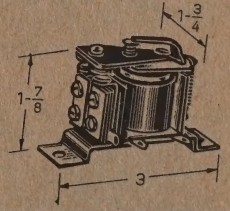
Stock No.	Type	Coil Volt.	1-24	25-49	50-99
67F5640	1360PC-2C-24A	24AC	4.13	3.92	3.72
67F5641	1360PC-2C-120A	120AC	4.13	3.92	3.72
67F5642	1365PC-2C-6D	6DC	4.13	3.92	3.72
67F5643	1365PC-2C-12D	12DC	4.13	3.92	3.72
67F5644	1365PC-2C-24D	24DC	4.13	3.92	3.72

1360 SOCKET

Stock No.	Type	Net
67F5645	1360-1	.58

TYPE 220 HEAVY DUTY INDUSTRIAL AC RELAY

- 20 Amp
- SPST-NO
- Silver Alloy Contacts

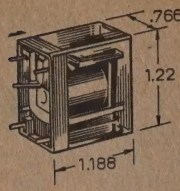


Rugged relay makes and breaks up to 20 amperes @ 240 volts. Armature equipped with Phenolic contact mounting block carrying 5/16" dual contacts. Phenolic tested at 1500 volts breakdown to ground. contact rating at 60 cycles, 20 amps, 240 V non-inductive load. Size: 3x1⅞x1¾". Shpg. wt. 5.5 oz.

Stock No.	Type	Volts	1-24	25-49	50-99
24F052	220-A-24A	24	7.72	7.33	6.95
24F053	220-A-120A	120	7.96	7.56	7.16
24F054	220-A-240A	240	8.38	7.96	7.54

GUARDIAN Mechanical and Solid State Relays

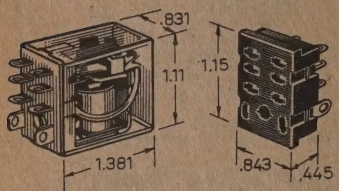
SERIES 1345, 10 AMP RELAY



Occupies just over one cubic inch. Is designed for long life at a low price. Contact rating: 10A resistive at 12 VDC, 7A res.—6A inductive at 30 VDC, 3.5A res.—2.5A ind. at 120 VAC. SPST in your choice of NO or NC contacts, or SPDT. Heat resistant nylon cover. UL recognized under Component Program.

Stk. No.	Type	Coil VDC	Coil 2es.	Action	1-99	100-249	250 449
23F5100	1345-1A-6D	6	350	SPST-NO	1.55	1.47	1.41
23F5101	1345-1A-12D	12	1400	SPST-NO	1.55	1.47	1.41
23F5102	1345-1A-24D	24	5600	SPST-NO	1.67	1.59	1.50
23F5103	1345-1B-6D	6	350	SPST-NC	1.55	1.47	1.41
23F5104	1345-1B-12D	12	1400	SPST-NC	1.55	1.47	1.41
23F5105	1345-1B-24D	24	5600	SPST-NC	1.67	1.59	1.50
23F5106	1345-1C-6D	6	350	SPDT	1.80	1.71	1.62
23F5107	1345-1C-12D	12	1400	SPDT	1.80	1.71	1.62
23F5108	1345-1C-24D	24	5600	SPDT	1.93	1.83	1.74

SERIES 1390-1395, DPDT, 13 AMP RELAY

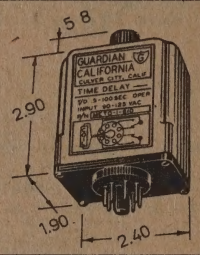


Rated for mechanical life of 100 million operations, and 100,000 operations minimum at rated loads. With plug-in socket. Occupies approximately 1.25 cubic inches. Contacts rated at 13 A at 28VDC or 130VAC resistive; 7.5 A at 120VAC inductive: ⅓ hp at 120VAC. Heat resistant lexan cover.

DPDT configuration only. Designed to meet U/L requirements. Weight: 1.25 oz.

Stk. No.	Type	Coil Volts	Coil Res.	1-24	25-49	50-99	100-249
23F5109	1390-2C-12A	12AC	45	4.75	4.51	4.28	3.56
23F5110	1390-2C-24A	24AC	160	4.75	4.51	4.28	3.56
23F5111	1390-2C-120A	120AC	3900	4.85	4.61	4.37	3.64
23F5112	1395-2C-6D	6DC	40	4.05	3.85	3.65	3.04
23F5113	1395-2C-12D	12DC	160	4.05	3.85	3.65	3.04
23F5114	1395-2C-24D	24DC	650	4.05	3.85	3.65	3.04
23F5115	1395-2C-110D	110DC	11,000	4.95	4.70	4.46	3.71

SERIES 1390 sockets for 1390-1395 relays. Requires panel cutout 0.858″ x 1.015″ with .025″ radii at all four corners. Chassis thickness of .031″ to .062″ recommended.
1390-1 ST Series relay socket with solder terminal lugs that accept AMP Series .187 quick connects.
23F5117. EACH 75
1390-2 PC Series. Sockets with PC terminals.
23F5118. EACH 70

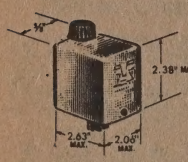


MET SERIES — TIME DELAY ON OPERATE OR RELEASE

Provide a time delay range of .5 to 300 seconds. DPDT contacts rated at 10 A resistive load at 120 VAC. 50-60 Hz. Accuracy: ±10% of nominal setting over oper, and voltage range, with repeatability of 1%. Operating temperature range: 0 to 55°C, 0 in type number indicates delay on operate, R indicates delay on release.

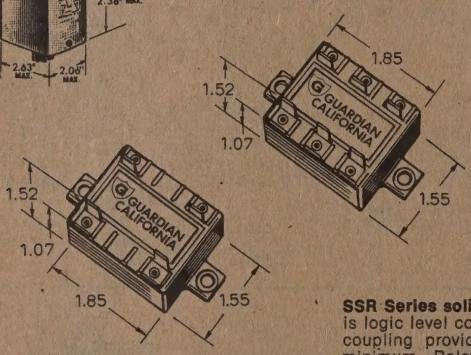
Stk. No.	Type	Oper. Volts	Delay Range (Sec.)	1-9	10-24
23F5119	MET-O-100-24A	24VAC	.5-100	20.62	19.59
23F5120	MET-O-300-24A	24VAC	100-300	21.88	20.79
23F5121	MET-O-015-120A	120VAC	.5-15	19.62	18.64
23F5122	MET-O-100-120A	120VAC	.5-100	20.15	19.14
23F5123	MET-O-300-120A	120VAC	100-300	21.88	20.79
23F5124	MET-O-015-24D	24VDC	.5-15	20.10	19.10
23F5125	MET-O-100-24D	24VDC	.5-100	20.62	19.59
23F5126	MET-O-300-24D	24VDC	100-300	21.88	20.79
23F5127	MET-R-100-24A	24VAC	.5-100	30.04	28.54
23F5128	MET-R-300-24A	24VAC	100-300	30.02	28.52
23F5129	MET-R-015-120A	120VAC	.5-15	28.69	27.26
23F5130	MET-R-100-120A	120VAC	.5-100	29.21	27.75
23F5131	MET-R-300-120A	120VAC	100-300	30.02	28.52
23F5132	MET-R-015-24D	24VDC	.5-15	29.53	28.05
23F5133	MET-R-100-24D	24VDC	.5-100	30.05	28.55
23F5134	MET-R-300-24D	24VDC	100-300	30.82	29.28

TDO SERIES TIME DELAY



DPDT contacts rated at 5A at 120VAC. Delay adjustment by ten-turn potentiometer. Repeatability is within 5% after a line interruption of 100 ms.

Stock No.	Type	Volts	Delay Range (Sec.)	1-24	25-49	50-99	100-249
62F1912	TDO62C30-120A	120VAC	.5 to 30	19.43	18.46	17.49	16.52



- **OPTICALLY COUPLED INPUT STAGE.**
- **RFI AND EMI REDUCED TO A MINIMUM.**
- **REACTIVE LOAD ARCING ELIMINATED.**
- **HOUSED IN NYLON WITH ISOLATED METAL BASE.**

Features a line synchronized triac output which eliminates arcing and reduces RFI and EMI to a minimum. The synchronous feature reduces in-rush current by as much as 60%, increasing the life of tungsten lamps. AC reactive load switching takes place regardless of power factor, and arcing of the back EMF is eliminated on inductive loads because the Triac turns off at zero current. Housed in a rugged nylon cover with an isolated mounting base of metal. Terminals are of the .250 inch quick-disconnect type. Optically coupled for sensitivity and high isolation.

SSR Series solid state relay. Control input is logic level compatible or 24VDC. Optical coupling provides isolation of 1500 VAC minimum. Relays with an A in the Type number handle load currents of 7 A, those with a B in the number handle load currents of 10 A.

Stock No.	Type	Must Oper. VDC	Load (ACV) 50-60 Hz	List Price
23F5135	SSR-1A-10	3.5-12	24-140	19.18
23F5136	SSR-1A-20	12-32	24-140	19.18
23F5137	SSR-2A-10	3.5-12	24-280	19.32
23F5138	SSR-2A-20	12-32	24-280	19.32
23F5139	SSR-1B-10	3.5-12	24-140	19.68
23F5140	SSR-1B-20	12-32	24-140	19.68
23F5141	SSR-2B-10	3.5-12	24-280	19.94
23F5142	SSR-2B-20	12-32	24-280	19.94

SSRT Series time delay relay. Adjustable by external resistance. Supplied in three standard ranges. Virtually noise immune and premature timeouts are eliminated. Relays with A in type number are rated to handle load currents of 7 A, those with B handle 10A. Types 1A and 1B handle 24-140 VAC, 50-60 Hz loads, Types 2A and 2B 24-280 VAC.

Stock No.	Type	Must Oper. VDC	Min. Tim. Range (Sec.)	Each
23F5143	SSRT-1A-11	3.5-12	0.1-1.0	23.24
23F5144	SSRT-1A-12	3.5-12	1.0-10	
23F5145	SSRT-1A-13	3.5-12	5.0-50	
23F5146	SSRT-1A-21	12-32	0.1-1.0	
23F5147	SSRT-1A-22	12-32	1.0-10	
23F5148	SSRT-1A-23	12-32	5.0-50	
23F5149	SSRT-2A-11	3.5-12	0.1-1.0	23.68
23F5150	SSRT-2A-12	3.5-12	1.0-10	
23F5151	SSRT-2A-13	3.5-12	5.0-50	
23F5152	SSRT-2A-21	12-32	0.1-1.0	
23F5153	SSRT-2A-22	12-32	1.0-10	
23F5154	SSRT-2A-23	12-32	5.0-50	
23F5155	SSRT-1B-11	3.5-12	0.1-1.0	23.82
23F5156	SSRT-1B-12	3.5-12	1.0-10	
23F5157	SSRT-1B-13	3.5-12	5.0-50	
23F5158	SSRT-1B-21	12-32	0.1-1.0	
23F5159	SSRT-1B-22	12-32	1.0-10	
23F5160	SSRT-1B-23	12-32	5.0-50	
23F5161	SSRT-2B-11	3.5-12	0.1-1.0	24.28
23F5162	SSRT-2B-12	3.5-12	1.0-10	
23F5163	SSRT-2B-13	3.5-12	5.0-50	
23F5164	SSRT-2B-21	12-32	0.1-1.0	
23F5165	SSRT-2B-22	12-32	1.0-10	
23F5166	SSRT-2B-23	12-32	5.0-50	

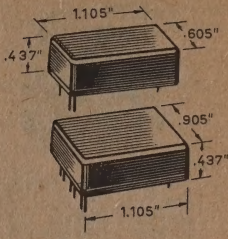
Stepper and Isolation Relays

GUARDIAN

SERIES 1475 LOW PROFILE ELECTROMECHANICAL RELAY

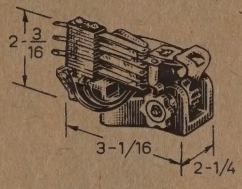
Stock No.	Type	Coil VDC	Coil Res.	Cont. Comb.	1-9	10-49
24F213	1475-1C-5D	5	44	SPDT	2.70	2.43
67F5646	1475-1C-6D	6	70	SPDT	2.70	2.43
67F5648	1475-1C-12D	12	288	SPDT	2.70	2.43
67F5650	1475-1C-24D	24	1152	SPDT	2.85	2.57
24F214	1475-2C-5D	5	41.6	DPDT	3.50	3.15
67F5647	1475-2C-6D	6	60	DPDT	3.50	3.15
67F5649	1475-2C-12D	12	240	DPDT	3.50	3.15
67F5651	1475-2C-24D	24	960	DPDT	3.60	3.24

Designed for high density packaging. Sealed thermoset housing and cover construction. Contacts rated 5 amps at 6 and 12 VDC; 3 amps at 24 and 28 VDC; 5 amps at 6, 12 & 24 VAC; 1.5 amps at 120 VAC. (AC loads are resistive.) Mechanical life in excess of 10^7 operations. Wt. 10 grams SPDT; 14 grams DPDT.



SEQUENCE RELAY

For on/off control of lighting, motors, appliances and speaker applications, among others. Each impulse (up to 10 steps per second) reverses contacts. Contacts rated 12½ amps. 120V, 60 Hz. Size: 3 1/16 x2¼x2 3/16. Shpg. wt., 7.5 oz.



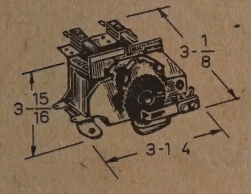
TYPE 660 — DC VOLTS

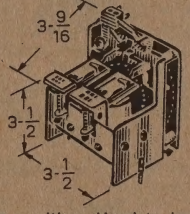
Stock No.	Type	Cont. Comb.	Volts	1-24	25-49	50-99
24F2437	660-C-24A	SPDT	24	8.64	8.21	7.78
24F193	660-C-120A	SPDT	120	8.64	8.21	7.78
24F2438	660-2C-24A	DPDT	24	9.33	8.86	8.40
24F194	660-2C-120A	DPDT	120	9.33	8.86	8.40
24F2439	660-4C-24A	4PDT	24	13.58	12.90	12.22
24F2440	660-4C-120A	4PDT	120	13.58	12.90	12.22

TYPE 665 — DC VOLTS

24F2441	665-C-24D	SPDT	24	8.64	8.21	7.78
24F2442	665-2C-24D	DPDT	24	9.33	8.86	8.40
24F2443	665-4C-24D	4PDT	24	13.58	12.90	12.22

TYPES MAS & PAS ADD AND SUBTRACT STEPPER

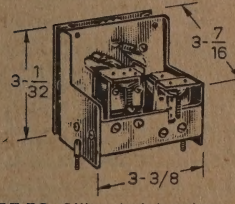


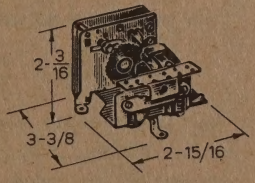


TYPE MAS. Cam actuated switch at zero position. Used to indicate zero balance between pulse. 9 Watts. Shipping wt. 11 ozs. **TYPE PAS.** Bidirectional with wiper moving in either direction depending on which coil is energized. 35 Watts. Shipping wt. 22 ozs.

Stk. No.	Type	VA	1-24	25-49	50-99
24F772	MAS-120A	12	27.38	26.01	24.64
67F5669	PAS-120A	60	38.00	36.10	34.20

CONTINUOUS ROTATION STEP RELAY

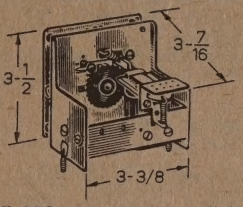


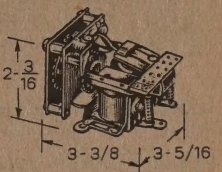


TYPE PC. Oilite shaft bearings. Life, 4,000,000 steps; oper. @ 15% below or 10% above volt. Coil 120VAC, 20W. 40 pts. & active contacts. Sz. 3⅜x3x3 3/16. **TYPE MC.** Smaller rotation like PC. Life, 2,000,000 steps. 24 pts. & con. 120VAC, 17W.

Stk. No.	Type and AC Volts	VA	1-24	25-49	50-99
24F762	PC-120A	35	27.47	26.10	24.72
24F764	MC-120A	30	20.34	19.32	18.31

ELECTRICAL RESET STEP RELAY





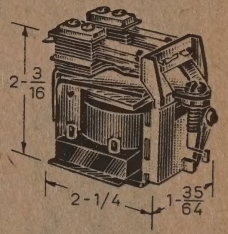
TYPE PER. Resets when coil is energized. Coil, 120 VAC; 35W (step.) 7 W (reset). 40 points. 36 contacts. Sz. 3x3⅜x3 3/16. **TYPE MER.** Positive acting interlock, actuated by magnet. Coil, 120 VAC. 20W step., 7W reset. 24 pts. 22 conts. Wt. 11.5 oz.

Stk. No.	Type and AC Volts	VA	1-24	25-49	50-99
24F766	PER/40-120A	60-10	36.16	34.35	32.54
24F865	MER-120A	40-10	23.40	22.23	21.06

SERIES 840L (AC) & 845L (DC) ON/OFF RELAY STEPPERS

Single Coil Impulse Operated Mechanical Latching Relay Stepper

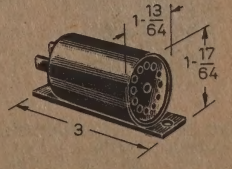
SPDT, DPDT or 4DPT contact combinations. Impulse as short as 20 ms energizes the coil to reverse position of switches. Contacts: 10 amp, at 120VAC, 60 Hz non-inductive. Power requirement: 8.2 volt amps. Shipping wt.: 5.2 oz.



Stk. No.	Type	Coil Voltage	Cont. Comb.	1-24	25-49	50-99
67F5670	840L-C,24A	24AC	SPDT	6.46	6.14	5.81
67F5671	840L-2C-24A	24AC	DPDT	7.79	7.40	7.01
67F5672	840L-4C-24A	24AC	4PDT	11.14	10.58	10.03
67F5673	840L-C-120A	120AC	SPDT	6.46	6.14	5.81
67F5674	840L-2C-120A	120AC	DPDT	7.79	7.40	7.01
67F5675	840L-4C-120A	120AC	4PDT	11.14	10.58	10.03
67F5676	845L-C-12D	12DC	SPDT	6.46	6.14	5.81
67F5677	845L-2C-12D	12DC	DPDT	7.06	6.71	6.35
67F5678	845L-4C-12D	12DC	4PDT	11.14	10.58	10.03
67F5679	845L-C-24D	24DC	SPDT	6.46	6.14	5.81
67F5680	845L-2C-24D	24DC	DPDT	7.06	6.71	6.35
67F5681	845L-4C-24D	24DC	4PDT	11.14	10.58	10.03

ROTOMITE STEPPER DC

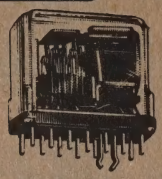
Continuous rotation on 12 position to 20 steps per. sec. Stepping mechanism, coils & contacts metal enclosed. 3 amps resistive, 1 amp inductive (50% P.F.). Over 1,000,000 operations. For bus. machines, lighting, counting, sorting, & computer circ. L.3" x D.1 1/16". 5 oz.



Stk. No.	Type	VDC	1-24	25-49	50-99
24F125	705-12P-6D	6	8.50	8.08	7.65
24F126	705-12P-12D	12			
24F127	705-12P-24D	24			

Struthers-Dunn Industrial Plug-in Relays

TYPE 219 12-PIN GENERAL PURPOSE RELAY



Clear thermoplastic enclosure, plugs into 12-pin socket. 10-amp contacts. Insulation: ¼" surface, ⅛" air. 1500V dielectric. Max. Amb. 53°C. 20,000,000 cycles no-load. Overload 110% nominal voltage. Must operate 85%AC, 80%DC volts. Base 1-1/2 x 2-5/8", Ht. 2-19/32" less pins. Wt. 7 oz. UL listed.

Type 219 General Purpose 12-Pin Plug-in Relay

Stock No.	Type No.	Volts	Contacts	1-24	25-49	50-74
60F3101	219XBXP	24DC	DPDT	20.45	19.43	18.41
60F3102	219XBXP	125DC	DPDT			
60F3100	219XBXP	120AC	DPDT			
60F3104	219BBXP	24DC	DPDT + 2NO	24.44	23.22	22.00
60F3105	219BBXP	125DC	DPDT + 2NO			
60F3103	219BBXP	120AC	DPDT + 2NO			
60F3107	219ABAP	24DC	DPDT, 1NO, 1NC	24.44	23.22	22.00
60F3108	219ABAP	125DC	DPDT, 1NO, 1NC			
60F3106	219ABAP	120AC	DPDT, 1NO, 1NC			

TYPE 219 RELAY WITH INDICATING LAMP

Neon lamp across relay coil indicates when relay is energized.

Stock No.	Type No.	Volts	Contacts	1-24	25-49	50-74
60F3194	219BBXPL	120AC	DPDT + 2 NO	26.50	25.18	23.85
60F3193	219ABAPL	120AC	DPDT, 1NO, 1NC			

TYPE 219 14-PIN GENERAL PURPOSE RELAY

Plugs into 14-pin socket. 10-amp contacts. 20,000,000 cycles no-load. Operate and release time 25ms max. Must operate 85% AC, 80% DC volts. Overload, 110% nominal volts. Manual actuator available.

Type 219 General Purpose 14-Pin Plug-in Relay

Stock No.	Type No.	Volts	Contacts	1-24	25-49	50-74
60F3050	219XDXP	24DC	4PDT	27.74	26.35	24.97
60F3051	219FXXP	24DC	6PNO			
60F3052	219DXBP	24DC	4 NO + 2 NC			
60F3053	219XDXP	120AC	4PDT	27.74	26.35	24.97
60F3054	219FXXP	120AC	6NO			
60F3055	219DXBP	120AC	4 NO + 2NC			

TYPE A311 12-PIN SEQUENCE RELAY

Contacts transfer on each impulse. 8-tooth ratchets provide eight steps with double-cam action each step. 150V insulation meets UL requirements. Rated at 5 amps, 120VAC. Must operate at 85% AC or 80% DC volts. 1,000,000 cycles no-load. Base 2-5/8" x 1-15/32", Ht. 3-3/4". Wt. 6 oz.

Type A311 12-Pin Plug-in Sequence Relay

Stock No.	Type No.	Volts	Contacts	1-24	25-49	50-74
29F2873	A311XBXP*	120AC	DPDT*	41.48	39.41	37.33
29F2874	A311XBXPR**	120AC	DPDT**			

*Contacts transfer when coil is energized.
**Contacts transfer on release.

TYPE 236 12-PIN DELAY-ON-OPERATE RELAY
TYPE 237 12-PIN DELAY-ON-RELEASE RELAY

Solid state timing network. 90:1 range. Contact rating 10-amps at 120VAC. Repeat accuracy ±5% at fixed voltage. Will operate at 95 to 125VAC, but timing varies inversely with voltage. 20,000,000 mechanical operations. Type 236: Contacts transfer after pre-set delay when power is applied. Type 237: Contacts transfer after pre-set delay when control circuit is de-energized.

Type 236XBXP 12-Pin Plug-in Delay-on-Operate Relay

Stock No.	Type No.	Volts	Delay	1-24	25-49	50-74
60F3115	236ABXP	120AC	0.2-20 Sec.	93.93	89.23	84.54
60F3116	236ABXP	120AC	2-200 Sec.			

Type 237XBXP 12-Pin Plug-in Delay-on-Release Relay

29F2702	237XBXP	120AC	0.2-20 Sec.	110.31	104.79	99.28
29F2703	237XBXP	120AC	2-200 Sec.			

TYPE A255 12-PIN LATCHING RELAY

Contacts latch mechanically when operate coil is energized momentarily. To reset, energize separate reset coil. Continuous duty coils. 10,000,000 mechanical operations. Contacts rated 10 amps at 120VAC. Insulation 1/4" air, 1/8" surface. Base 1-15/32 x 2-5/8". Ht. 3-3/4". Common armature prevents contact overlap.

Type A255 12-Pin Plug-in Relay

Stock No.	Type No.	Volts	Contacts	1-24	25-49	50-74
60F3112	A255XBXP	120AC	DPDT	40.23	38.22	36.21
60F3113	A255XCXP	120AC	3PDT	43.42	41.25	39.08
60F3114	A255BXBP	120AC	2 NO, 2 NC	43.42	41.25	39.08

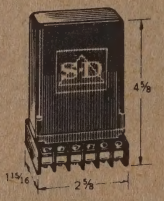
TYPE RSX1440 12-PIN ALARM RELAY

Type RSX1440Z is initiated by momentary, intermittent, or sustained signal from N.O. trouble contacts. RSX1440S is initiated by signal from N.C. contacts. Operator silences alarm with push-button. Alarm can be turned off manually or automatically when condition clears. Contact rating 10 amps at 120VAC.

Type RSX1440 12-Pin Plug-in Alarm Relay

Stock No.	Type No.	Volts	Signal	1-24	25-49	50-74
29F2700	RSX1440Z	120AC	N.O.	34.72	32.98	31.25
29F2701	RSX1440S	120AC	N.C.			

TYPE S.S.96 12-PIN SOLID STATE RELAY



100% solid state. Load rating of 1 amp continuous and 25 amps inrush. Available 2 N.O. and 2 N.C. or 4PST-N.O. Total isolation between input and outputs. Requires continuous primary voltage of 90 to 132V 50/60 Hz. Continues to carry load at 65VAC minimum. One N.O. contact may be used for latch. Transient suppression recommended. (Type GE V130LA10 MOV typical.)

Type S.S.96 12-Pin Plug-in Solid State Relay

Stock No.	Type No.	Volts	Contacts	1-24	25-49	50-74
60F3806	SS96BXB	120AC	2 NO, 2 NC	60.69	57.66	54.62
60F3805	SS96DXX	120AC	4 NO			

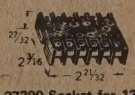
CX3671, CX3672 PLASTIC ENCLOSURE

12-pin plug-in base. Use for experimental circuits, timing devices, etc. Same construction as enclosures for relays on this page. Fits type 27390 socket. CX3671 is 2-5/8" high, CX3672 is 3-3/4" high.

Plastic Enclosures for 12-Pin Plug-in Modules

Stock No.	Type No.	Size	1-24	25-49	50-74
60F3131	CX3671	2-19/32" high, less pins	4.43	4.21	3.99
60F3132	CX3672	3-3/4" high, less pins			

TYPE 27390 12-PIN SOCKET

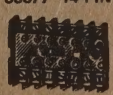


Heavy duty socket for all 12-pin relays on this page. Front connected screws with clamp plates for No. 14 wires. 2-3/16 W x 2-21/32 L x 27/32 H.

Type 27390 Socket for 12-Pin Plug-in Relays on this Page

Stock No.	Type No.	Net Price
60F3117	27390	3.19

TYPE 33377 14-PIN SOCKET



Socket for 14-pin type 219 4PDT and 6-pole relays. Front connected screws with clamp plates for No. 14 wires. 2-3/16 W x 3-3/32 L x 27/32 H.

Type 33377 Socket for 14-Pin 4PDT and 6-Pole Type 219 Relays

Stock No.	Type No.	Net Price
60F3065	33377	3.61

Struthers-Dunn Relays--G.P. and Sensitive

S-D

TYPE A314 OPEN TYPE OR OCTAL BASE RELAY

Open types have solder lugs, and enclosed types plug into octal type base. General purpose relays rated at 10 amps, 120VAC. Available with neon indicating lamp and/or push-to-test manual actuator. Enclosed relay is 2-1/4 high x 1-1/2 x 1-1/2. Open type is 1-7/8 high x 1-1/8 x 1-3/8. UL recognized.

Type A314 General Purpose 10-Amp Relay (Open type)

Stock No.	Type No.	Contacts	Volts	Ohms	1-24	25-49	50-74
29F2704	A314XAX	SPDT	24AC	85	3.99	3.79	3.59
29F2705	A314XAX	SPDT	120AC	2250	3.99	3.79	3.59
29F2706	A314XAX	SPDT	24DC	472	3.99	3.79	3.59
29F2707	A314XAX	SPDT	125DC	10,000	4.52	4.29	4.07
29F2708	A314XBX	DPDT	24AC	85	4.83	4.59	4.35
29F2709	A314XBX	DPDT	120AC	2250	4.83	4.59	4.35
29F2710	A314XBX	DPDT	24DC	472	4.83	4.59	4.35
29F2711	A314XBX	DPDT	125DC	10,000	5.46	5.19	4.91
29F2712	A314XCX	3PDT	24AC	85	5.46	5.19	4.91
29F2713	A314XCX	3PDT	120AC	2250	5.46	5.19	4.91
29F2714	A314XCX	3PDT	24DC	472	5.46	5.19	4.91
29F2715	A314XCX	3PDT	125DC	10,000	5.78	5.49	5.20

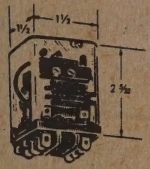
Type A314 - - - 48P General Purpose 10-Amp Relay (Enclosed, Octal Plug)

29F2716	A314XAX48P	SPDT	24AC	85	7.51	7.13	6.76
29F2717	A314XAX48P	SPDT	120AC	2250	7.51	7.13	6.76
29F2718	A314XAX48P	SPDT	24DC	472	7.51	7.13	6.76
29F2719	A314XAX48P	SPDT	125DC	10,000	8.20	7.79	7.38
29F2720	A314XBX48P	DPDT	24AC	85	8.09	7.69	7.28
60F3187	A314XBX48P	DPDT	120AC	2250	8.09	7.69	7.28
60F3188	A314XBX48P	DPDT	24DC	472	8.09	7.69	7.28
29F2721	A314XBX48P	DPDT	125DC	10,000	8.78	8.34	7.90
29F2722	A314XCX48P	3PDT	24AC	85	10.51	9.98	9.46
60F3189	A314XCX48P	3PDT	120AC	2250	10.51	9.98	9.46
60F3190	A314XCX48P	3PDT	24DC	472	10.51	9.98	9.46
29F2723	A314XCX48P	3PDT	125DC	10,000	11.09	10.54	9.98

Type A314 General Purpose Indicator Light (Enclosed, Octal Plug)

29F2724	A314XAX48PL	SPDT	120AC	2250	9.24	8.78	8.32
67F640	A314XBX48PL	DPDT	120AC	2250	9.82	9.33	8.84
67F641	A314XCX48PL	3PDT	120AC	2250	12.24	11.63	11.02

TYPE A283 SQUARE BASE 10-AMP RELAY



General purpose industrial relay. Long-life 10-amp contacts. Clear polycarbonate covers. 0.187" flat male quick connect terminals. Terminals pierced for solder connection or relay plugs into matching socket. Bracket mounting or stud mounting available. SPDT, DPDT or 3PDT. UL recognized.

Type A283 10-Amp General Purpose Relay (Enclosed, Plug-in Square Base)

Stock No.	Type No.	Volts	Ohms	Contacts	1-24	25-49	50-74
67F644	A283XAXC	120AC	2250	SPDT	4.76	4.52	4.28
67F646	A283XAXC	24DC	472	SPDT	4.65	4.42	4.19
67F647	A283XAXC	125DC	10,000	SPDT	5.51	5.23	4.96
67F649	A283XBXC	24AC	85	DPDT	5.95	5.65	5.36
67F650	A283XBXC	120AC	2250	DPDT	5.95	5.65	5.36
67F652	A283XBXC	24DC	472	DPDT	5.30	5.04	4.77
67F653	A283XBXC	125DC	10,000	DPDT	6.16	5.85	5.54
67F655	A283XCXC	24AC	72	3PDT	6.71	6.37	6.04
67F656	A283XCXC	120AC	1700	3PDT	6.71	6.37	6.04
67F658	A283XCXC	24DC	472	3PDT	6.16	5.85	5.54
67F659	A283XCXC	125DC	10,000	3PDT	6.71	6.37	6.04

Type A283 10-Amp General Purpose Relay (Enclosed, Bracket Mount)

67F662	A283XAXC1	120AC	2250	SPDT	4.76	4.52	4.28
67F664	A283XAXC1	24DC	472	SPDT	4.65	4.42	4.19
67F665	A283XAXC1	125DC	10,000	SPDT	5.51	5.23	4.96
67F667	A283XBXC1	24AC	85	DPDT	5.95	5.65	5.36
67F668	A283XBXC1	120AC	2250	DPDT	5.95	5.65	5.36
67F670	A283XBXC1	24DC	472	DPDT	5.30	5.04	4.77
67F671	A283XBXC1	125DC	10,000	DPDT	6.16	5.85	5.54
67F673	A283XCXC1	24AC	72	3PDT	6.71	6.37	6.04
67F674	A283XCXC1	120AC	1700	3PDT	6.71	6.37	6.04
67F676	A283XCXC1	24DC	472	3PDT	6.16	5.85	5.54
67F677	A283XCXC1	125DC	10,000	3PDT	6.71	6.37	6.04

Type A283 10-Amp General Purpose Relay, Manual Actuator, Indicating Lamp

29F2725	A283XAXCLM	120AC	2250	SPDT	8.01	7.61	7.21
29F2726	A283XBXCLM	120AC	2250	DPDT	9.21	8.75	8.29
29F2727	A283XCXCLM	120AC	2250	3PDT	9.96	9.46	8.96

SOCKETS FOR TYPE A283, 286, 287 AND 292 PLUG-IN RELAYS

Stock No.	Type No.	Termination	1-24	25-49	50-74
67F678	36579	P. C. Terminals	1.05	1.00	0.95
67F679	36580	0.187 Quick Connect	1.05	1.00	0.95
67F680	36581	Solder Terminals	1.05	1.00	0.95

TYPE C281 MINIATURE PLUG-IN RELAY

General purpose relay available with 4PDT 3-amp contacts, 4PDT 1-amp bifurcated contacts, or DPDT 10-amp contacts. Available for plug-in, solder connect, or p.c. mounting. Clear plastic cover standard, available hermetically sealed. 50,000,000 mechanical operations. 1-9/32 high x 1-1/8 x 7/8. Standard 3-amp models are UL recognized.

Type C281XDX100 4 PDT Miniature Relay, 3-Amp Silver Contacts, Solder/Plug-in

Stock No.	Type No.	Volts	Ohms	1-24	25-49	50-74
60F3281	C281XDX100	24AC	170	6.47	6.15	5.82
60F3282	C281XDX100	120AC	4500	6.93	6.58	6.24
60F3284	C281XDX100	24DC	560	5.54	5.26	4.99
60F3285	C281XDX100	125DC	11,000	6.93	6.58	6.24

Type C281XDX320 4PDT Miniature Relay, 1-Amp Bifurcated Contacts, Solder/Plug-in

29F2728	C281XDX320	120AC	4500	9.01	8.56	8.11
29F2729	C281XDX320	12DC	150	7.62	7.24	6.86
29F2730	C281XDX320	24DC	560	7.62	7.24	6.86

Type C281XDX103 4PDT Miniature Relay, 3-Amp Silver Contacts, Printed Circuit

29F2734	C281XDX103	120AC	4500	6.93	6.58	6.24
29F2735	C281XDX103	12DC	150	5.54	5.26	4.99
29F2736	C281XDX103	24DC	560	5.54	5.26	4.99

Type C281XDX100M2 4PDT Min. Relay, 3-Amp Silver Contacts, Manual Operator

29F2737	C281XDX100M2	120AC	4500	7.10	6.74	6.38

Type C281XBX410 DPDT Miniature Relay, 10-Amp SCO Contacts, Solder/Plug-in

29F2738	C281XBX411	24AC	170	6.81	6.47	6.13
29F2739	C281XBX411	120AC	4500	7.28	6.92	6.55
29F2740	C281XBX411	24DC	650	5.89	5.60	5.30
29F2741	C281XBX411	125DC	11,000	7.39	7.02	6.65

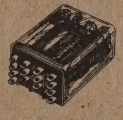
Type C281XBX413 DPDT Miniature Relay, 10-Amp SCO Contacts, Printed Circuit

29F2742	C281XBX413	120AC	4500	7.28	6.92	6.55
29F2743	C281XBX413	12DC	160	5.89	5.60	5.30
29F2744	C281XBX413	24DC	650	5.89	5.60	5.30

SOCKETS FOR C281 AND 282 RELAYS

Stock No.	Type No.	Termination	1-24	25-49	50-74
60F3286	32884	Solder (except 10A)	0.84	0.80	0.76
29F2745	39830	P.C. (except 10A)	0.84	0.80	0.76
29F2746	40050	Wire Wrap (except 10A)	0.84	0.80	0.76
29F2747	40051	Solder (10 Amp)	0.84	0.80	0.76
29F2748	41463	P.C. (10 Amp)	0.84	0.80	0.76

TYPE 284XDX 10-AMP RELAY



General purpose relay rated at 10 amps 120VAC. Clear plastic cover. Terminals pierced for solder connection or plugs into mating socket. 10,000,000 mechanical operations. 1-7/8 high x 1-1/2 x 15/16.

Type 284XDXC 4PDT, 10-Amp General Purpose Plug-in Relay

Stock No.	Type No.	Volts	Ohms	1-24	25-49	50-74
29F2749	284XDXC	120AC	870	10.28	9.77	9.25
29F2750	284XDXC	24DC	480	10.28	9.77	9.25
29F2751	284XDXC	125DC	8200	10.82	10.28	9.74

SOCKETS FOR TYPE 284 PLUG-IN RELAY

Stock No.	Type No.	Termination	1-24	25-49	50-74
29F2752	39080	Quick Connect	1.31	1.24	1.18
29F2753	39081	Solder	1.31	1.24	1.18
29F2754	39082	Printed Circuit	1.31	1.24	1.18

TYPE 292 OR 392 SENSITIVE RELAY

Requires only 125 mW per pole to operate. Contacts rated at 5 amps. Square base or octal type plug-in. SPDT, DPDT or 3PDT models available.

Type 292XBXC* Sensitive Relay—DPDT, 250 mW, Plug-in

Stock No.	Type No.	Ohms	mA	Contacts	1-24	25-49	50-74
29F2756	292XBXC	2500	10.0	DPDT	6.38	6.06	5.74
29F2757	292XBXC	5000	7.0	DPDT	6.59	6.26	5.93
29F2758	292XBXC	10,000	5.0	DPDT	6.71	6.37	6.04

Type 292XCXC* Sensitive Relay—3PDT, 375 mW, Plug-in

29F2759	292XCXC	2500	12.0	3PDT	7.52	7.14	6.77
29F2760	292XCXC	5000	8.5	3PDT	7.62	7.24	6.86
29F2761	292XCXC	10,000	6.0	3PDT	7.84	7.45	7.06

**Mates with sockets listed for A283 Relay on this page.*

Type 392XBX48P Sensitive Relay—DPDT, 250 mW, Octal Base

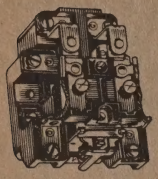
29F2762	392XBX48P	2500	10.0	DPDT	9.24	8.78	8.32
29F2763	392XBX48P	5000	7.0	DPDT	9.47	9.00	8.52
29F2764	392XBX48P	10,000	5.0	DPDT	9.59	9.11	8.63

Type 392XCX48P Sensitive Relay—3PDT, 375 mW, 11-Pin Base

29F2782	392XCX48P	2500	12.0	3PDT	11.96	11.36	10.76
29F2783	392XCX48P	5000	8.5	3PDT	12.08	11.48	10.87
29F2784	392XCX48P	10,000	6.0	3PDT	12.31	11.69	11.08

Struthers-Dunn Relays and Contactors

TYPE 425 30-AMP POWER RELAY



Suitable for all general purpose ON/OFF applications. Continuous duty coils. Resistive contact ratings: 30 amps at 28VDC or 120-240VAC; 10 amps at 600VAC. Motor load 1 HP at 120-240VAC (80% P.F.) Base 2-1/2 x 2-1/2, except 2-1/2 x 3-1/2 for models with auxiliary switch. Screw terminals standard. UL listed.

Type 425 General Purpose 30-Amp Power Relays

Stock No.	Type No.	Coil Volts	Contacts	1-24	25-49	50-74
67F600	425XAX	12AC	SPDT	5.99	5.69	5.39
67F601	425XAX	24AC	SPDT	5.99	5.69	5.39
67F602	425XAX	120AC	SPDT	5.99	5.69	5.39
67F603	425XAX	208AC	SPDT	6.62	6.29	5.96
67F604	425XAX	240AC	SPDT	6.62	6.29	5.96
67F605	425XAX	12DC	SPDT	5.99	5.69	5.39
67F606	425XAX	24DC	SPDT	5.99	5.69	5.39
67F607	425XAX	125DC	SPDT	6.83	6.49	6.15
67F608	425HXX2	12AC	SP-NO-DM	6.72	6.38	6.05
67F609	425HXX2	24AC	SP-NO-DM	6.72	6.38	6.05
67F610	425HXX2	120AC	SP-NO-DM	6.72	6.38	6.05
67F611	425HXX2	208AC	SP-NO-DM	7.35	6.93	6.62
67F612	425HXX2	240AC	SP-NO-DM	7.35	6.98	6.62
67F613	425HXX2	12DC	SP-NO-DM	6.72	6.38	6.05
67F614	425HXX2	24DC	SP-NO-DM	6.72	6.38	6.05
67F615	425HXX2	125DC	SP-NO-DM	7.67	7.29	6.90
67F616	425BXX	12AC	DPST-NO	6.72	6.38	6.05
67F617	425BXX	24AC	DPST-NO	6.72	6.38	6.05
67F618	425BXX	120AC	DPST-NO	6.72	6.38	6.05
67F619	425BXX	208AC	DPST-NO	7.35	6.98	6.62
67F620	425BXX	240AC	DPST-NO	7.35	6.98	6.62
67F621	425BXX	12DC	DPST-NO	6.72	6.38	6.05
67F622	425BXX	24DC	DPST-NO	6.72	6.38	6.05
67F623	425BXX	125DC	DPST-NO	7.67	7.29	6.90
67F624	425XBX	12AC	DPDT	8.93	8.48	8.04
67F625	425XBX	24AC	DPDT	8.93	8.48	8.04
67F626	425XBX	120AC	DPDT	8.93	8.48	8.04
67F627	425XBX	208AC	DPDT	9.66	9.18	8.69
67F628	425XBX	240AC	DPDT	9.66	9.18	8.69
67F629	425XBX	12DC	DPDT	8.93	8.48	8.04
67F630	425XBX	24DC	DPDT	8.93	8.48	8.04
67F631	425XBX	125DC	DPDT	9.66	9.18	8.69
67F632	425XBX90*	12AC	DPDT*	11.29	10.73	10.16
67F633	425XBX90*	24AC	DPDT*	11.29	10.73	10.16
67F634	425XBX90*	120AC	DPDT*	11.29	10.73	10.16
67F635	425XBX90*	208AC	DPDT*	12.02	11.42	10.82
67F636	425XBX90*	240AC	DPDT*	12.02	11.42	10.82

**SPDT Auxiliary Contacts*

TYPE 415XBX DPDT COMPACT POWER RELAYS

DPDT contacts rated at 15 amperes, 120-VAC. Motor load 1/2 HP at 120VAC. Screw terminals for two No. 14 wires. Epoxy encapsulated coil. 20,000,000 mechanical operations. 1-3/4 high x 1-7/8 x 2-3/4. Wt. 8 oz. UL listed.

Stock No.	Type No.	Contacts	Volts	1-49	50-99	100-249
60F3129	415XBX	DPDT	24DC	12.92	11.63	10.33
60F3130	415XBX	DPDT	125DC	12.92	11.63	10.33
60F3128	415XBX	DPDT	120AC	12.92	11.63	10.33

TYPE B1 OPEN-TYPE MIDGET RELAY

Resistive rating 6 amps at 24 or 120VAC or 24VDC; 3 amps at 240VAC or 0.5 amps at 115VDC. Inrush, motor, or lamp loads should not exceed 20 amperes. Insulation spacing meets UL requirements for 300 volts. Base 1-7/8 x 2-3/4. Wt. 1 pound.

Type B1 Midget Relay – 120VAC

Stock No.	Type No.	Contacts	1-49	50-99	100-249
60F3118	B1HXX	SP-NO-DB	17.45	15.71	13.96
60F3119	B1XAX*	SPDT	19.71	17.74	15.77
60F3120	B1XBX*	DPDT	24.25	21.83	19.40

**UL and CSA Listed.*

TYPE 8 OPEN-TYPE INDUSTRIAL POWER RELAY

Single break contacts rated at 30 amps, at 24VAC, 120VAC, or 240VAC; or 24VDC; 3 amps at 115VDC or 3/4 amp at 230VDC. 600 volt, electrical spacing. Stud terminals. 3 x 4-1/4 base, wt, 1 lb. UL and CSA listed.

Type 8 Open-Type 30-Amp Power Relay – 120 VAC

Stock No.	Type No.	Contacts	1-49	50-99	100-249
60F3121	88XX	DP-NO	40.22	36.20	32.18
60F3123	A8CXX	3P-NO	45.32	40.79	36.26

TYPE B11 6-AMP SEQUENCE RELAY

Cam-operated contacts repeat predetermined sequence as coil is energized and de-energized. DPST contacts open and close together in Type B11BXX. The contacts open and close alternately in Type B11AXA. Rated at 6 amps for 120VAC or 24VDC. 3 amps at 240VAC and 1/2 amp at 115VDC. Eight-tooth ratchets. Stud terminals. Base is 2 x 3-3/4 inch. Wt. 1 lb. CSA listed.

Type B11 6-Amp Sequence Relay – 120VAC

Stock No.	Type No.	Contacts	Cont. Transfer	1-49	50-99	100-249
60F3124	B11BXX	DP-NO	Together	46.91	42.22	37.53
60F3125	B11AXA	1 NO, 1 NC	Alternately	46.91	42.22	37.53

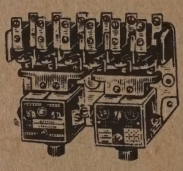
TYPE C85 POWER SEQUENCE RELAY

Cam operated contacts repeat predetermined sequence as coil is energized and de-energized. Contacts open and close alternately. Contacts rated at 20 amps, 120VAC. Eight-tooth ratchets. Stud terminals. Base is 3 x 5. Wt. 1 lb. CSA listed.

Type C85AXA 20-Amp Sequence Relay – 120VAC

Stock No.	Type No.	Contacts	Cont. Transfer	1-49	50-99	100-249
60F3127	C85AXA	1 NO, 1NC	Alternately	73.98	66.58	59.18

TYPE B175KXX 3HP REVERSING CONTACTOR



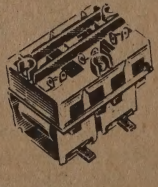
Controls reversal of AC/DC motors. Withstands frequent jogging service, shock and vibration. Two 3PDB contactors mounted on single frame. Mechanically interlocked to prevent simultaneous closure. Two HP at 120-240VAC 2-3 phase; 3 HP at 440-450 VAC 2-3 phase, 1 HP at 120VAC, 1-1/2 HP at 240VAC single phase. 5-1/4 x 4-7/16 x 3. Wt. 2-1/2 lbs. UL and CSA listed.

Type B175KXX Reversing Contactor – 3 HP, 3P-NO-DB

Stock No.	Type No.	Coil-Volts	1-49	50-99	100-249
67F637	B175KXX90*	24AC	45.32	40.79	36.26
67F638	B175KXX90*	120AC	45.32	40.79	36.26
67F639	B175KXX90*	240AC	45.32	40.79	36.26
60F3174	B175KXX	24AC	38.73	34.86	30.98
60F3175	B175KXX	120AC	38.73	34.86	30.98
60F3176	B175KXX	240AC	38.73	34.86	30.98

**2 SPDT Auxiliary contacts for coil interlock or electrical lockup.*

TYPE 275KXX COMPACT REVERSING CONTACTOR



Controls reversal of AC motors. For continuous heavy duty service. Two 3PDB contactors mounted on a single frame. Mechanically interlocked to prevent simultaneous closure. Rated at 120VAC 1, 2 or 3 phase for 1 HP (15 amps) or 480VAC 3 phase for 1 HP (5 amps). 0.250" tab terminals. 2-3/16 x 2-7/8 x 3-7/32. UL and CSA listed.

Type A275KXX Compact Reversing Contactor – 1 HP, 3P-NO-DB

Stock No.	Type No.	Coil-Volts	1-49	50-99	100-249
60F3177	A275KXX	24AC	22.15	19.94	17.72
60F3178	A275KXX	120AC	22.15	19.94	17.72
60F3179	A275KXX	240AC	22.15	19.94	17.72
60F3062	A275KXX91*	24AC	26.68	24.01	21.34
60F3063	A275KXX91*	120AC	26.68	24.01	21.34
60F3064	A275KXX91*	240AC	26.68	24.01	21.34

**Two DPDT Auxiliary Contacts for coil interlock or electrical lockup.*

Struthers-Dunn Reed Relays

S-D

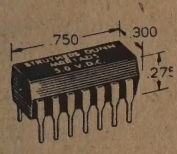
BASIC CHARACTERISTICS

Contamination-proof, glass-sealed reed switches, non-critical mounting, and complete magnetic shielding for exceptionally fast low-level and light duty switching. Most are available with either miniature or standard size reed switches, in a wide selection of Form A (SPST-NO), Form B (SPST-NC), or Form C (SPDT) contact arrangements. NOTES: (1) Voltage current and power ratings are independent maximums and no single value is to be exceeded. (2) Operate & Release times do not include bounce time, which is shown separately.

Insulation Resistance: 1,000 megohms, min.
Operating Ambient Range: −20° to +60°C
Dielectric Strength: Min. 250V rms. Stand. 400V rms.

	MINIATURE SWITCHES			STANDARD SWITCHES		
	Form A	Form B	Form C	Form A	Form B	Form C
Maximum Ratings (1)—ac or dc resistive loads without inrush						
Volts	250	250	100	250	250	250
Amperes	0.500	0.500	0.250	1.0	1.0	0.5
Volt Amperes	10	10	3	15	15	10
Performance Time — milliseconds, max.						
Operate Time (2)	0.5–1.5	0.5–1.5	0.5–1.5	1.5–2.0	1.5–2.0	1.5–2.0
Release Time (2)	0.5–1.5	0.5–1.5	0.5–1.5	0.5–1.5	0.5–1.5	0.5–1.5
Bounce on Operate	0.5	—	0.5	0.5	—	4.0
Bounce on Release	—	0.5	2.0	—	0.5	4.0
Life Expectancy — millions of operations						
Dry circuit	200	200	50	200	200	200
Half rating	20	20	20	100	100	50
Full rating	10	10	10	20	20	20

TYPE MRR-D DUAL-IN-LINE REED RELAYS
TYPE MRRQ SINGLE-IN-LINE REED RELAYS



Truly compatible with dual-in-line IC's including size and operating sensitivities that eliminate or minimize interface buttering. Pin spacing is industry standard for 14 pin dual-in-line IC's. 4.5 volt must operate at 40 MW at 25°C. Height above PC Board is .275". Contact rated at 10 VA max, .250 Amp max, 100 volt max. Wt. 1 oz.

DUAL-IN-LINE REED RELAY, 14-PIN CASE

Stock No.	Type No.	Contacts	Volts DC	Ohms	1-24	25-49	50-74
60F3800	MRR1ADSR	1A	5	500	3.68	3.50	3.31
60F3801	MRR1ADS	1A	5	360	3.15	2.99	2.84
60F3802	MRR1ADS	1A	12	1440	3.15	2.99	2.84
29F2771	MRR1BDS	1B	5	125	5.25	4.99	4.73
29F2772	MRR1BDS	1B	12	500	5.25	4.99	4.73
29F2773	MRR1CDL	1C	5	100	6.30	5.99	5.67
29F2774	MRR1CDL	1C	12	500	6.30	5.99	5.67
29F2775	MRR2ADLX	2A	5	125	5.25	4.99	4.73
29F2776	MRR2ADLX	2A	12	500	5.25	4.99	4.73

DUAL-IN-LINE REED RELAY, 8-PIN CASE

Stock No.	Type No.	Contacts	Volts DC	Ohms	1-24	25-49	50-74
29F2777	MRR1ADS8	1A	5	360	3.15	2.99	2.84
29F2778	MRR1ADS8	1A	12	1440	3.15	2.99	2.84
29F2779	MRR1BDS8	1B	5	125	5.25	4.99	4.73
29F2780	MRR1BDS8	1B	12	500	5.25	4.99	4.73
29F2781	MRR1CDL8	1C	5	100	6.30	5.99	5.67
29F2799	MRR1CDL8	1C	12	500	6.30	5.99	5.67
29F2800	MRR1ADLX8	2A	5	125	5.25	4.99	4.73
29F2801	MRR1ADLX8	2A	12	500	5.25	4.99	4.73

SINGLE-IN-LINE REED RELAY, 4-PIN CASE

Stock No.	Type No.	Contacts	Volts DC	Ohms	1-24	25-49	50-74
29F2802	MRRQ1AR	1A	5	500	4.99	4.74	4.49
29F2803	MRRQ1AR	1A	12	1000	4.99	4.74	4.49
29F2804	MRRQ1A	1A	5	200	3.89	3.70	3.50
29F2805	MRRQ1A	1A	12	500	3.89	3.70	3.50
29F2806	MRRQ1BR	1B	5	500	7.14	6.78	6.43
29F2807	MRRQ1BR	1B	12	1000	7.14	6.78	6.43
29F2808	MRRQ1B	1B	5	200	6.09	5.79	5.48
29F2809	MRRQ1B	1B	12	500	6.09	5.79	5.48

MR-Y ENCAPSULATED REED RELAYS

End pin termination on 1-inch centers. 0.100 or 0.150 inch pin spacing. Form A and Form B contacts rated 10 watts max at 200 volts max or 0.5 amps max. Form C contacts rated 3 watts at 28 volts max or 0.250 amps max. Electrostatic shielding and/or internal clamping diode are available. 1" x 0.4" x 0.312" high above PC board.

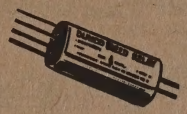
MOLDED CASE REED RELAYS — AXIAL LEADS — 0.100" GRID SPACING

Stock No.	Type No.	Contacts	Volts DC	Ohms	1-24	25-49	50-74
29F2785	MR30Y1A	1A	5	150	3.15	2.99	2.84
29F2786	MR30Y1A	1A	12	575	3.15	2.99	2.84
29F2787	MR30Y1B	1B	5	150	5.25	4.99	4.73
29F2788	MR30Y1B	1B	12	575	5.25	4.99	4.73
29F2789	MR30Y1C	1C	5	150	6.30	5.99	5.67
29F2790	MR30Y1C	1C	12	575	6.30	5.99	5.67
29F2791	MR30Y2A	2A	5	80	5.25	4.99	4.73
29F2792	MR30Y2A	2A	12	320	5.25	4.99	4.73
29F2793	MR30Y2C	2C	5	80	10.50	9.98	9.45
29F2794	MR30Y2C	2C	12	320	10.50	9.98	9.45

MOLDED CASE REED RELAYS — AXIAL LEADS — 0.150" GRID SPACING

Stock No.	Type No.	Contacts	Volts DC	Ohms	1-24	25-49	50-74
29F2795	MR35Y1A	1A	5	150	3.15	2.99	2.84
29F2796	MR35Y1A	1A	12	575	3.15	2.99	2.84
29F2797	MR35Y1B	1B	5	150	5.25	4.99	4.73
29F2798	MR35Y1B	1B	12	575	5.25	4.99	4.73
29F2765	MR35Y1C	1C	5	150	6.30	5.99	5.67
29F2766	MR35Y1C	1C	12	575	6.30	5.99	5.67
29F2767	MR35Y2A	2A	5	80	5.25	4.99	4.73
29F2768	MR35Y2A	2A	12	320	5.25	4.99	4.73
29F2769	MR35Y2C	2C	5	80	10.50	9.98	9.45
29F2770	MR35Y2C	2C	12	320	10.50	9.98	9.45

TYPE MRR MINIATURE MOLDED SHIELD REEDS



Operating time is .5–2.5 msec. Release time less than 0.3 msec. Insulation resistance: 10,000 megs. MRR1A, 1 Form A, N.O.; .425" dia. x 1.062". MRR2A, 2 Form A, N.O.; .424x.515x1.062". MRR4A 4 Form A, N.O.; .53x.810x1.062". Wt. 2 oz.

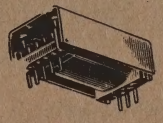
Stock No.	Type No.	Contacts	VDC	Ohms	1-24	25-49	50-74
60F3154	MRR1A	1A	6	288	4.84	4.60	4.36
60F3155	MRR1A	1A	12	1152	4.84	4.60	4.36
60F3156	MRR1A	1A	24	4600	7.11	6.75	6.40
60F3157	MRR2A	2A	6	144	7.11	6.75	6.40
60F3158	MRR2A	2A	12	576	7.11	6.75	6.40
60F3159	MRR2A	2A	24	2300	8.81	8.37	7.93

TYPE RR STANDARD MOLDED REED RELAYS

Axial leads, encapsulated with wrap around shielding. Operating time: .5 to 2.5 milliseconds, 10,000 megohms insulating res. Contact arrangement indicated by type numbers as follows: RR1A (1 Form A) and RR1B (1 Form B), .655" dia. x 1.875"; RR2A (2 Form A), .67 x .84 x 1.875". Shpg. wt. 4 oz.

Stock No.	Type No.	Contacts	VDC	Ohms	1-24	25-49	50-74
60F3133	RR1A	1A	6	90	3.71	3.52	3.34
60F3134	RR1A	1A	12	360	3.71	3.52	3.34
60F3135	RR1A	1A	24	1440	3.71	3.52	3.34
60F3136	RR1B	1B	12	360	4.74	4.50	4.27
60F3137	RR1B	1B	24	1440	4.74	4.50	4.27
60F3138	RR2A	2A	6	36	5.72	5.43	5.15
60F3139	RR2A	2A	12	145	5.72	5.43	5.15
60F3140	RR2A	2A	24	580	5.72	5.43	5.15

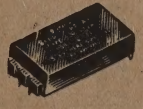
TYPE MRRN MINIATURE OPEN-TYPE REED RELAYS



Low cost open dry reed relay designed for applications requiring reliability over long life. Snap-on metal covers for magnetic shielding. Contacts rated for low level to 12 volt-amperes. Non-magnetic P/C in-line terminals on 0.1" grid spacing. Size: 1⅛" long by ⅜" above the mounting board.

Stock No.	Type No.	Contacts	VDC	Ohms	1-24	25-49	50-74
60F3088	MRRN1A	1A	12	750	3.89	3.70	3.50
60F3089	MRRN2A	2A	12	500	5.46	5.19	4.91
60F3090	MRRN3A	3A	12	400	7.46	7.09	6.71
60F3091	MRRN4A	4A	12	250	9.29	8.83	8.36
60F3092	MRRN1C	1C	12	750	7.56	7.18	6.80
60F3093	MRRN2C	2C	12	400	11.03	10.48	9.93
60F3094	MRRN1A	1A	24	3000	4.31	4.09	3.88
60F3095	MRRN2A	2A	24	2000	5.83	5.54	5.25
60F3096	MRRN3A	3A	24	1600	7.46	7.09	6.71
60F3097	MRRN4A	4A	24	1000	9.29	8.83	8.36
60F3098	MRRN1C	1C	24	3000	7.56	7.18	6.80
60F3099	MRRN2C	2C	24	1600	11.03	10.48	9.93

TYPE MRRS LOW PROFILE P.C. REED RELAYS



Shielded internally. Maximum environmental protection. Rated at 10 watts. Ambient temp. 0° to 50°C. Shock resistance 50g. 200,000,000 mechanical operations. Standard 0.172" grid spacing. Right angle leads. Insulation resistance 100 megohms. 1.3" long x 0.35" high above PC board. Wt. 4 oz.

Stock No.	Type No.	Contacts	VDC	Ohms	1-24	25-49	50-74
60F3206	MRRS1A	1A	12	576	5.05	4.80	4.55
60F3207	MRRS1A	1A	24	2300	5.05	4.80	4.55
60F3202	MRRS2A	2A	12	380	7.00	6.65	6.30
60F3203	MRRS2A	2A	24	1440	7.00	6.65	6.30
60F3204	MRRS4A	4A	12	125	8.81	8.37	7.93
60F3205	MRRS4A	4A	24	500	8.81	8.37	7.93

Struthers-Dunn Time Delay Relays

TYPE 286 SQUARE BASE DELAY-ON-OPERATE RELAY*
TYPE 287 SQUARE BASE DELAY-ON-RELEASE RELAY*

Hybrid thick film timing element. Type 286 delays transfer of contacts when energized. Type 287 delays transfer of contacts when de-energized. Transient protection for 20 microsecond peaks of ±2000V. Timing available: Fixed, remote adjustment, or adjustable 0.1 to 1, 0.2 to 2, 1 to 10, 3 to 30, 6 to 60, 18 to 180 or 30 to 300 seconds. SPDT, DPDT, or 3PDT. Plug-in, bracket mount, or stud mount. Stock items are enclosed plug-in, 0.1 to 1, 3 to 30, and 30-300 second adjustable timing. Accuracy ±10% with ±3% repeatability. Contacts rated at 10 amps, 120VAC.

Type 286XBXC DPDT 10-Amp Delay-on-Operate (Square Base)

Stock No.	Type No.	Volts	Seconds	Contacts	1-24	25-49
29F2810	286XBXC-001	24AC	0.1-1	DPDT	21.09	20.04
29F2811	286XBXC-001	120AC	0.1-1	DPDT	21.09	20.04
29F2812	286XBXC-001	24DC	0.1-1	DPDT	21.09	20.04
29F2813	286XBXC-030	24AC	3-30	DPDT	21.09	20.04
29F2814	286XBXC-030	120AC	3-30	DPDT	21.09	20.04
29F2815	286XBXC-030	24DC	3-30	DPDT	21.09	20.04
29F2816	286XBXC-300	24AC	30-300	DPDT	21.09	20.04
29F2817	286XBXC-300	120AC	30-300	DPDT	21.09	20.04
29F2818	286XBXC-300	24DC	30-300	DPDT	21.09	20.04

Type 286XCXC 3PDT, 10-Amp Delay-on-Operate (Square Base)

29F2819	286XCXC-001	24AC	0.1-1	3PDT	21.36	20.29
29F2820	286XCXC-001	120AC	0.1-1	3PDT	21.36	20.29
29F2821	286XCXC-001	24DC	0.1-1	3PDT	21.36	20.29
29F2822	286XCXC-030	24AC	3-30	3PDT	21.36	20.29
29F2823	286XCXC-030	120AC	3-30	3PDT	21.36	20.29
29F2824	286XCXC-030	24DC	3-30	3PDT	21.36	20.29
29F2825	286XCXC-300	24AC	30-300	3PDT	21.36	20.29
29F2826	286XCXC-300	120AC	30-300	3PDT	21.36	20.29
29F2827	286XCXC-300	24DC	30-300	3PDT	21.36	20.29

Type 287XBXC DPDT, 10-Amp Delay-on-Release (Square Base)

29F2828	287XBXC-001	24AC	0.1-1	DPDT	36.75	34.91
29F2829	287XBXC-001	120AC	0.1-1	DPDT	36.75	34.91
29F2830	287XBXC-001	24DC	0.1-1	DPDT	36.75	34.91
29F2831	287XBXC-300	24AC	30-300	DPDT	36.75	34.91
29F2832	287XBXC-300	120AC	30-300	DPDT	36.75	34.91
29F2833	287XBXC-300	24DC	30-300	DPDT	36.75	34.91

Type 287XCXC 3PDT, 10-Amp Delay-on-Release (Square Base)

29F2834	287XCXC-001	24AC	0.1-1	3PDT	36.91	35.06
29F2835	287XCXC-001	120AC	0.1-1	3PDT	36.91	35.06
29F2836	287XCXC-001	24DC	0.1-1	3PDT	36.91	35.06
29F2837	287XCXC-300	24AC	30-300	3PDT	36.91	35.06
29F2838	287XCXC-300	120AC	30-300	3PDT	36.91	35.06
29F2839	287XCXC-300	24DC	30-300	3PDT	36.91	35.06

See page 337 for sockets (A283).

TYPE 282 MINIATURE DELAY-ON-OPERATE RELAY**

Hybrid thick film timing element. Contacts transfer after preset delay when relay is energized. Transient protection for 20 microsecond peaks of ±2000V. Contacts 4PDT, 3 amps or DPDT, 10 amp. Timing available: Fixed, remote adjustment or adjustable 0.1 to 1, 0.2 to 2, 1 to 10, 3 to 30, 6 to 60, 18 to 180, or 30 to 300 seconds. Stock items are adjustable 0.1 to 1, 3 to 30, and 30 to 300 seconds. Accuracy ±10% with ±3% repeatability.

Type 282XDX100 4PDT, 3-Amp Delay-on-Operate (Miniature)

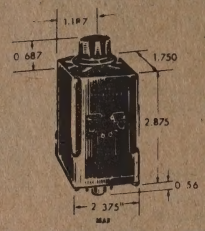
Stock No.	Type No.	Volts	Seconds	Contacts	1-24	25-49
29F2840	282XDX100-001	24AC	0.1-1	4PDT	22.52	21.39
29F2841	282XDX100-001	120AC	0.1-1	4PDT	22.52	21.39
29F2842	282XDX100-001	24DC	0.1-1	4PDT	22.52	21.39
29F2843	282XDX100-030	24AC	3-30	4PDT	22.52	21.39
29F2844	282XDX100-030	120AC	3-30	4PDT	22.52	21.39
29F2845	282XDX100-030	24DC	3-30	4PDT	22.52	21.39
29F2846	282XDX100-300	24AC	30-300	4PDT	22.52	21.39
29F2847	282XDX100-300	120AC	30-300	4PDT	22.52	21.39
29F2848	282XDX-100-300	24DC	30-300	4PDT	22.52	21.39

Type 282XBX410 DPDT, 10-Amp Delay-on-Operate (Miniature)

29F2849	282XBX411-001	24AC	0.1-1	DPDT	23.10	21.95
29F2850	282XBX411-001	120AC	0.1-1	DPDT	23.10	21.95
29F2851	282XBX411-001	24DC	0.1-1	DPDT	23.10	21.95
29F2852	282XBX411-300	24AC	30-300	DPDT	23.10	21.95
29F2853	282XBX411-300	120AC	30-300	DPDT	23.10	21.95
29F2854	282XBX411-300	24DC	30-300	DPDT	23.10	21.95

**See page 337 for sockets (C281).*

TYPE 45 OCTAL BASE DELAY-ON-OPERATE RELAY
TYPE 42 OCTAL BASE DELAY-ON-RELEASE RELAY



Solid state timing network with transient protection. Type 45 contacts transfer after pre-set delay when energized. Type 42 contacts transfer after pre-set delay when de-energized. Accuracy ±10% with ±2% repeatability. DPDT 10-amp contacts. NOTE: Power interruption during timing may cause momentary transfer of contacts.

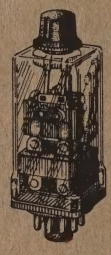
Type 42 Delay-on-Release, DPDT Relay, 10 Amps

Stock No.	Type No.	Coil	Seconds	Contacts	1-24	25-49
67F681	42-010	120VAC	0.1-10	DPDT	29.93	28.43
67F682	42-010	24VAC	0.1-10	DPDT	29.93	28.43
67F683	42-010	48VDC	0.1-10	DPDT	27.41	26.04
67F684	42-010	24VDC	0.1-10	DPDT	27.41	26.04
67F685	42-060	120VAC	0.6-60	DPDT	29.93	28.43
67F686	42-060	24VAC	0.6-60	DPDT	29.93	28.43
67F687	42-060	48VDC	0.6-60	DPDT	27.41	26.04
67F688	42-060	24VDC	0.6-60	DPDT	27.41	26.04
67F689	42-180	120VAC	1.8-180	DPDT	29.93	28.43
67F690	42-180	24VAC	1.8-180	DPDT	29.93	28.43
67F691	42-180	48VDC	1.8-180	DPDT	27.41	26.04
67F692	42-180	24VDC	1.8-180	DPDT	27.41	26.04

Type 45 Delay-on-Operate, DPDT Relay, 10 Amps

67F693	45-010	120VAC	0.1-10	DPDT	24.89	23.65
67F694	45-010	24VAC	0.1-10	DPDT	24.89	23.65
67F695	45-010	48VDC	0.1-10	DPDT	23.63	22.45
67F696	45-010	24VDC	0.1-10	DPDT	23.63	22.45
67F697	45-060	120VAC	0.6-60	DPDT	24.89	23.65
67F698	45-060	24VAC	0.6-60	DPDT	24.89	23.65
67F699	45-060	48VDC	0.6-60	DPDT	23.63	22.45
67F700	45-060	24VDC	0.6-60	DPDT	23.63	22.45
67F701	45-180	120VAC	1.8-180	DPDT	24.89	23.65
67F702	45-180	24VAC	1.8-180	DPDT	24.89	23.65
67F703	45-180	48VDC	1.8-180	DPDT	23.63	22.45
67F704	45-180	24VDC	1.8-180	DPDT	23.63	22.45

TYPE 326 OCTAL BASE DELAY-ON-OPERATE RELAY



Hybrid thick film timing element. Contacts transfer after pre-set delay when energized. Timing available: fixed, remote adjustment, or adjustable 0.1 to 1, 0.2 to 2, 1 to 10, 3 to 30, 6 to 60, 18 to 180 or 30 to 300 seconds. SPDT, DPDT, or 3PDT contacts. Stock items are DPDT or 3PDT with 0.1 to 1, 3 to 30 or 30 to 300 second timing. Accuracy ±10% with ±3% repeatability. Rated at 10 amps, 120VAC. Transient protection for 20 microsecond peaks of ±2000V. No false transfer of contacts if power is interrupted during timing.

Type 326XBX48P DPDT, 10-Amp Delay-on-Operate (Octal Plug-in)

Stock No.	Type No.	Volts	Seconds	Contacts	1-24	25-49
29F2855	326XBX48P-001	24AC	0.1-1	DPDT	23.85	22.66
29F2856	326XBX48P-001	120AC	0.1-1	DPDT	23.85	22.66
29F2857	326XBX48P-001	24DC	0.1-1	DPDT	23.85	22.66
29F2858	326XBX48P-030	24AC	3-30	DPDT	23.85	22.66
29F2859	326XBX48P-030	120AC	3-30	DPDT	23.85	22.66
29F2860	326XBX48P-030	24DC	3-30	DPDT	23.85	22.66
29F2861	326XBX48P-300	24AC	30-300	DPDT	23.85	22.66
29F2862	326XBX48P-300	120AC	30-300	DPDT	23.85	22.66
29F2863	326XBX48P-300	24DC	30-300	DPDT	23.85	22.66

Type 326XCX48P 3PDT, 10-Amp Delay-on-Operate (11-pin Plug-in)

29F2864	326XCX48P-001	24AC	0.1-1	3PDT	25.16	23.90
29F2865	326XCX48P-001	120AC	0.1-1	3PDT	25.16	23.90
29F2866	326XCX48P-001	24DC	0.1-1	3PDT	25.16	23.90
29F2867	326XCX48P-030	24AC	3-30	3PDT	25.16	23.90
29F2868	326XCX48P-030	120AC	3-30	3PDT	25.16	23.90
29F2869	326XCX48P-030	24DC	3-30	3PDT	25.16	23.90
29F2870	326XCX48P-300	24AC	30-300	3PDT	25.16	23.90
29F2871	326XCX48P-300	120AC	30-300	3PDT	25.16	23.90
29F2872	326XCX48P-300	24DC	30-300	3PDT	25.16	23.90

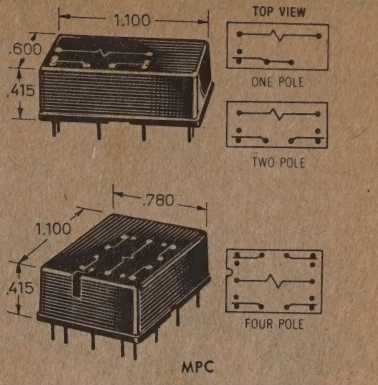
Allied Control Relays

GOULD

MINIATURE PRINTED CIRCUIT RELAYS

Series MPC. Low profile, high density packaging with unique hingeless armature for long life. Gold plated silver contacts for switching low level up to 2 amps (50 watts max. per pole). Interlocking housing provides maximum protection from contamination and increases reliability.

Stock No.	Type	Coil Input VDC	Coil Resis. Ohms	Coil Power mW	Contacts	1-24	25-499	500-999	1000-2499
11F370	MPC-1C	6	50	720	1PDT	2.94	2.67	2.10	1.76
11F371	MPC-1C	12	200	720	1PDT	2.94	2.67	2.10	1.76
11F372	MPC-1C	24	800	720	1PDT	3.09	2.78	2.16	1.85
11F373	MPC-2C	6	50	720	2PDT	3.88	3.49	2.71	2.33
11F374	MPC-2C	12	200	720	2PDT	3.88	3.49	2.71	2.33
11F375	MPC-2C	24	800	720	2PDT	3.99	3.59	2.79	2.39
11F376	MPC-2C	48	3200	720	2PDT	3.99	3.59	2.79	2.39
11F377	MPC-4C	6	38	960	4PDT	4.72	4.25	3.30	2.83
11F378	MPC-4C	12	150	960	4PDT	4.72	4.25	3.30	2.83
11F379	MPC-4C	24	600	960	4PDT	4.78	4.31	3.34	2.85
11F380	MPC-4C	48	2400	960	4PDT	4.78	4.31	3.34	2.85



MILITARY RELAYS

Series WKJ. High performance. Bifurcated contacts make relay ideal for dry circuit loads up to 3 amp. All welded construction. **Series WKJ,** MIL-R-5757/10 as applicable. **Series WJS,** MIL-R-5757/13 as applicable. **Series S,** half-size crystal can, MIL-R-5757/9 as applicable.

CRYSTAL CAN/SERIES WKJ

Stock No.	Type	Con. Rtg.	Cont.	Coils Input	Coils Coil Resist.	1-9	10-49	50-99	100-499
11F381	WKJ-6D	3 amp	DPDT	26.5 VDC	600	12.76	11.48	9.57	8.93

SENSITIVE, LONG CRYSTAL CAN/SERIES WJS

59F667	WJS-6D	3 amp	DPDT	4.0 mADC	2,500	14.46	13.02	10.84	10.13

½ SIZE CRYSTAL CAN/SERIES S

59F1246	S6A1	2 amp	DPDT	26.5 VDC	700	12.75	11.47	9.56	8.92

MILITARY RELAYS/MINIATURE ROUND CAN STYLE

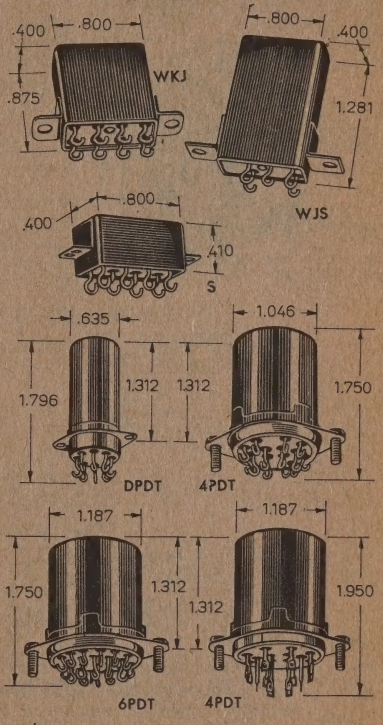
5 AMP/SERIES MH/MHB/MHJ

CRYSTAL CAN STYLE

Stock No.	Type	Cont.	Coils Input	Coils Resist.	1-9	10-49	50-99	100-499
59F439	MH-6D	2PDT	26.5 VDC	400	16.64	15.01	12.49	11.65
59F440	MH-12D	4PDT	26.5 VDC	300	24.99	22.49	18.74	17.49
59F441	MH-18D	6PDT	26.5 VDC	200	30.45	27.40	22.83	21.31
59F442	MHB-6D	2PDT	26.5 VDC	325	16.64	15.01	12.49	11.65
59F444	MHB-18D	6PDT	26.5 VDC	200	30.45	27.40	22.83	21.31
11F382	MHJ-12D	4PDT	26.5 VDC	250	27.72	24.94	20.79	19.40
11F383	MHJ-18D	6PDT	26.5 VDC	200	30.45	27.40	22.83	21.31

ROUND CAN STYLE—10 AMP

11F384	MHY-12D	4PDT	26.5 VDC	200	29.66	26.69	22.24	20.75



INDUSTRIAL COMMERCIAL RELAYS

BOT/BOY SERIES—OPEN FRAME

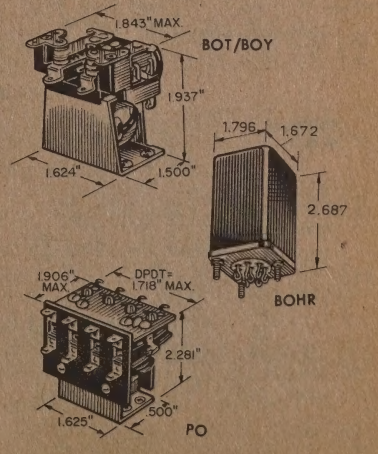
Stock No.	Type	Contacts	Coil Input	Coil Resist.	1-9	10-49	50-99	100-499
59F405	BOT-6A	DPDT	24 VAC	17	8.13	7.31	6.10	5.69
59F406	BOT-6A	DPDT	115 VAC	445	8.13	7.31	6.10	5.69
59F409	BOT-6D	DPDT	12 VDC	70	7.82	7.03	5.88	5.51
59F410	BOT-6D	DPDT	26.5 VDC	230	7.82	7.03	5.88	5.51
59F411	BOT-6D	DPDT	110/120 VDC	5,000	7.82	7.03	5.88	5.51
11F385	BOY-6D	DPDT	87 VDC	10,000	10.60	9.54	7.94	7.42

BOHR SERIES—HERMETICALLY SEALED

59F412	BOHR-6A	DPDT	110/120 VAC	445	17.85	16.06	13.38	12.49
59F413	BOHR-6D	DPDT	26.5 VDC	230	17.11	15.40	12.83	11.98

PO SERIES—OPEN FRAME, HEAVY DUTY

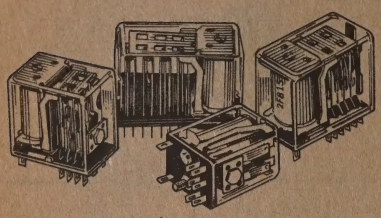
11F386	PO-6A	DPDT	24 VAC	1.5	9.45	8.50	7.08	6.61
59F450	PO-9A	3PDT	110/120 VAC	145	10.29	9.29	7.71	7.24
11F387	PO-12A	4PDT	24 VAC	8	11.70	10.53	8.77	8.19
59F454	PO-12A	4PDT	110/120 VAC	145	11.70	10.53	8.77	8.19
11F388	PO-6D	DPDT	26.5 VDC	230	9.30	8.13	6.77	6.35
59F456	PO-12D	4PDT	26.5 VDC	230	11.28	10.15	8.46	7.89

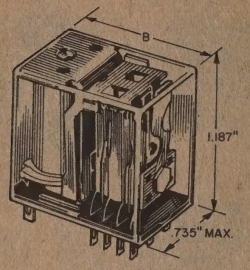


GOULD Allied Control Cradle Series Relays

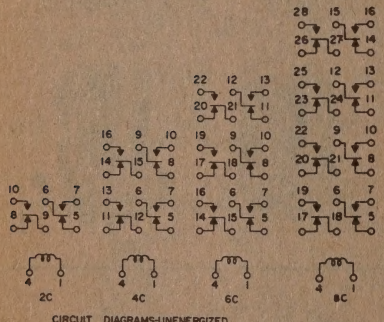
VOLTAGE ADJUSTED—DC RELAYS

Industrial relays with versatile mounting means including solder, printed circuit board and socket options. Sensitivity selection to match applications ranging from 20 to 140 mW per pole. Contact selection to match load switching requirements. U/L Recognized File #E206041. Voltage relays adjusted for maximum pickup of 75% of nominal coil voltage. Wt. 1.0 to 6.0 ounces.





DIMENSION B	
2C	.937
4C	1.172
6C	1.391
8C	1.594



CIRCUIT DIAGRAMS-UNENERGIZED

T-154 STANDARD/SINGLE POINT CONTACTS

Contact arrangement specified in Type No. Example: 2C indicates 2 Form C.

Solder/Plug In		PC Mount		Coils					
Stk. No.	Type	Stk. No.	Type	Res. in Ohms	Nom. Power	1-9	10-49	50-99	100-499
59F459	T154-2C-6VDC			52	690mW				
59F460	T154-2C-12VDC	11F302	TP154-2C-12VDC	185	690mW	3.88	3.49	2.90	2.71
59F461	T154-2C-24VDC	11F303	TP154-2C-24VDC	700	690mW				
59F462	T154-2C-48VDC			2,500	690mW				
59F463	T154-2C-115VDC			15,000	690mW	6.19	5.61	4.67	4.35
59F464	T154-4C-6VDC			52	690mW				
59F465	T154-4C-12VDC	11F304	TP154-4C-12VDC	185	690mW	4.30	3.87	3.22	3.01
59F466	T154-4C-24VDC	11F305	TP154-4C-24VDC	700	690mW				
59F467	T154-4C-48VDC			2,500	690mW				
59F468	T154-4C-115VDC			15,000	690mW	6.56	5.93	4.93	4.62
59F469	T154-6C-6VDC			25	1.4W				
59F470	T154-6C-12VDC	11F306	TP154-6C-12VDC	90	1.4W	5.56	5.00	4.16	3.89
59F471	T154-6C-24VDC	11F307	TP154-6C-24VDC	430	1.4W				
59F472	T154-6C-48VDC			1,550	1.4W				
59F473	T154-6C-115VDC			9,000	1.4W	6.56	5.93	4.93	4.62
11F300	T154-8C-12VDC	11F308	TP154-8C-12VDC	75	1.9W	8.55	7.69	6.41	5.98
11F301	T154-8C-24VDC	11F309	TP154-8C-24VDC	430	1.9W	8.55	7.69	6.41	5.98

TF SERIES—5 AMP TYPES

59F484	TF154-2C-6VDC			52	690mW				
59F485	TF154-2C-12VDC	11F312	TFP154-2C-12VDC	185	690mW	4.04	3.63	3.03	2.82
59F486	TF154-2C-24VDC	11F313	TFP154-2C-24VDC	700	690mW				
59F487	TF154-2C-48VDC			2,500	690mW				
59F488	TF154-2C-115VDC			15,000	690mW	6.30	5.67	4.72	4.41
59F489	TF154-4C-6VDC			52	690mW				
59F490	TF154-4C-12VDC	11F314	TFP154-4C-12VDC	185	690mW	4.56	4.11	3.42	3.20
59F491	TF154-4C-24VDC	11F315	TFP154-4C-24VDC	700	690mW				
59F492	TF154-4C-48VDC			2,500	690mW				
59F493	TF154-4C-115VDC			15,000	690mW	6.87	6.18	5.15	4.80
59F494	TF154-6C-6VDC			25	1.4W				
59F495	TF154-6C-12VDC	11F316	TFP154-6C-12VDC	90	1.4W	6.03	5.46	4.56	4.25
59F496	TF154-6C-24VDC	11F317	TFP154-6C-24VDC	430	1.4W				
59F497	TF154-6C-48VDC			1,550	1.4W				
59F498	TF154-6C-115VDC			9,000	1.4W	7.03	6.35	5.30	4.93
11F310	TF154-8C-12VDC	11F318	TFP154-8C-12VDC	75	1.9W	9.18	8.26	6.88	6.42
11F311	TF154-8C-24VDC	11F319	TFP154-8C-24VDC	430	1.9W	9.18	8.26	6.88	6.42

T SERIES STANDARD/BIFURCATED CONTACTS

59F527	T163-2C-12VDC	11F322	TP163-2C-12VDC	185	690mW	4.35	3.91	3.26	3.04
59F528	T163-2C-24VDC	11F323	TP163-2C-24VDC	700	690mW				
59F529	T163-2C-48VDC			2,500	690mW				
59F531	T163-4C-6VDC			52	690mW				
59F532	T163-4C-12VDC	11F324	TP163-4C-12VDC	185	690mW	4.88	4.38	3.66	3.41
59F533	T163-4C-24VDC	11F325	TP163-4C-24VDC	700	690mW				
59F534	T163-4C-48VDC			2,500	690mW				
59F536	T163-6C-6VDC			25	1.4W				
59F537	T163-6C-12VDC	11F326	TP163-6C-12VDC	90	1.4W	6.30	5.67	4.72	4.41
59F538	T163-6C-24VDC	11F327	TP163-6C-24VDC	430	1.4W				
59F539	T163-6C-48VDC			1,550	1.4W				
11F320	T163-8C-12VDC	11F328	TP163-8C-12VDC	75	1.9W	9.29	8.40	6.98	6.51
11F321	T163-8C-24VDC	11F329	TP163-8C-24VDC	430	1.9W				

SENSITIVE/SINGLE POINT CONTACTS

11F330	TS154-2C-12VDC	11F338	TSP154-2C-12VDC	800	100mW	4.25	3.82	3.19	2.97
11F331	TS154-2C-24VDC	11F339	TSP154-2C-24VDC	3,200	100mW	4.77	4.30	3.62	3.36
11F332	TS154-4C-12VDC	11F340	TSP154-4C-12VDC	430	175mW	4.67	4.20	3.50	3.26
11F333	TS154-4C-24VDC	11F341	TSP154-4C-24VDC	1,800	175mW	4.67	4.20	3.50	3.26
11F334	TS154-6C-12VDC	11F342	TSP154-6C-12VDC	350	250mW	6.03	5.46	4.56	4.25
11F335	TS154-6C-24VDC	11F343	TSP154-6C-24VDC	1,275	250mW	6.03	5.46	4.56	4.25
11F336	TS154-8C-12VDC	11F344	TSP154-8C-12VDC	190	400mW	9.08	8.16	6.81	6.35
11F337	TS154-8C-24VDC	11F345	TSP154-8C-24VDC	800	400mW	9.08	8.16	6.81	6.35

SENSITIVE/BIFURCATED CONTACTS

11F346	TS163-2C-12VDC	11F354	TSP163-2C-12VDC	800	100mW	4.67	4.20	3.50	3.26
11F347	TS163-2C-24VDC	11F355	TSP163-2C-24VDC	3,200	100mW	4.67	4.20	3.50	3.26
11F348	TS163-4C-12VDC	11F356	TSP163-4C-12VDC	430	175mW	5.25	4.72	3.93	3.67
11F349	TS163-4C-24VDC	11F357	TSP163-4C-24VDC	1,800	175mW	5.25	4.72	3.93	3.67
11F350	TS163-6C-12VDC	11F358	TSP163-6C-12VDC	350	250mW	6.61	5.98	4.98	4.62
11F351	TS163-6C-24VDC	11F359	TSP163-6C-24VDC	1,275	250mW	6.61	5.98	4.98	4.62
11F352	TS163-8C-12VDC	11F360	TSP163-8C-12VDC	190	400mW	9.81	8.87	7.40	6.87
11F353	TS163-8C-24VDC	11F361	TSP163-8C-24VDC	800	400mW	9.81	8.87	7.40	6.87

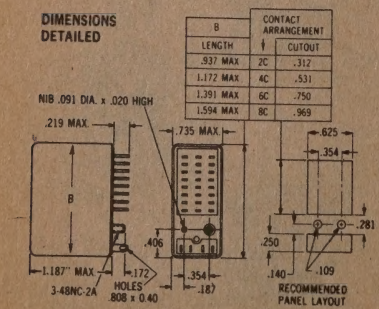
ULTRA-SENSITIVE RELAYS/SINGLE POINT CONTACTS

11F362	TSS154-2C-24VDC	11F364	TSSP154-2C-24VDC	7,500	40mW	5.56	5.00	4.16	3.89
11F363	TSS154-4C-24VDC	11F365	TSSP154-4C-24VDC	3,700	80mW	6.24	5.61	4.72	4.41

ULTRA-SENSITIVE RELAYS/BIFURCATED CONTACTS

11F366	TSS163-2C-24VDC	11F368	TSSP163-2C-24VDC	7,500	40mW	6.03	5.46	4.56	4.25
11F367	TSS163-2C-24VDC	11F369	TSSP163-4C-24VDC	3,700	80mW	6.82	6.14	5.14	4.77

DIMENSIONS DETAILED

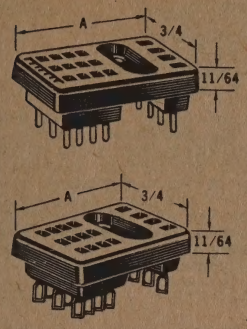


B	CONTACT ARRANGEMENT
LENGTH	CUTOUT
.937 MAX	2C .312
1.172 MAX	4C .531
1.391 MAX	6C .750
1.594 MAX	8C .969

Allied Control Cradle Series Relays

GOULD

CRADLE SOCKETS AND HARDWARE



Dimensions	
Poles	A
2 Pole	31/32
4 Pole	1-13/64
6 Pole	1-13/32
8 Pole	1-41/64

GROUND WIRE

Stock No.	Type	For	Net
59F615	30052-1	Solder & Std. PC	.10

GROUND WIRE

Stock No.	Type	For	Net
59F616	30174-1	.100 PC Sockets	.15

STANDARD RETAINERS

Stock No.	Type	For	Net
59F617	30040-1	2 pole	.10
59F618	30040-2	4 pole	
59F619	30040-3	6 pole	

FLAT RETAINER

Stock No.	Type	For	Net
59F620	0330-031-001	8 pole	.15

SOCKETS WITHOUT RETAINERS
Order retainers separately
See Above

2 POLE

Stock No.	Type	For	NET
59F621	0211-011-001-000	Solder Lug	.63
59F622	0211-011-005-000	PC Mount	
59F623	0211-011-003-000	.1x.1 Grid	

4 POLE

59F624	0211-011-008-000	Solder Lug	.99
59F625	0211-011-002-000	Solder Lug	.85
59F626	0211-011-006-000	PC Mount	.85
59F627	0211-011-004-000	.1x.1 Grid	.85

6 POLE

59F628	0211-011-020-000	Solder Lug	1.20
59F629	0211-011-024-000	PC Mount	
59F630	0211-011-028-000	.1x.1 Grid	

8 POLE

59F631	0211-011-030-000	Solder Lug	1.52
59F632	0211-011-031-000	PC Mount	
59F633	0211-011-032-000	.1x.1 Grid	

DC RELAYS CURRENT ADJUSTED

SENSITIVE/SINGLE POINT CONTACTS—2 AMP RELAYS

Contact arrangement specified in Type No. Example: 2C indicates 2 Form C.

Solder Plug-In		PC Mount		Coils					
Stk. No.	Type	Stock No.	Type	Res. in Ohms	Nom. Power	1-9	10-49	50-99	100-499
59F509	TS154-2C-5.8 mADC	59F548	TSP154-2C-5.8 mADC	2,500	85mW	4.20	3.78	3.15	2.94
59F510	TS154-2C-4.1 mADC	59F549	TSP154-2C-4.1 mADC	5,000	85mW	4.77	4.30	3.62	3.36
59F512	TS154-4C-8.4 mADC	59F550	TSP154-4C-8.4 mADC	2,500	175mW	4.62	4.20	3.46	3.25
59F513	TS154-4C-6.2 mADC	59F551	TSP154-4C-6.2 mADC	5,000	175mW	5.19	4.72	3.93	3.67
59F544	TS154-6C-10.0 mADC	59F552	TSP154-6C-10.0 mADC	2,500	250mW	5.98	5.38	4.51	4.20
59F545	TS154-6C-7.2 mADC	59F553	TSP154-6C-7.2 mADC	5,000	250mW	6.51	5.88	4.88	4.56
59F546	TS154-8C-13.0 mADC	59F554	TSP154-8C-13.0 mADC	2,500	400mW	9.03	8.13	6.77	6.35
59F547	TS154-8C-9.0 mADC	59F555	TSP154-8C-9.0 mADC	5,000	400mW	9.60	8.66	7.24	6.72

SENSITIVE/BIFURCATED CONTACTS—2 AMP RELAYS

59F556	TS163-2C-5.8 mADC	59F564	TSP163-2C-8.5 mADC	2,500	85mW	4.62	4.20	3.46	3.25
59F557	TS163-2C-4.1 mADC	59F565	TSP163-2C-4.1 mADC	5,000	85mW	5.19	4.72	3.93	3.67
59F558	TS163-4C-8.4 mADC	59F566	TSP163-4C-8.4 mADC	2,500	175mW	5.19	4.72	3.93	3.67
59F559	TS163-4C-6.2 mADC	59F567	TSP163-4C-6.2 mADC	5,000	175mW	5.72	5.14	4.30	4.04
59F560	TS163-6C-10.0 mADC	59F568	TSP163-6C-10.0 mADC	2,500	250mW	6.56	5.93	4.93	4.62
59F561	TS163-6C-7.2 mADC	59F569	TSP163-6C-7.2 mADC	5,000	250mW	7.14	6.45	5.35	5.04
59F562	TS163-8C-13.0 mADC	59F570	TSP163-8C-13.0 mADC	2,500	400mW	9.76	8.82	7.35	6.87
59F563	TS163-8C-9.0 mADC	59F571	TSP163-8C-9.0 mADC	5,000	400mW	10.29	9.29	7.71	7.24

ULTRA-SENSITIVE/SINGLE POINT CONTACTS—1 AMP

59F572	TSS154-2C-4.1 mADC	59F576	TSSP154-2C-4.1 mADC	2,500	40mW	4.51	4.09	3.41	3.15
59F573	TSS154-2C-2.9 mADC	59F577	TSSP154-2C-2.9 mADC	5,000	40mW	5.09	4.62	3.83	3.57
59F574	TSS154-4C-5.8 mADC	59F578	TSSP154-4C-5.8 mADC	2,500	80mW	5.61	5.09	4.25	3.93
59F575	TSS154-4C-4.1 mADC	59F579	TSSP154-4C-4.1 mADC	5,000	80mW	6.19	5.61	4.67	4.35

ULTRA-SENSITIVE/BIFURCATED CONTACTS—1 AMP

59F580	TSS163-2C-4.1 mADC	59F584	TSSP163-2C-4.1 mADC	2,500	40mW	4.93	4.46	3.72	3.46
59F581	TSS163-2C-2.9 mADC	59F585	TSSP163-2C-2.9 mADC	5,000	40mW	5.51	4.93	4.14	3.88
59F582	TSS163-4C-5.8 mADC	59F586	TSSP163-4C-5.8 mADC	2,500	80mW	6.24	5.61	4.72	4.41
59F583	TSS163-4C-4.1 mADC	59F587	TSSP163-4C-4.1 mADC	5,000	80mW	6.77	6.09	5.09	4.72

AC RELAYS—VOLTAGE ADJUSTED

SINGLE POINT CONTACTS

Contact arrangement specified in Type No. Example: 2C indicates 2 Form C.

Solder/Plug In		PC Mount		Con. Rtg.	Res. in Ohms	Nom. Power	1-9	10-49	50-99	100-499
Stock No.	Type	Stk. No.	Type							
59F588	T154-2C-115VAC	59F592	TP154-2C-115VAC	2 Amp	6,000	1.3VA	4.77	4.30	3.62	3.36
59F589	T154-4C-115VAC	59F593	TP154-4C-115VAC	2 Amp	6,000	1.3VA	5.46	4.93	4.09	3.83
59F590	TF154-2C-115VAC	59F594	TFP154-2C-115VAC	5 Amp	6,000	1.3VA	4.93	4.46	3.72	3.46
59F591	TF154-4C-115VAC	59F595	TFP154-4C-115VAC	5 Amp	6,000	1.3VA	5.67	5.14	4.25	3.99

BIFURCATED CONTACTS

59F596	T163-2C-115VAC	.....	.....	2 Amp	6,000	1.3VA	5.25	4.72	3.93	3.67
59F597	T163-4C-115VAC	.....	.....	2 Amp	6,000	1.3VA	6.03	5.46	4.56	4.25

MAGNETIC LATCH RELAYS

Industrial relays. Single or Dual coil construction. Versatile mounting means, solder, printed circuit and socket options. U/L recognized file #E-20604. Weight: 1.5 to 4.0 ounces.

SINGLE COIL—SINGLE POINT CONTACTS—2 AMPS

Contact arrangement specified in Type No. Example: 2C indicates 2 Form C.

Solder/Plug In		PC Mounting		Res. in Ohms	Nom. Power	1-9	10-49	50-99	100-499
Stk. No.	Type	Stk. No.	Type						
59F1212	T351-2C-24VDC	59F598	TP351-2C-24VDC	630	300mW	5.77	5.19	4.35	4.04
59F1217	T351-4C-24VDC	59F599	TP351-4C-24VDC	630	300mW	6.35	5.72	4.77	4.46

SINGLE COIL—5 AMPS

59F1222	TF351-2C-24VDC	59F600	TFP351-2C-24VDC	630	300mW	5.88	5.30	4.41	4.14
59F1217	TF351-4C-24VDC	59F601	TFP351-4C-24VDC	630	300mW	6.61	5.98	4.98	4.67

SINGLE COIL BIFURCATED CONTACTS—2 AMPS

59F602	T362-2C-24VDC	59F604	TP362-2C-24VDC	630	300mW	6.24	5.61	4.72	4.41
59F603	T362-4C-24VDC	59F605	TP362-4C-24VDC	630	300mW	7.24	6.56	5.46	5.09

DUAL COIL SINGLE POINT CONTACTS—2 AMPS

59F1227	T351-2C-2/24VDC	59F606	TP351-2C-2/24VDC	485/485	600mW	6.93	6.24	5.19	4.88
59F1232	T351-4C-2/24VDC	59F607	TP351-4C-2/24VDC	485/485	600mW	7.24	6.56	5.46	5.09

DUAL COIL SINGLE POINT CONTACTS—5 AMPS

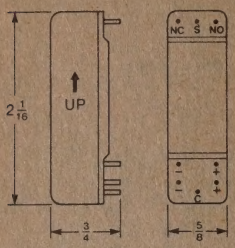
59F1237	TF351-2C-2/24VDC	59F609	TFP351-2C-2/24VDC	485/485	600mW	7.03	6.35	5.30	4.93
59F608	TF351-4C-2/24VDC	59F610	TFP351-4C-2/24VDC	485/485	600mW	7.77	7.03	5.82	5.46

DUAL COIL BIFURCATED CONTACTS—2 AMPS

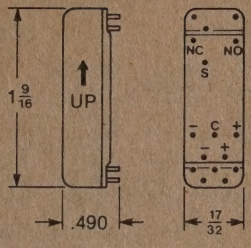
59F611	T362-2C-2/24VDC	59F613	TP362-2C-2/24VDC	485/485	600mW	7.35	6.61	5.51	5.14
59F612	T362-4C-2/24VDC	59F614	TP362-4C-2/24VDC	485/485	600mW	8.34	7.50	6.30	5.88

MIDTEX INCORPORATED

MERCURY WETTED CONTACT RELAYS



Type 159 Relay



Type 160 Relay

- **Long life**
- **Low power**
- **No contact bounce**

Miniature mercury wetted contact relays feature long life, low power operation and no contact bounce. Life is rated in the billions of operations with fast operate time. Must be operated in the upright position but variations up to 30° will cause only slight changes in operation. Contact rating is 2 amps max, 500 volts max, 100 VA max for switching and 5 amps max for non-switching loads. Contact protection must be provided, circuit information provided with each unit.

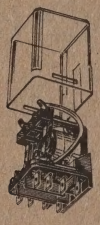
TYPE 159

Stock No.	Type	Action Form	Coil Ohms	Operate mA-DC	Operate VDC	Release VDC	Max. VDC	1-24	25-49	50-99	100-249
33F1450	159-111R00	D	2430	3.6	9.7	2.0	70	12.00	11.40	10.80	8.40
33F1451	159-111T00	D	3620	2.9	12	2.3	85				
33F1452	159-151R00	C	2430	3.6	9.7	2.0	70				
33F1453	159-151T00	C	3620	2.9	12	2.3	85				

TYPE 160

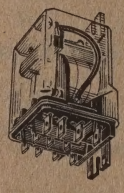
Stock No.	Type	Action Form	Grid	Coil Ohms	Operate mA-DC	Operate VDC	Release VDC	Maxi-mum	1-24	25-49	50-99	100-249
33F1454	160-111R00	D	.093	1750	4.6	8.8	1.7	55	12.00	11.40	10.80	8.40
33F1455	160-111T00	D	.093	2650	3.8	11	2.2	68				
33F1456	160-111U00	D	.093	3900	3.2	14	2.7	83				
33F1457	160-151M00	C	.093	325	11	3.8	.77	24				
33F1458	160-151R00	C	.093	1750	4.6	8.8	1.7	55				
33F1459	160-151T00	C	.093	2650	3.8	11	2.2	68				
33F1460	160-151U00	C	.093	3900	3.2	14	2.7	83				
33F1461	160-151W00	C	.093	9000	2.1	21	4.2	125				
33F1462	160-351M00	C	.100	325	11	3.8	.77	24				
33F1463	160-351R00	C	.100	1750	4.6	8.8	1.7	55				
33F1464	160-351T00	C	.100	2650	3.8	11	2.2	68				
33F1465	160-351U00	C	.100	3900	3.2	14	2.7	83				

TYPE 157 GENERAL PURPOSE RELAY UL RECOGNIZED



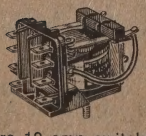
Plug-in With Dust Cover

1.525″L x 1.400″W x 1.905″H



Dust Cover With Mounting Flanges

2.900″L x 1.525″W x 1.400″H



Open Style
2.090″L x 1.468″W x 1.282″H

Ideal where 10 amp switching is required. Efficient magnetic circuit allows AC coils to run cooler to insure overvoltage and high ambient temperature performance. Available in open style type 157-13, with cover and mounting flange arrangement type 157-33, or with cover for easy plug-in mounting types 157-22 and 157-23. Contacts rated 10 amps, 28 VDC/120 VAC, 80% pf. All units are UL recognized under File E-38602 and CSA No. 22861. Weight 3 ounces.

TYPE 157 3PDT 10 AMPS OPEN STYLE WITH MTG. STUD

Stock No.	Type	Coil Volts	Coil Res.	1-24	25-49	50-99	100-249
33F1466	157-13C200	24VDC	470	5.35	5.08	4.82	3.75
33F1467	157-13Q200	24VAC	72	6.00	5.70	5.40	4.20
33F1468	157-13T200	120VAC	1700	6.00	5.70	5.40	4.20
33F1469	157-13U200	240VAC	4200	6.50	6.18	5.85	4.55

TYPE 157 2PDT 10 AMPS PLUG-IN WITH COVER

33F1470	157-22C200	24VDC	470	5.10	4.85	4.59	3.57
33F1471	157-22T200	120VAC	2250	5.60	5.32	5.04	3.92

TYPE 157 3PDT 10 AMPS PLUG-IN WITH COVER

33F1472	157-23B200	12VDC	120	5.80	5.51	5.22	4.06
33F1473	157-23C200	24VDC	470	5.80	5.51	5.22	4.06
33F1474	157-23F200	110VDC	10000	6.40	6.08	5.76	4.48
33F1475	157-23Q200	24VAC	72	6.25	5.94	5.63	4.38
33F1476	157-23T200	120VAC	1700	6.25	5.94	5.63	4.38
33F1477	157-23U200	240VAC	7200	6.80	6.46	6.12	4.76

TYPE 157 3PDT 10 AMPS WITH FLANGE MOUNT COVER

33F1478	157-33B200	12VDC	120	5.80	5.51	5.22	4.06
33F1479	157-33C200	24VDC	470	5.80	5.51	5.22	4.06
33F1480	157-33F200	110VDC	10000	6.40	6.08	5.76	4.48
33F1481	157-33Q200	24VAC	72	6.25	5.94	5.63	4.38
33F1482	157-33T200	120VAC	1700	6.25	5.94	5.63	4.38
33F1483	157-33U200	240VAC	7200	6.80	6.46	6.12	4.76

SOCKETS & HOLD-DOWN SPRINGS FOR 157 RELAY

Stock No.	Type	Description	1-24	25-49	50-99	100-249
33F1484	670-0009	Solder Terminals	.90	.86	.81	.63
33F1485	670-0012	QC Terminals	.90	.86	.81	.63
33F1486	670-0013	PC Terminals	.90	.86	.81	.63
33F1487	670-0034	Wire wrap	1.50	1.43	1.35	1.05
33F1488	139-0032	Hold-down spring	.12	.12	.11	.11

GENERAL PURPOSE RELAYS

MIDTEX INCORPORATED

LATCHING RELAYS FOR GARAGE DOOR OPENINGS AND OTHER INDUSTRIAL APPLICATIONS

TYPE 48

2.21″L x 1.53″W x 2.31″H

Latching relays are used in most major brands of automatic garage door openers and these units are exact drop-in replacements. Relay operates from a single pulse to the coil and stays latched until coil receives the next pulse. DPDT configuration make these perfect for motor circuit applications and where energy efficiency is a priority. Contacts rated at 15 amp, 28 VDC/120 VAC, 80% pf. Weight 7 oz.

Stock No.	Type	Volts	1-24	25-49	50-99	100-249
33F1400	48-32Q100	24VAC	9.95	9.45	8.96	6.97
33F1401	48-32T100	120VAC	9.95	9.45	8.96	6.97

MINIATURE 4PDT RELAYS UL RECOGNIZED

TYPE 156

1.281″L x .869″W x 1.109″H

These relays afford low cost versatile switching. Their compact design, long life and rugged dust cover make them ideal for a wide variety of applications including data processing and industrial control applications. Contacts are rated at 3 amp, 28 VDC/120 VAC, 80% pf and 5 amp, 28 VDC/120 VAC, 80% pf. All units are UL recognized under File 38802 and CSA No. 22861. Weight 1.5 oz.

4PDT 3 AMP SILVER SOLDER PLUG-IN LEXAN COVER

Stock No.	Type	Coil Volts	Coil Res.	1-24	25-49	50-99	100-249
33F1402	156-14B100	12 VDC	160	5.45	5.18	4.91	3.82
33F1403	156-14C100	24 VDC	650	5.45	5.18	4.91	3.82
33F1404	156-14F100	110 VDC	11000	6.55	6.22	5.90	4.59
33F1405	156-14Q100	24 VAC	155	5.95	5.65	5.36	4.17
33F1406	156-14T100	110 VAC	3900	6.45	6.13	5.81	4.52
33F1407	156-14U100	240 VAC	14900	6.45	6.13	5.81	4.52

4PDT 5 AMP SILVER CAD SOLDER PLUG-IN LEXAN COVER

33F1408	156-14B200	12 VDC	160	5.45	5.18	4.91	3.82
33F1409	156-14C200	24 VDC	650	5.45	5.18	4.91	3.82
33F1410	156-14F200	110 VDC	11000	6.55	6.22	5.90	4.59
33F1411	156-14Q200	24 VAC	155	5.95	5.65	5.36	4.17
33F1412	156-14T200	110 VAC	3900	6.45	6.13	5.81	4.52
33F1413	156-14U200	240 VAC	14900	6.45	6.13	5.81	4.52

4PDT 3 AMP SILVER PC TERMINALS .112″ LONG NYLON COVER

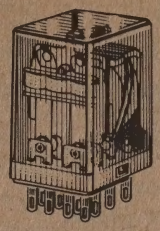
33F1414	156-24B100	12 VDC	160	5.45	5.18	4.91	3.82
33F1415	156-24C100	24 VDC	650	5.45	5.18	4.91	3.82
33F1416	156-24F100	110 VDC	11000	6.55	6.22	5.90	4.59
33F1417	156-24Q100	24 VAC	155	5.95	5.65	5.36	4.17
33F1418	156-24T100	110 VAC	3900	6.45	6.13	5.81	4.52
33F1419	156-24U100	240 VAC	14900	6.45	6.13	5.81	4.52

4PDT 5 AMP SILVER CAD PC TERMINALS .112″ LONG NYLON COVER

33F1420	156-24B200	12 VDC	160	5.45	5.18	4.91	3.82
33F1421	156-24C200	24 VDC	650	5.45	5.18	4.91	3.82
33F1422	156-24F200	110 VDC	11000	6.55	6.22	5.90	4.59
33F1423	156-24Q200	24 VAC	155	5.95	5.65	5.36	4.17
33F1424	156-24T200	110 VAC	3900	6.45	6.13	5.81	4.52
33F1425	156-24U200	240 VAC	14900	6.45	6.13	5.81	4.52

MINIATURE 10 AMP INDUSTRIAL CONTROL RELAY UL RECOGNIZED

TYPE 158



2.21″L x 1.53″W x 2.31″H

These relays provide high current switching in a compact size. The 10 amp contacts make this unit ideal for motor controller and other industrial applications. Terminal spacing allows for up to ⅓ horsepower motor control at 120/240 VAC. Contacts rated at 10 amp, 28 VDC/120 VAC, 80% pf. All units are UL recognized under file E38802 and CSA No. 22861. Weight 1.5 oz.

USES SAME SOCKET AS 156 RELAY.

1PDT 10 AMP SILVER CAD PLUG-IN TERMINALS

Stock No.	Type	Coil Volts	Coil Res.	1-24	25-49	50-99	100-249
33F1426	158-11B200	12 VDC	160	4.10	3.90	3.69	2.87
33F1427	158-11C200	24 VDC	650	4.10	3.90	3.69	2.87
33F1428	158-11F200	110 VDC	11000	4.80	4.56	4.32	3.36
33F1429	158-11T200	110 VAC	3900	4.20	3.99	3.78	2.94
33F1430	158-11U200	240 VAC	14900	4.40	4.18	3.96	3.08

1PDT 10 AMP SILVER CAD PC TERMINALS

33F1431	158-21B200	12 VDC	160	4.10	3.90	3.69	2.87
33F1432	158-21C200	24 VDC	650	4.10	3.90	3.69	2.87
33F1433	158-21F200	110 VDC	11000	4.80	4.56	4.32	3.36
33F1434	158-21T200	110 VAC	3900	4.20	3.99	3.78	2.94
33F1435	158-21U200	240 VAC	14900	4.40	4.18	3.96	3.08

2PDT 10 AMP SILVER CAD PLUG-IN TERMINALS

33F1436	158-12B200	12 VDC	160	4.50	4.28	4.05	3.15
33F1437	158-12C200	24 VDC	650	4.50	4.28	4.05	3.15
33F1438	158-12F200	110 VDC	11000	5.40	5.13	4.86	3.75
33F1439	158-12T200	110 VAC	3900	5.15	4.89	4.64	3.61
33F1440	158-12U200	240 VAC	14900	5.35	5.08	4.82	3.75

2PDT 10 AMP SILVER CAD PC TERMINALS

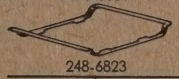
33F1441	158-22B200	12 VDC	160	4.50	4.28	4.05	3.15
33F1442	158-22C200	24 VDC	650	4.50	4.28	4.05	3.15
33F1443	158-22F200	110 VDC	11000	5.40	5.13	4.86	3.75
33F1444	158-22T200	110 VAC	3900	5.15	4.89	4.64	3.61
33F1445	158-22U200	240 VAC	14900	5.35	5.08	4.82	3.75

SOCKETS AND HOLDDOWN SPRINGS FOR TYPES 156 & 158 RELAYS

670-0001

670-0003

670-0020



248-6823

Stock No.	Type	Description	1-24	25-49	50 99	100-249
33F1446	670-0001	Solder Terminals	.65	.62	.59	.46
33F1447	670-0003	PC Socket	.65	.62	.59	.46
33F1448	670-0020	Wire Wrap T.P.	1.50	1.43	1.35	1.05
33F1449	248-6823	Holddown Spring	.12	.12	.11	.11

Relays and Controls

TYPE 154 AC POWER CONTACTORS

Interchangeable mounting with low coil wattage and double-break contacts. Non positional, non-corroding structure, low temp. rise and riveted terminal assemblies. Hardware included in boxed units only.

20 AMP THREE POLE-NORMALLY OPEN

Stock No.	Type	Coil V.	Cont. Rating Inductive	Cont. Rating Resistive	1-24	25-49	50-99
60F2650	154-901	24	Cont. 20A@ 600V.	30A			
60F2651	154-902	120	Inrush 120A@ 277V.	@ 600V AC Max	9.54	8.16	7.26
60F2652	154-903	208/240					

25 AMP THREE POLE - NORMALLY OPEN

60F2653	154-904	24	Cont. 25 AMP @ 600V	35A			
60F2654	154-905	120	Inrush 150 AMP@ 277V	@ 600V AC Max.	12.00	10.87	9.67
60F2655	154-906	208/240					

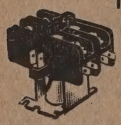
30 AMP THREE POLE-NORMALLY OPEN

60F2656	154-907	24	Cont. 25A@ 600V	40 AMP			
60F2657	154-908	120	Inrush 180A@ 277V	@ 600V AC Max	14.20	12.79	11.40
60F2658	154-909	208/240					

40 AMP TWO AND THREE POLE-NORMALLY OPEN

60F2659	154-910	24	Cont.		15.62	13.61	12.10
60F2660	154-913	24	40A@ 600v		13.47	12.24	10.89
60F2661	154-911	120	Inrush	50 AMP	15.62	13.61	12.10
60F2662	154-914	120	240 AMP @ 277V	@ 600V	13.47	12.24	10.89
60F2663	154-912	208/240	200 AMP @ 480V	AC Max	15.62	13.61	12.10
60F2664	154-915	208/240	160 AMP @ 600V		13.47	12.24	10.89

TYPE 143 AC POWER CONTACTOR



2PNO double break contacts. Rated for 30 amp., 277 volts continuous or 100 amp inrush. Straight through wiring. No 10 pressure screw power terminals with dual quick connect auxilliary terminals. Female quick-connect wiring, terminals included. Class "B" coils. Size 3¼x2⅜x2½". Wt. 8 oz. U.L. and CSA listed.

Stock No.	Type	AC Volts	1-24	25-49	50-99	100-249
60F2979	143-901	24				
60F2980	143-902	120	7.56	6.79	6.05	5.29
60F2981	143-903	208-230				

TYPE 129 AC POWER RELAY

Totally enclosed. Screw terminals. Silver alloy contacts rated at 18 amperes continuously at 250 volts AC, resistive or inductive. Horse power rating, 1 H.P. at 125 volts, 2 H.P. at 250 volts. Single screw mounting. Electrical life, 100,000 operations at rated load. Coil: 10 volt-amperes inrush; 5 volt-amperes sealed. Size, 2⅜x1⅞x1⅞". Approx. 7 oz.

Stk. No.	Type	AC Volts	Action	1-24	25-49	50-99	100-249
60F2709	129-902	24	SPNO	5.61	4.88	4.39	3.90
60F2710	129-903	120	SPNO	5.93	5.15	4.64	4.12
60F2711	129-904	208/230	SPNO	6.29	5.47	4.91	4.37
60F2713	129-906	24	SPDT*	6.43	5.60	5.06	4.50
60F2714	129-907	120	SPDT*	6.77	5.89	5.33	4.74
60F2715	129-908	208/230	SPDT*	7.17	6.23	5.65	5.02

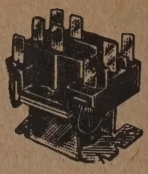
*Isolated Terminals: All contact term. wired same polarity.

TYPE 129AR AC POWER RELAY

Fits any ½" knockout. Contacts rated at 250VAC@ 18 amp continuous. Pre-wired. Color coded 8" lead wires, U.L. approved. (†) single pole, normally open; (*) single pole, double throw. 2¾x2 9/16x3 1/16.

Stk. No.	Mfr. Type	AC Volts	1-24	25-49	50-99	100-249
60F2683	129AR-901†	24	8.53	7.42	6.37	5.66
60F2684	129AR-902†	120	8.68	7.55	6.75	6.00
60F2686	129AR-904*	24	9.04	7.87	7.11	6.32
60F2697	129AR-905*	120	8.90	7.74	7.42	6.59

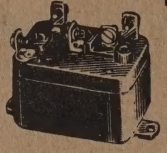
TYPE 91 A.C. GENERAL PURPOSE



Solenoid action. Quick connect terminals. Enclosed fine silver contacts. Contacts rated at 15 amps, 277 volts AC max., resistive, 12 amps, (60 amp inrush) 125 volts AC; 6 amps (35 amp inrush), 250 volts inductive. Selective mounting. Electrical life, 100,000 operations at rated load. **Type 91:** DPDT characteristics, 22 volt-amperes inrush; 10 volt-amperes sealed. Overall dimensions: 2⅛x1⅞x2⅜". Approx. wt. 5 oz.

Stock No.	Type	AC Volts	1-24	25-49	50-99	100-249
60F2716	91-901	24	7.41	6.66	5.93	5.19
60F2717	91-902	115/120	7.68	6.91	6.13	5.37
60F2718	91-903	208/240	7.91	7.12	6.16	5.39

TYPE 84 SCREW TERMINALS



Totally enclosed. Silver alloy contacts rated at 125/250 volts AC; SPNO, 16 amps resistive (continuous); 8 amps resistive (25 amps inrush) inductive. 6-32 mounting holes/2.156" centers. Electrical life, 100,000 operations at rated load. Coil, 4 VA inrush; 3 VA sealed. Overall size, 2⅜x1⅝x1½" Approx. wt., 5 oz.

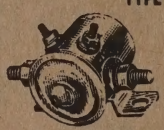
Stk. No.	Type	AC Volts	Action	1-24	25-49	50-99	100-249
60F2700	84-901	6	SPNO	4.05	3.65	3.26	2.86
60F2701	84-902	24	SPNO	3.96	3.57	3.20	2.81
60F2702	84-903	120	SPNO	4.10	3.70	3.57	3.13
60F2704	84-905	6	SPDT	4.51	4.07	3.63	3.19
60F2705	84-906	24	SPDT	4.51	4.07	3.63	3.19
60F2706	84-907	120	SPDT	4.87	4.40	3.92	3.44

TYPE 84 QUICK CONNECT TERMINALS

Same as above except with female quick-connect wiring terminals.

Stk. No.	Type	AC Volts	Action	1-24	25-49	50-99	100-249
60F2985	84-912	24	SPNO	3.96	3.57	3.20	2.81
60F2986	84-913	120	SPNO	4.35	3.92	3.51	3.08
60F2988	84-916	24	SPDT	4.51	4.33	4.16	3.65
60F2989	84-917	120	SPDT	4.76	4.30	3.83	3.37
60F2847	84-922	24	SPNO	3.96	3.57	3.20	2.81
60F2849	84-926	24	SPDT	4.37	3.95	3.53	3.10
60F2997	84-927	120	SPDT	4.76	4.30	3.83	3.37

TYPE 70 D.C. POWER CONTACTORS



Double break copper to copper rotating disc moveable contact. Wiring hardware included. Cont. rating, 80 Amps (inrush 300 Amps at 6 volts - 150 Amps at 12 volts DC). 50 Amps max. at 24 and 36 volts DC. Bracket mnt. - 2.109" centers. Coil, 9 watts. Copper contacts except (*) which are silver. SPNO: 2½x3½x2½". SPDT 3⅜x3¾x2½". Approx. wt. 1 lb.

Stk. No.	Type	Volts DC	Action	1-24	25-49	50-99	100-249
60F2725	70-901	6	SPNO				
60F2726	70-902	12	SPNO				
60F2727	70-903	24	SPNO				
60F2728	70-904	36	SPNO	5.14	4.63	4.11	3.61
60F2675	70-905*	6	SPNO				
60F2676	70-906*	12	SPNO				
60F2677	70-907*	24	SPNO				
60F2678	70-908*	36	SPNO	10.67	9.60	8.54	7.47
60F2679	70-909*	6	SPDT				
60F2680	70-910*	12	SPDT				
60F2681	70-911*	24	SPDT				
60F2682	70-912*	36	SPDT	14.84	13.35	11.88	10.43
60F2692	70-914	12	SPNO				
60F2693	70-915	24	SPNO				
60F2694	70-918	12	SPNO				
60F2695	70-919	24	SPNO	5.14	4.63	4.11	3.61

TYPE 75 AC POWER CONTACTORS

Coil lead wires are quick connect. 2PNO action, silver alloy contacts rated at 25 amps, 240 volts AC (per pole resistive; 18 amps, 230 volts AC inductive.) 1 horse power per pole, 115/230 volts AC, 2 pole rating—2 horse power, 230 volts AC. Electrical life, 100,000 operations at rated load. Sealed coil. Screw power terminals. Over-all dimensions, 2½x2⅛x2¼". Approx. wt. 7 oz.

Stock No.	Type	AC Volts	1-24	25-49	50-99	100-249
60F2722	75-901	24				
60F2723	75-902	115/120				
60F2724	75-903	230/240				
60F2982	75-904	24	5.45	4.90	4.35	3.86
60F2983	75-905	115/120				
60F2984	75-906	230/240				

Relays, Switches and Solenoids

ESSEX RELAYS

TYPE MS64 MIN. SENSITIVE RELAY

For application where minimum mounting space and maximum protection to moving parts are important. For printed circuit board mounting, or in mounting bracket version for "solder on" lead wire termination. Molded construction with Snap-on cover. Single pole double throw enclosed type. Isolated contacts. Size: 1 3/16 x 3/4 x 1 1/8".

PRINTED CIRCUIT

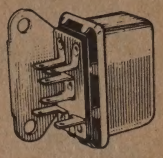
Stock No.	Type	DC Volts	Ohms @25°C	1-24	25-49	50-99	100-249
60F2971	MS64-901	6	400	2.27	2.04	1.82	1.59
60F2972	MS64-902	12	1600	2.42	2.18	1.94	1.69
60F2973	MS64-903	24	6500	2.56	2.30	2.05	1.79

BRACKET SOLDER TERMINALS

60F2975	MS64-911	6	400	2.38	2.14	1.90	1.67
60F2976	MS64-912	12	1600	2.46	2.21	1.97	1.72
60F2977	MS64-913	24	6500	2.69	2.42	2.15	1.88

TYPE 150 DC POWER RELAYS

- Metal Case
- Isolated Coil
- Totally Enclosed



¼ in. quick-connect termination. Dimensions: 2¼ in. long by 1½ in. wide by 2 in. high. DC coil voltage 12V, Resistance 44 ohms. Side bracket and hardware included.

Stock No.	Type	Contacts Action	V.	Amps	1-24	25-49	50-99
60F2666	150-902	SP-NO	12	25	3.75	3.53	3.13
60F2669	150-905	SPDT	12	15	4.25	3.95	3.51

AGASTAT TIME DELAYS, RELAYS AND SWITCHES

Provides industrial control designers the accuracy and reliability of high grade time delays, relays, and switches at industrial price levels. Offer extreme reliability under severe operating conditions making them ideal for demanding industrial applications.

Stk. No.	Model New	Model Old	Fig.	Time Delay Range	AC Volts	NET
57F1550	7012AB	2412AB	A	0.5 to 5 sec.	120	57.00
57F1551	7012AD	2412AD	A	5.0 to 50 sec.	120	57.00
57F1552	7012AH	2412AH	A	3 to 30 min.	120	66.00
57F1553	7012BB	2412BB	A	0.5 to 5 sec.	240	57.00
57F1554	7012BD	2412BD	A	5.0 to 50 sec.	240	57.00
57F1555	7012BH	2412BH	A	3 to 30 min.	240	66.00
57F1556	7022AB	2422AB	A	0.5 to 5 sec.	120	57.00
57F1557	7022AD	2422AD	A	5.0 to 50 sec.	120	57.00
57F1558	7022AH	2422AH	A	3 to 30 min.	120	66.00
57F1559	7022BB	2422BB	A	0.5 to 5 sec.	240	57.00
57F1560	7022BD	2422BD	A	5.0 to 50 sec.	240	57.00
57F1561	7022BH	2422BH	A	3 to 30 min.	240	66.00
57F1581	7012AC	2412AC	A	1.5 to 15 sec.	120	57.00
57F1582	7022AC	2422AC	A	1.5 to 15 sec.	120	57.00
57F1583	7012AE	2412AE	A	20 to 200 sec.	120	57.00
57F1584	7022AE	2422AE	A	20 to 200 sec.	120	57.00
57F1585	7012AF	2412AF	A	1 to 10 min.	120	61.00
57F1586	7022AF	2422AF	A	1 to 10 min.	120	61.00
57F1566	....	GZ	D	Relay Enclosure w/bottom knockouts	....	6.50
57F1564	....	T	E	Aux. switch kit (see text) 30 sec.	....	8.00
57F1565	....	L	E	Aux. switch kit (see text) 30 sec.	....	7.00
57F1900	....	X	C	Panel Mtg. Access. kit	....	4.00

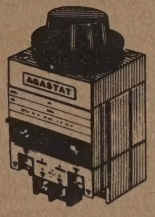


Fig. A

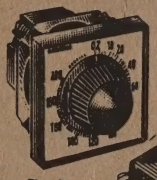


Fig. D

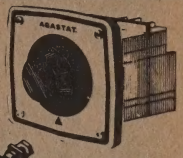


Fig. C

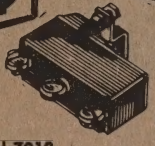


Fig. E

Model 7012

Time delay on pull-in. Timing cycle begins when coil is energized. Coil kept energized throughout delay period preceding DPDT contacts transfer. Coil de-energized: contacts retransfer immediately (50 m-sec). Coil de-energized during time cycle, contacts transferred & timing mech. resets to start position for full time cycle on next energization of coil.

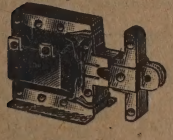
Model 7022

Time delay on drop-out. Coil energized: DPDT contacts transfer & stay in transfer position. Coil de-energized: Time delay begins. Timing cycle contacts stay transferred. End time delay setting: contacts transfer back to de-energized position. Coil re-energized during time cycle; contacts remain transferred, produce full time delay upon next de-energization if coil remains de-energized through time setting.

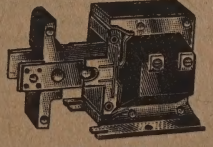
Auxiliary Switch-Kits

SPDT contacts rated 10A/120, 250, 480 VAC. Type "T" provides immediate transfer of contacts for 7022 and two step timing to 100 sec. for both 7012 and 7022 models. Type "L" provides immediate transfer of contacts for 7012 models.

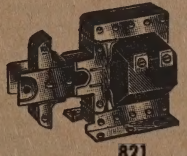
SINGER CONTROLS DIVISION AC SOLENOIDS



801



812 813



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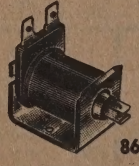
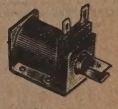


860-300



860-200

AC solenoids are available in both intermittent and continuous duty types. Coil windings are imbedded in a heavy stock resistent layer of epoxy. Zinc dichromate finish made by the world's largest manufacturer of solenoids.

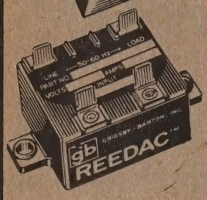
Stk. No.	Part Number	Volts	Duty	Ohms	Amps	Adj. Stroke (in.)	Max-Lift Minimum Stroke	Shpg. Wt. Oz.	1-24	25-49	50-99	100-249
24F1600	801-101-2	115	Continuous	71	.30	1/16-5/16	53	8	5.06	4.61	4.24	3.91
24F1601	801-102-2	115	Intermittent	48.8	.50	1/16-5/16	75	8				
24F1602	801-103-2	230	Continuous	284	.15	1/16-5/16	53	8				
24F1603	812-101-2	115	Continuous	17.7	.58	1/16-1 1/16	154	18	6.84	6.23	5.74	5.28
24F1604	812-102-2	115	Intermittent	12.35	.97	1/16-1 1/16	192	18				
24F1605	812-103-2	230	Continuous	70.8	.29	1/16-1 1/16	154	18				
24F1606	813-101-2	115	Continuous	12.6	.60	1/16-1 1/16	196	22	7.42	6.78	6.19	5.68
24F1607	813-102-2	115	Intermittent	8.04	1.41	1/16-1 1/16	292	22				
24F1608	813-103-2	230	Continuous	50.4	.30	1/16-1 1/16	196	22				
24F1609	821-101-2	115	Continuous	4.68	.97	1/16-1 3/16	300	40	9.17	8.33	7.60	7.02
24F1610	821-102-2	115	Intermittent	3.17	1.77	1/16-1 3/16	460	40				
24F1611	821-103-2	230	Continuous	18.7	.485	1/16-1 3/16	300	40				

REEDAC™ Relays and Switches

24 TO 280 VAC, 5, 10 OR 25 AMP RANDOM TURN-ON MOLDED SOLID STATE RELAY

Random turn-on, 4 to 32 VDC TTL compatible photo-isolated input with reverse polarity protection. SPST N.O. output, 5, 10 or 25 AMP, 24 to 280 VAC with internal RC network protection. Molded package with screw termination. Size: 2.250″ L. x 1.75″ W. x .875″ H. with 1.875″ mtg. ctr.

Stock No.	Type	1-49	50-99
62F4048	16405-0	18.88	15.73
62F4069	16410-0	19.32	16.10
62F4070	16425-0	23.65	19.71



24 TO 280 VAC, 10 OR 25 AMP REEDAC™

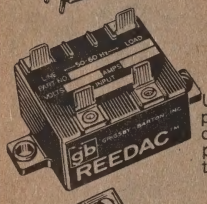
U.L. recognized, random turn-on, 5 VDC TTL compatible reed relay input with clamp diode. SPST N.O. output, 10 or 25 AMP, 24 to 280 VAC with internal RC network protection. 2.25″ mounting center with screw terminals convertible to .250″ quick connects. Suitable for all types of AC loads. Size: 2.70″ L. x 1.52″ W. x 1.15″ H. 2.25 mtg. ctr.

Stock No.	Type	1-24	25-49
62F4051	2400-1005-4-04	16.24	13.54
62F4052	2400-2505-4-04	22.77	18.97

24 TO 280 VAC, 1.5 AMP MINIATURE REEDAC™

U.L. recognized, random turn-on, 5 VDC TTL Compatible reed relay input with clamp diode. SPST N.O. output, 1.5 AMP, 24 to 280 VAC with internal RC network protection. .040″ dia. pins for PC mounting. Size: 1.54″ L. x 1.015″ W. x .700″ H.

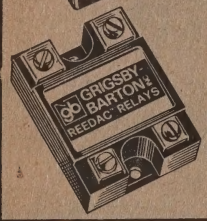
Stock No.	Type	1-24	25-49
62F4053	4400-0105-4-PC	12.00	10.20



24 TO 280 VAC, 10 OR 25 AMP ZERO VOLTAGE TURN-ON SOLID STATE RELAY

U.L. recognized, zero voltage turn-on, 3 to 32 VDC TTL compatible photo-isolated input with reverse polarity protection. SPST N.O. output, 10 or 25 AMP, 24 to 280 VAC with internal RC network protection. 2.25″ mounting center with screw terminals convertible to .250″ quick connects. Size: 2.70″ L. x 1.52″ W. x 1.15″ H.

Stock No.	Type	1-24	25-49
62F4029	12400-1032-4-04	18.94	15.78
62F4054	12400-2532-4-04	24.54	20.45



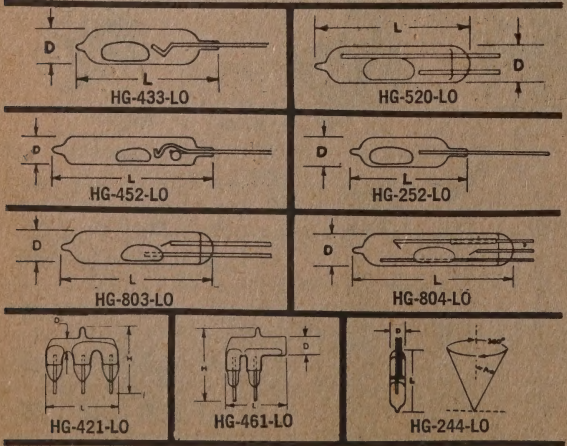
24 TO 280 VAC, 5, 10 OR 25 AMP ZERO VOLTAGE TURN-ON MOLDED SOLID STATE RELAY

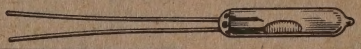
U.L. recognized zero voltage turn-on, 3 to 32 VDC TTL compatible photo-isolated input with reverse polarity protection. SPST N.O. output, 5, 10 or 25 AMP, 24 to 280 VAC with internal RC network protection. Molded package with screw termination. 2500 VRMS isolation. Size: 2.250″ L. x 1.75″ W. x .875″ H. with 1.875″ mtg. ctr.

Stock No.	Type	1-49	50-99
62F4044	15405-1	19.75	16.46
62F4045	15410-1	20.18	16.82
62F4047	15425-1	26.25	21.87

SIZE CHART

Type	D	L	H
HG 433LO	.495	1.750	....
HG 452LO	.600	2.625	....
HG 803LO	.325	1.375	....
HG 421LO	.450	1.375	1.500
HG 252LO	.325	1.00	....
HG 520LO	.155	.500	....
HG 244LO	.495	1.125	....
HG 804LO	.350	1.562	....
HG 461LO	.450	1.375	1.500





MERCURY SWITCHES

Mercury switches eliminate contact bounce, switch heavy currents, and offer low contact resistance. Differential angle is measured from Norm. Closed position and is tilt angle required to move mercury pool from just-break to just-make. In SPST switches, diff. angle is from make to break. In SPST switches, diff. angle is from make to break. In SPDT switches, it is angle between two operating positions. Max. current ratings are for resistive loads only. MM—Two mercury pools make and break contact. MWM—Pool makes contact with mercury-wetted metal electrode. MDM—Pool makes contact with dry electrode. Oper. temp.: −35°C to +300°C. Use with mounting clips.

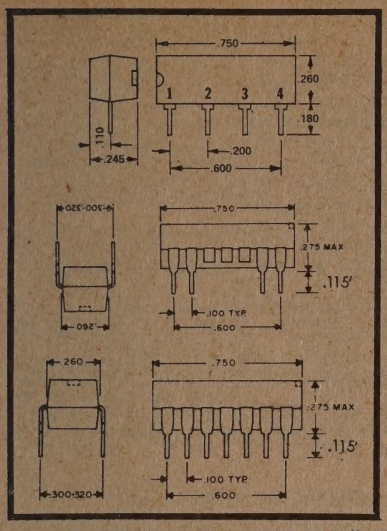
Stock No.	Type HG-	Contact Arrg.	Max. Amps 30V	115V	220V	Contact Type	Max. Diff. Angle	Mtg. Clip	Each
62F4055	252-LO	SPST	4	2	1	MWM	14°	M-514	1.00
62F4056	433-LO	SPST	8	5	2	MDM	5°	M-511	3.00
62F4057	520-LO	SPST	.25	.1	.05	MDM	10°	M-539	2.00
62F4058	452-LO	SPST	20	10	5	MDM	3°	M-512	3.15
62F4059	244-LO	SPST	2	1	.5	MDM	*	M-511	7.75
62F4060	803-LO	SPST	1	.2	.1	MWM	1.4°	M-514	1.40
62F4061	804-LO	SPDT	1	.2	.1	MWM	2°	M-514	2.50
62F4062	421-LO	SPST	30	20	10	MM	10°	M-56**	7.00
62F4063	461-LO	SPDT	30	20	10	MM	14°†	M-56	10.40

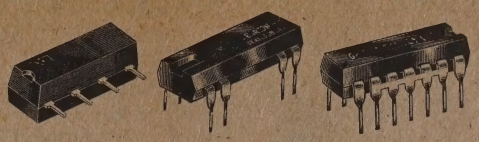
(*)Angle measured from vertical; Min. 20° ±5°, Max. 65° ±5°.
(†)Min. angle 9°.
(**)Two mounting clips required.

MOUNTING CLIPS

Stock No.	Type	Description	Each
62F4064	M-56	H: .609″ x W: .625″ x L: .312″	.40
62F4065	M-511	H: .681″ x W: .470″ x L: 1.286″	.40
62F4066	M-512	H: .875″ x W: .656″ x L: .938″	.30
62F4067	M-514	H: .562″ x W: .385″ x L: .410″	.25
62F4068	M-539	H: .275″ x W: .218″ x L: .250″	.30

DIP Reed Relays and Reed Switches GORDOS





DUAL-IN-LINE PACKAGE REED RELAYS

This family of dual-in-line reed relays offers a complete selection of contact configurations, coil voltages and packaging. Choose from JEDEC TO-116 case size or .275" high commercial version. Forms include dry-reed Form A, 2 Form A and Form C. Coil voltages of 5, 12 and 24 volts interface directly with DTL, TTL and HTL logic without additional buffering. Contact ratings range up to 10 watts DC in Form A and 3 watts DC in Form C. Pin spacing conforms to the standard DIP lead spacing. All models fit standard 14-pin receptacles and can be inserted automatically. 8-pin models are designed for direct printed circuit board mounting where it is desirable to drill only 8 holes. Internal clamp diodes available on all models, for protection of drivers, by suppressing back EMF. New techniques in semi-automatic assembly, transfer-molding and automatic testing provide dependable and environmental protection at a low initial cost.

CONTACT RATINGS

Type of Relay D.C. Watts Contacts Type No.	DRY REED Lo. Level to 3 WDC SPST and SPDT 822A, 832A	DRY REED Lo. Level to 10 WDC SPST and SPDT 741A, 821A, 831A	DRY REED Lo. Level to 3 WDC SPDT Type 821C, 831C
Maximum Switching Voltage	28 VDC	100 VDC	28 VDC
Maximum D.C. Current Rating	100 MA	250 MA	250 MA
Breakdown Voltage	150 VDC	250 VDC	250 VDC
Initial Contact Resistance	.200 Ohms	.150 Ohms	.200 Ohms
Typical Operate Time	.5 ms	.6 ms	1.0 ms
Typical Release Time	.35 ms	.35 ms	1.5 ms

TYPE 741A IN 4-PIN .260" HIGH CASE

Stock No.	Type	Contact Form	VDC Nom.	Coil Ohms Nom.	Diode	1-24	25-49	50-99	100-249
62F4005	741A-1	1A	5	380	No	3.45	3.28	2.93	2.42
62F4006	741A-2	1A	5	380	Yes	4.05	3.85	3.44	2.84
62F4040	741A-3	1A	12	500	No	3.45	3.28	2.93	2.47
62F4041	741A-4	1A	12	500	Yes	4.05	3.85	3.44	2.84
62F4042	741A-7	1A	24	2,150	No	4.17	3.96	3.54	2.92
62F4043	741A-8	1A	24	2,150	Yes	4.76	4.52	4.05	3.33

TYPE 821A IN 14-PIN .275" HIGH CASE

Stock No.	Type	Contact Form	VDC Nom.	Coil Ohms Nom.	Diode	1-24	25-49	50-99	100-249
62F4007	821A-1	1A	5	380	No	3.00	2.85	2.55	2.10
62F4008	821A-2	1A	5	380	Yes	3.60	3.42	3.06	2.52
62F2922	821A-3	1A	5	500	No	3.81	3.62	3.24	2.67
62F2923	821A-4	1A	5	500	Yes	4.40	4.18	3.74	3.08
62F4009	821A-5	1A	12	500	No	3.00	2.85	2.55	2.10
62F2925	821A-6	1A	12	500	Yes	3.60	3.42	3.06	2.52
62F2926	821A-7	1A	24	1,750	No	3.71	3.52	3.15	2.60
62F2927	821A-8	1A	24	1,750	Yes	4.31	4.09	3.66	3.02

TYPE 821C IN 14-PIN .275" HIGH CASE

Stock No.	Type	Contact Form	VDC Nom.	Coil Ohms Nom.	Diode	1-24	25-49	50-99	100-249
62F2935	821C-2	1C	5	150	Yes	7.50	7.12	6.38	5.25
62F2937	821C-4	1C	12	450	Yes	7.50	7.12	6.38	5.25
62F2939	821C-6	1C	24	1,750	Yes	8.21	7.80	6.98	5.75

TYPE 822A IN 14-PIN .275" HIGH CASE

Stock No.	Type	Contact Form	VDC Nom.	Coil Ohms Nom.	Diode	1-24	25-49	50-99	100-249
62F2929	822A-2	2A	5	150	Yes	5.71	5.42	4.85	4.00
62F2931	822A-4	2A	12	450	Yes	5.71	5.42	4.85	4.00
62F2933	822A-6	2A	24	1,750	Yes	6.55	6.22	5.57	4.59

TYPE 831A IN 8-PIN .275" HIGH CASE

Stock No.	Type	Contact Form	VDC Nom.	Coil Ohms Nom.	Diode	1-24	25-49	50-99	100-249
62F4010	831A-1	1A	5	380	No	3.00	2.85	2.55	2.10
62F4011	831A-2	1A	5	380	Yes	3.60	3.42	3.06	2.52
62F2914	831A-3	1A	5	500	No	3.81	3.62	3.24	2.67
62F2915	831A-4	1A	5	500	Yes	4.40	4.18	3.74	3.08
62F4012	831A-5	1A	12	500	No	3.00	2.85	2.55	2.10
62F4013	831A-6	1A	12	500	Yes	3.60	3.42	3.06	2.52
62F2918	831A-7	1A	24	1,750	No	3.71	3.52	3.15	2.60
62F2919	831A-8	1A	24	1,750	Yes	4.31	4.09	3.66	3.02

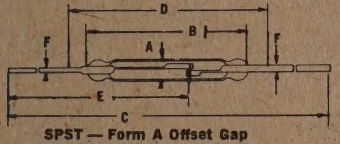
TYPE 831C IN 8-PIN .275" HIGH CASE

Stock No.	Type	Contact Form	VDC Nom.	Coil Ohms Nom.	Diode	1-24	25-49	50-99	100-249
62F4034	831C-2	1C	5	150	Yes	7.50	7.12	6.38	5.25
62F4035	831C-4	1C	12	450	Yes	7.50	7.12	6.38	5.25
62F4036	831C-6	1C	24	1,750	Yes	8.21	7.80	6.98	5.75

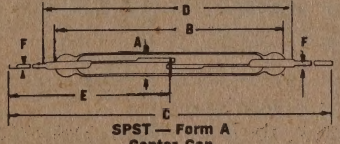
TYPE 832A IN 8-PIN .275" HIGH CASE

Stock No.	Type	Contact Form	VDC Nom.	Coil Ohms Nom.	Diode	1-24	25-49	50-99	100-249
62F4037	832A-2	2A	5	150	Yes	5.71	5.42	4.85	4.00
62F4038	832A-4	2A	12	450	Yes	5.71	5.42	4.85	4.00
62F4039	832A-6	2A	24	1,750	Yes	6.55	6.22	5.57	4.59

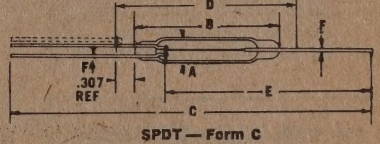
SUB-MINIATURE THRU LARGE REED SWITCHES



SPST — Form A Offset Gap
SPST — Form A Mercury Wetted



SPST — Form A
Center Gap



SPDT — Form C

SUB-MINIATURE AND MINIATURE REED SWITCHES

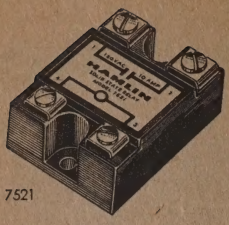
Stock No.	Type	Form	Description	Maximum Dim. Dia. A	Maximum Dim. Lgth. B	Nom. Lgth. C	Maximum Amps	Maximum VDC	Initial Contact Res. Ohms	Min. Br. Volt. Volts-RMS	Typical Oper. Time M Sec.	Amp. Turns	1-24	25-49	50-99
62F4014	MR-456	A	Offset gap	.090"	.560"	1.90"	.250	100	.150	250	0.6	10/50	.95	.71	.67
62F4015	MR-458	A	Offset gap	.090"	.560"	1.90"	.250	100	.150	250	0.6	10/50	1.10	.83	.77
62F4016	MR-108	A	Center gap	.105"	.785"	2.10"	.500	200	.100	250	0.75	20/35	.93	.70	.65
62F4017	MR-138	A	Center gap	.105"	.815"	2.10"	.500	1000	.100	1200	0.50	20/35	3.50	2.63	2.45
62F4018	MR-5830	A	Center Gap	.105"	.845"	2.10"	.500	200	.090	250	0.75	28/42	1.05	.79	.74
62F4019	WR-127-1	A	Mercury Wetted	.125"	.690"	1.62"	1.0	1000	.050	1500	1.75	40/55	3.50	2.63	2.45
62F4020	MR-5204	C	SPDT	.125"	.600"	2.125"	.300	28	.150	200	0.5	20/35	3.75	2.81	2.63

COMPACT STANDARD & LARGE REED SWITCHES

62F4021	MR-608	A	Offset gap	.190"	1.45"	3.20"	1.0	250	.050	300	2.0	40/55	1.20	.90	.84
62F4022	MR-8901	A	Offset gap	.190"	1.70"	3.20"	3.0	250	.500	400	2.5	50/65	2.70	2.03	1.89
62F4023	MR-708	A	Center gap	.190"	1.65"	3.40"	1.0	250	.050	300	2.0	40/55	1.20	.90	.84
62F4024	MR-201	C	SPDT	.190"	1.20"	3.15"	.250	100	.200	250	3.5	40/55	3.00	2.25	2.10
62F4025	MR-200-2	C	SPDT	.190"	1.20"	3.15"	.250	100	.200	250	3.5	25/40	3.75	2.81	2.63
62F4026	MR-988	A	Center gap	.195"	2.07"	3.20"	1.0	1200	.050	1400	2.5	50/65	3.75	2.81	2.63

Relays and Coaxial Switches

HAMLIN OPTO-ISOLATED SOLID-STATE RELAYS



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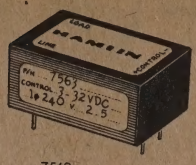


7562

Solid State Relays ready for your circuit design. PCB and surface mounted units designed to switch inductive, capacitive or resistive loads up to 40 amps.
Outstanding features include:

- **Opto-coupled**
- **Zero Voltage Synchronous Switching**
- **1500 VAC isolation**
- **2½-40 Amp Rating**
- **PCB Mount or Lug Terminals**
- **Epoxy Encapsulated for Ruggedness**
- **120 or 240 VAC Switching Capability**

Input-All Models: Input Voltage: 3-32 VDC
Input Current: 3 MA Max @ 3V—37 MA Max @32V

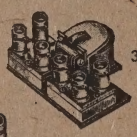
Stk. No.	Type	Load Current Max. RMS @25°C	AC Line Volt 47-63 Hz	Blocking Volt. Max.	Max. Surge Current	1-9	10-24
31F1375	7501	2.5A	120	200	80A	12.75	11.50
31F1376	7502	2.5A	240	400	80A	14.05	12.65
31F1377	7511	5.0A	120	200	80A	13.55	12.20
31F1378	7512	5.0A	240	400	80A	14.95	13.45
31F1379	7561	2.5A	120	200	80A	16.60	14.98
31F1380	7562	2.5A	240	400	80A	17.70	15.95
31F1381	7564	3.0A	120	200	80A	16.60	14.90
31F1382	3.0A	3.0A	240	400	80A	17.70	15.95

Stk. No.	Type	AC Line Volt 47-63 Hz	Blocking Volt. Max.	Max. Surge Current	1-9	10-24	25-49
31F1383	7521	120 VAC	200 Volts	10A RMS	15.95	14.35	13.55
31F1384	7522	240 VAC	400 Volts	10A RMS	17.55	15.80	14.90
31F1385	7531	120 VAC	200 Volts	25A RMS	20.80	18.70	17.70
31F1386	7532	240 VAC	400 Volts	25A RMS	22.80	20.50	19.40
31F1387	7551	120 VAC	200 Volts	40A RMS	26.95	24.25	22.90
31F1388	7552	240 VAC	400 Volts	40A RMS	29.10	26.20	24.75

AMPHENOL COAXIAL SWITCHES—MANUAL AND SOLENOID OPERATED

315

322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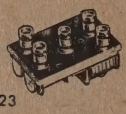

323

Popular selection of coaxial switches for a wide variety of commercial and industrial applications. Requires only 20 millisecond max. operate and release time. Mechanical life exceeds 1 million cycles. Silver plated for comp. shielding. Gold over silver plated contacts: 100 watt RF power rating. Vacuum impregnated coils withstand adverse environmental conditions including high humidity. Rating: −65°C to +85°C. Terminations are all shorting except those indicated (*). In Volts col. (**) denotes that the switches are either rotary manual (57F1108) or lever manual (57F1104 and 57F1106). Available in a wide range of function designs. All types have BNC plug.

Stock No.	Type No.	Freq. MC	Volts	Funct.	1-4	5-9	10-24
57F1100	315-10002-3*	1000	26DC	SPDT	34.57	28.81	24.71
57F1104	318-10381-0*	2750	**	SPDT	43.23	36.03	30.88
57F1106	321-11062-0*	1000	**	DPDT	58.66	48.88	41.90
57F1107	321-11064-3*	1000	26DC	DPDT	55.29	46.08	39.71
57F1108	322-11431-0*	2750	**	SP4T	94.94	79.12	67.83
57F1109	323-11506-3	900	26DC	SP4T	77.93	64.95	55.68
57F1142	323-11651-3	1250	26DC	SP4T	77.93	64.95	55.68
57F1143	325-11641-3	500	26DC	SP6T	99.77	83.15	71.26

AMPERITE THERMOSTATIC DELAY RELAYS

Hermetically-sealed, heater-actuated relays for AC or DC operation. SPST—Normally open (NO); Normally closed (C). Draw 2 W. Contact rating—115v at 3A AC and 220v at 1A AC. Breakdown voltage: delays 2-5 sec. between contacts 250 V; heater to contacts 500 V. Compensated for 55°C to 70°C ambient. Diameter, 1¼". Height, less prongs, 2¾". Min. 9 pin. ¾x2½". U.L. approved through 115V. Shpg. wt. 4 oz.

OCTAL BASE TUBE SHELL

Delay Seconds	Stock No.	6.3 NO	Stock No.	26V NO	Stock No.	115V NO	Stock No.	115V NC	NET
2	24F2300	6 NO2	24F2314	26 NO2	24F2328	115 NO2	24F2342	115 C2	
3	24F2301	6 NO3			24F2329	115 NO3	24F2343	115 C3	
5	24F2302	6 NO5	24F2316	26 NO5	24F2330	115 NO5	24F2344	115 C5	
8									
10	24F2303	6 NO10	24F2317	26 NO10	24F2331	115 NO10	24F2345	115 C10	
15	24F2304	6 NO15	24F2318	26 NO15			24F2346	115 C15	
20	24F2305	6 NO20			24F2333	115 NO20	24F2347	115 C20	
30	24F2306	6 NO30			24F2334	115 NO30	24F2348	115 C30	2.80
45			24F2321	26 NO45	24F2335	115 NO45	24F2349	115 C45	
60	24F2308	6 NO60	24F2322	26 NO60	24F2336	115 NO60	24F2350	115 C60	
90			24F2324	26 NO90	24F2338	115 NO90			
120	24F2311	6 NO120			24F2339	115 NO120	24F2353	115 C120	
150					24F2340	115 NO150			
180			24F2327	26 NO180			24F2355	115 C180	

MINIATURE 9 PIN TUBE SHELL

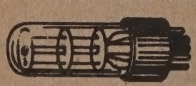
2			24F2381	26 NO2T	24F2392	115 NO2T	24F2403	115 C2T	
3			24F2382	26 NO3T	24F2393	115 NO3T	24F2404	115 C3T	
5	24F2372	6 NO5T	24F2383	26 NO5T	24F2394	115 NO5T	24F2405	115 C5T	
10	24F2373	6 NO10T	24F2384	26 NO10T	24F2395	115 NO10T			
15			24F2385	26 NO15T	24F2396	115 NO15T	24F2407	115 C15T	
20	24F2375	6 NO20T			24F2397	115 NO20T	24F2408	115 C20T	2.70
30	24F2376	6 NO30T	24F2387	26 NO30T	24F2398	115 NO30T	24F2409	115 C30T	
45	24F2377	6 NO45T	24F2388	26 NO45T	24F2399	115 NO45T	24F2410	115 C45T	
60			24F2389	26 NO60T	24F2400	115 NO60T	24F2411	117 C60T	
90							24F2412	115 C90T	
120	24F2380	6 NO120T	24F2391	26 NO120T	24F2402	115 NO120T			
30	24F2361	6 F30	Flasher						2.80

24F2414. Type 26C5T. Normally closed. Delay 5 sec. 26 V. NET.....2.70

OCTAL BASE TUBE SHELL

Delay Seconds	Stock No.	6.3 V	Stock No.	26.0 V	NET
2			24F2362	26C2	2.80
20	24F2357	6C20			
30			24F2358	26C30	

AMPERITE BALLAST TUBES



Rugged units provide low-cost automatic voltage and current regulation. As supply voltage increases, ballast tube resistance increases. Regulating action is based on high temperature coefficient of resistance element and heat dissipation qualities of gas-filled tube. Shpg. wt. 8 oz.

Stk. No.	Type	Stk. No.	Type	NET
24F744	1HM4	24F738	3TF4	2.20
24F735	1HT4	24F726	3TFV4	2.20
24F716	3-14	24F723	10-4C	2.20
24F739	3-16	24F743	3A10	2.20
24F725	3TF4A			2.20

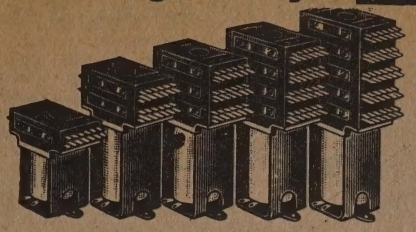
Multipole, Hi-Density Switching Relays

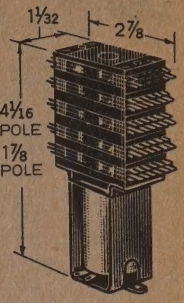
T-BAR INCORPORATED

GENERAL PURPOSE LO-LEVEL LATCHING RELAYS

- **Stack-up Contact Wafers Switch From 12 to 60 Circuits**
- **Easily-Wired Snap-on Crimp Terminals Fit Into 6-pole Connectors**

Solenoid actuated relays with unique design employing stacked-up enclosed contact wafers for up to 60-pole switching. Ideal for aircraft, telemetry, communications, computers. Latching series has ability to maintain circuit stability. Ideal where power drain strains circuit power or generates undesirable heat. Terminals mate with T-Bar Connectors. Contact assemblies in dust-tight plastic enclosures 1 1/32" wide by 2 3/8" long; height is 1 1/32" per 12 pole wafer.





Type	Application	No. of Poles	Contact Forms	Latching/Non-Latching	Coil Voltage
801	Gen. Purpose	4 to 48 60 pole unit	"A" or "C"	Non-Latching	12, 24, 28 48, 110 VDC
901	Low-Level	"A" form only			115 VAC
907	Low-Level	36 to 48	"C"	Latching	24, 28 VDC

- **Easily Mounted Only 2 Screws**
- **Mount In Any Position**

Series 800—30,000,000 mechanical (latching limited to 1,000,000) 20,000,000 @ 100 mw 100,000 @ 5 amps 28 VDC.

Series 900—30,000,000 mechanical 20,000,000 @ 100 mw 100,000 @ 1 amp at 28 VDC.

Contacts: Series 800—general purpose gold plated. Series 900—low-level bifurcated gold plated.

Contact Rating: Series 800—5 amps max. resistive to 150 watts. Series 900—1 amp max. resistive to 50 watts.

Contact Resistance: 20 milliohms typical

Ambient Temperatures: —55° to plus 85°C

Terminals: Mate with T-Bar Connectors

Dielectric Strength: 1000 VRMS @ 60 cycles/sec.

Insulation Resistance: 5000 megohms min.

TYPE 801 DC RELAYS

Stk. No.	Type	Action	Coil DCV	1-24	25-49	50-74	75-99
59F700	801-4C24	4PDT	24	13.90	13.20	12.55	11.90
59F701	801-8C24	8PDT	24	19.20	18.25	17.35	16.45
59F764	801-12A12	12PST	12	22.45	21.35	20.25	18.25
59F765	801-12A24	12PST	24	20.65	19.60	18.65	17.70
59F766	801-12A28	12PST	28	20.65	19.60	18.65	17.70
59F767	801-12A48	12PST	48	22.45	21.35	20.25	18.25
59F768	801-12A110	12PST	110	20.65	19.60	18.65	17.70
59F702	801-12C12	12PDT	12	24.00	22.80	21.65	20.55
59F703	801-12C24	12PDT	24	21.95	20.85	19.80	18.80
59F750	801-12C28	12PDT	28	21.95	20.85	19.80	18.80
59F704	801-12C48	12PDT	48	24.00	22.80	21.65	20.55
59F705	801-12C110	12PDT	110	21.95	20.85	19.80	18.80
59F769	801-24A12	24PST	12	38.30	36.40	34.60	32.80
59F770	801-24A24	24PST	24	35.15	33.40	31.75	30.10
59F771	801-24A28	24PST	28	35.15	33.40	31.75	30.10
59F772	801-24A48	24PST	48	38.30	36.40	34.60	32.80
59F773	801-24A110	24PST	110	35.15	33.40	31.75	30.10
59F751	801-24C12	24PDT	12	43.45	41.30	39.25	37.25
59F712	801-24C24	24PDT	24	39.85	37.85	36.85	34.15
59F752	801-24C28	24PDT	28	39.85	37.85	36.85	34.15

Stk. No.	Type	Action	Coil DCV	1-24	25-49	50-74	75-99
59F713	801-24C48	24PDT	48	43.45	41.30	39.25	37.25
59F714	801-24C110	24PDT	110	39.85	37.85	36.85	34.15
59F774	801-36A12	36PST	12	51.35	48.80	46.35	44.00
59F775	801-36A24	36PST	24	47.15	44.80	42.60	40.40
59F776	801-36A28	36PST	28	47.15	44.80	42.60	40.40
59F777	801-36A48	36PST	48	51.35	48.80	46.35	44.00
59F778	801-36A110	36PST	110	47.15	44.80	42.60	40.40
59F753	801-36C12	36PDT	12	59.05	56.10	53.30	50.60
59F721	801-36C24	36PDT	24	54.10	51.40	48.85	46.35
59F754	801-36C28	36PDT	28	54.10	51.40	48.85	46.35
59F722	801-36C48	36PDT	48	59.05	56.10	53.30	50.60
59F723	801-36C110	36PDT	110	54.10	51.40	48.85	46.35
59F779	801-48A12	48PST	12	59.15	56.20	53.40	50.70
59F780	801-48A24	48PST	24	59.15	56.20	53.40	50.70
59F781	801-48A28	48PST	28	59.15	56.20	53.40	50.70
59F775	801-48C12	48PDT	12	68.40	65.00	61.75	58.60
59F756	801-48C24	48PDT	24	68.40	65.00	61.75	58.60
59F757	801-48C28	48PDT	28	68.40	65.00	61.75	58.60
59F758	801-48C48	48PDT	48	68.40	65.00	61.75	58.60
59F759	801-48C110	48PDT	110	68.40	65.00	61.75	58.60

TYPE 901 DC RELAYS

Stk. No.	Type	Action	Coil DCV	1-24	25-49	50-74	75-99
59F1665	901-12C12	12PDT	12	24.00	22.80	21.65	20.55
59F1666	901-12C24	12PDT	24	21.95	20.85	19.80	18.80
59F1668	901-24C12	24PDT	12	43.45	41.30	39.25	37.25
59F1669	901-24C24	24PDT	24	39.85	37.85	36.85	34.15
59F1670	901-24C110	24PDT	110	39.85	37.85	36.85	34.15
59F1671	901-36C24	36PDT	24	54.10	51.40	48.85	46.35
59F1672	901-36C110	36PDT	110	54.10	51.40	48.85	46.35

TYPE 907 DC RELAYS

Stk. No.	Type	Action	Coil DCV	1-24	25-49	50-74	75-99
59F1678	907-36C24	36PDT	24	77.15	73.30	69.65	66.10
59F1679	907-36C28	36PDT	28	77.15	73.30	69.65	66.10
59F1680	907-48C28	48PDT	28	84.35	80.15	76.15	72.30
59F1681	907-48C24	48PDT	24	84.35	80.15	76.15	72.30

TYPE 801 & 901 115 VAC RELAYS

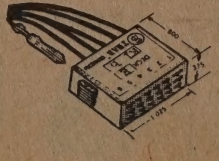
Stk. No.	Type	Action	1-24	25-49	50-74	75-99
59F789	801-4C115	4PDT	20.75	19.70	18.75	17.80
59F790	801-8C115	8PDT	24.60	23.35	22.20	21.10
59F791	801-12A115	12PST(NO)	25.80	24.50	23.30	22.10
59F792	801-12C115	12PDT	27.10	25.75	24.45	23.20
59F793	801-24A115	24PST(NO)	40.80	38.75	36.85	34.95
59F794	801-24C115	24PDT	45.50	43.25	41.10	39.00

Stk. No.	Type	Action	1-24	25-49	50-74	75-99
59F795	801-36A115	37PST(NO)	57.00	54.15	51.45	48.85
59F796	801-36C115	36PDT	59.75	56.75	53.95	51.20
59F798	801-48C115	48PDT	73.70	70.00	66.55	63.15
59F799	801-60A115	60PST(NO)	80.10	76.10	72.35	68.65
59F1667	901-12C115	12PST(NO)	27.10	25.75	24.45	23.20
59F1673	901-36C115	36PST(NO)	59.75	56.75	53.95	51.20

T-BAR CONNECTOR

Model 88601. T-Bar Connector. For connecting wires to T-Bar switches or terminals. Nylon terminal block pushes onto wafer terminals. Wires are first crimped to snap-in terminal using the crimping tool below. Accommodates #18 to 26 stranded wire with max. insulation diameter of .074". Each connector handles 6 poles, single or double throw (18 terminals) consists of 1 connector-block, 20 crimp contacts, 2 labels and 1 retaining clip. (see index).

59F741. 1-99. NET..... 1.70



CRIMPING TOOLS

Model 8601-51 Crimping Tool. For use with T-Bar connector. Crimps wire and insulation to snap-in terminals.

59F742. NET..... 98.00

Model 8601-61. Extraction Tool. Removes snap-in terminal from connector block.

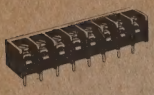
59F743. NET..... 12.00

Model 8601-71. Connector Tong. For pushing on or withdrawing connectors from wafer terminals.

59 F 739. NET..... 1.70

Barrier Terminal Blocks & Accessories

RDI Reed Devices



High barriers surround each connection on three sides for maximum insulation. Screws feature wire-clamping plates; eliminates crimp-on lugs. Break-resistant U.L. grade polypropylene block.

U.L. and CSA rated 15A., 600V. for #6 series; 20A., 600V. for #8 series, 10A., 300V. for #4 series. Front-to-back dim: 0.7" for #4 and #6 series 0.8" for #8 series. P.C. pins use #50 Drill for #4 series; #49 Drill for #6 and 8 series.

6PCV 3/8" c-c Vertical P.C. pin.

Stock Number	RDI Type	No. Term	1-9	10-24	25-49	50-99	100-249
29F2607	6PCV-02	2	$.36	$.32	$.29	$.25	$.23
29F2608	6PCV-03	3	.54	.49	.43	.38	.35
29F2609	6PCV-04	4	.72	.65	.58	.50	.47
29F2610	6PCV-05	5	.90	.81	.72	.63	.59
29F2611	6PCV-06	6	1.08	.97	.86	.76	.70
57F3901	6PCV-07	7	1.26	1.13	1.01	.88	.82
29F2612	6PCV-08	8	1.44	1.30	1.15	1.01	.94
29F2613	6PCV-09	9	1.62	1.46	1.30	1.13	1.05
29F2614	6PCV-10	10	1.80	1.62	1.44	1.26	1.17
57F3902	6PCV-11	11	1.98	1.78	1.58	1.39	1.29
29F2615	6PCV-12	12	2.16	1.94	1.73	1.51	1.40
57F3903	6PCV-13	13	2.34	2.11	1.87	1.64	1.52
29F2616	6PCV-14	14	2.52	2.27	2.02	1.76	1.64
57F3904	6PCV-15	15	2.70	2.43	2.16	1.89	1.76
29F2617	6PCV-16	16	2.88	2.59	2.30	2.02	1.87
57F3905	6PCV-17	17	3.06	2.75	2.45	2.14	1.99
29F2618	6PCV-18	18	3.24	2.92	2.59	2.27	2.11
57F3906	6PCV-19	19	3.42	3.08	2.74	2.39	2.22
57F3907	6PCV-20	20	3.60	3.24	2.88	2.52	2.34
57F3908	6PCV-21	21	3.78	3.40	3.02	2.65	2.46
29F2619	6PCV-22	22	3.96	3.56	3.17	2.77	2.57
57F3909	6PCV-23	23	4.14	3.73	3.31	2.90	2.69
29F2620	6PCV-24	24	4.32	3.89	3.46	3.02	2.81
57F3910	6PCV-25	25	4.50	4.05	3.60	3.15	2.93
57F3911	6PCV-26	26	4.68	4.21	3.74	3.28	3.04
57F3912	6PCV-27	27	4.86	4.37	3.89	3.40	3.16
57F3913	6PCV-28	28	5.04	4.54	4.03	3.53	3.28

6PCR 3/8" c-c Right Angle P.C. pin.

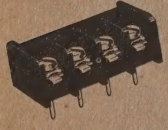
Stock Number	RDI Type	No. Term	1-9	10-24	25-49	50-99	100-249
57F3914	6PCR-02	2	$.40	$.36	$.32	$.28	$.26
29F2621	6PCR-03	3	.60	.54	.48	.42	.39
29F2622	6PCR-04	4	.80	.72	.64	.56	.52
29F2623	6PCR-05	5	1.00	.90	.80	.70	.65
29F2624	6PCR-06	6	1.20	1.08	.96	.84	.78
57F3915	6PCR-07	7	1.40	1.26	1.12	.98	.91
29F2625	6PCR-08	8	1.60	1.44	1.28	1.12	1.04
57F3916	6PCR-09	9	1.80	1.62	1.44	1.26	1.17
29F2626	6PCR-10	10	2.00	1.80	1.60	1.40	1.30
57F3917	6PCR-11	11	2.20	1.98	1.76	1.54	1.43
57F3918	6PCR-12	12	2.40	2.16	1.92	1.68	1.56
57F3919	6PCR-13	13	2.60	2.34	2.08	1.82	1.69
57F3920	6PCR-14	14	2.80	2.52	2.24	1.96	1.82
57F3921	6PCR-15	15	3.00	2.70	2.40	2.10	1.95
57F3922	6PCR-16	16	3.20	2.88	2.56	2.24	2.08
57F3923	6PCR-17	17	3.40	3.06	2.72	2.38	2.21
57F3924	6PCR-18	18	3.60	3.24	2.88	2.52	2.34
57F3925	6PCR-19	19	3.80	3.42	3.04	2.66	2.47
57F3926	6PCR-20	20	4.00	3.60	3.20	2.80	2.60
57F3927	6PCR-21	21	4.20	3.78	3.36	2.94	2.73
57F3928	6PCR-22	22	4.40	3.96	3.52	3.08	2.86
57F3929	6PCR-23	23	4.60	4.14	3.68	3.22	2.99
57F3930	6PCR-24	24	4.80	4.32	3.84	3.36	3.12
57F3931	6PCR-25	25	5.00	4.50	4.00	3.50	3.25
57F3932	6PCR-26	26	5.20	4.68	4.16	3.64	3.38
57F3933	6PCR-27	27	5.40	4.86	4.32	3.78	3.51
57F3934	6PCR-28	28	5.60	5.04	4.48	3.92	3.64

8PCV 7/16" c-c Vertical P.C. pin.

Stock Number	RDI Type	No. Term	1-9	10-24	25-49	50-99	100-249
57F3959	8PCV-02	2	$.40	$.36	$.32	$.28	$.26
29F2633	8PCV-03	3	.60	.54	.48	.42	.39
29F2634	8PCV-04	4	.80	.72	.64	.56	.52
29F2635	8PCV-05	5	1.00	.90	.80	.70	.65
29F2636	8PCV-06	6	1.20	1.08	.96	.84	.78
57F3960	8PCV-07	7	1.40	1.26	1.12	.98	.91
57F3961	8PCV-08	8	1.60	1.44	1.28	1.12	1.04
57F3962	8PCV-09	9	1.80	1.62	1.44	1.26	1.17
57F3963	8PCV-10	10	2.00	1.80	1.60	1.40	1.30
57F3964	8PCV-11	11	2.20	1.98	1.76	1.54	1.43
57F3965	8PCV-12	12	2.40	2.16	1.92	1.68	1.56
57F3966	8PCV-13	13	2.60	2.34	2.08	1.82	1.69
57F3967	8PCV-14	14	2.80	2.52	2.24	1.96	1.82
57F3968	8PCV-15	15	3.00	2.70	2.40	2.10	1.95
57F3969	8PCV-16	16	3.20	2.88	2.56	2.24	2.08
57F3970	8PCV-17	17	3.40	3.06	2.72	2.38	2.21
57F3971	8PCV-18	18	3.60	3.24	2.88	2.52	2.34
57F3972	8PCV-19	19	3.80	3.42	3.04	2.66	2.47
57F3973	8PCV-20	20	4.00	3.60	3.20	2.80	2.60
57F3974	8PCV-21	21	4.20	3.78	3.36	2.94	2.73
57F3975	8PCV-22	22	4.40	3.96	3.52	3.08	2.86
57F3976	8PCV-23	23	4.60	4.14	3.68	3.22	2.99
57F3977	8PCV-24	24	4.80	4.32	3.84	3.36	3.12
57F3978	8PCV-25	25	5.00	4.50	4.00	3.50	3.25

8PCR 7/16" c-c Right Angle P.C. pin.

Stock Number	RDI Type	No. Term	1-9	10-24	25-49	50-99	100-249
57F3935	8PCR-02	2	$.44	$.40	$.35	$.31	$.29
57F3936	8PCR-03	3	.66	.59	.53	.46	.43
57F3937	8PCR-04	4	.88	.79	.70	.62	.57
57F3938	8PCR-05	5	1.10	.99	.88	.77	.72
57F3939	8PCR-06	6	1.32	1.19	1.06	.92	.86
57F3940	8PCR-07	7	1.54	1.39	1.23	1.08	1.00
57F3941	8PCR-08	8	1.76	1.58	1.41	1.23	1.14
57F3942	8PCR-09	9	1.98	1.78	1.58	1.39	1.29
57F3943	8PCR-10	10	2.20	1.98	1.76	1.54	1.43
57F3944	8PCR-11	11	2.42	2.18	1.94	1.69	1.57
57F3945	8PCR-12	12	2.64	2.38	2.11	1.85	1.72
57F3946	8PCR-13	13	2.86	2.57	2.29	2.00	1.86
57F3947	8PCR-14	14	3.08	2.77	2.46	2.16	2.00
57F3948	8PCR-15	15	3.30	2.97	2.64	2.31	2.15
57F3949	8PCR-16	16	3.52	3.17	2.82	2.46	2.29
57F3950	8PCR-17	17	3.74	3.37	2.99	2.62	2.43
57F3951	8PCR-18	18	3.96	3.56	3.17	2.77	2.57
57F3952	8PCR-19	19	4.18	3.76	3.34	2.93	2.72
57F3953	8PCR-20	20	4.40	3.96	3.52	3.08	2.86
57F3954	8PCR-21	21	4.62	4.16	3.70	3.23	3.00
57F3955	8PCR-22	22	4.84	4.36	3.87	3.39	3.15
57F3956	8PCR-23	23	5.06	4.55	4.05	3.54	3.29
57F3957	8PCR-24	24	5.28	4.75	4.22	3.70	3.43
57F3958	8PCR-25	25	5.50	4.95	4.40	3.85	3.58



SPACE SAVER SIZE

Same features as above but miniature size P.C. pins on .325" centers; #4-40 screws handle up to 4 each #18 AWG or 2 each #14 AWG wires.

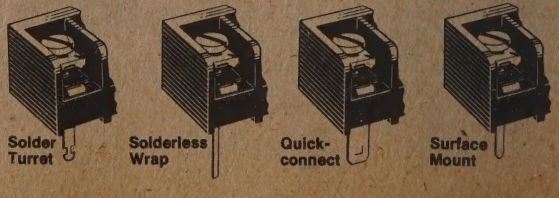
4PCV

Stock Number	RDI Type	No. Term	1-9	10-24	25-49	50-99	100-249
29F2600	4PCV-04	4	$.90	$.81	$.72	$.63	$.59
29F2601	4PCV-05	5	1.15	1.04	.92	.81	.75
29F2602	4PCV-06	6	1.38	1.24	1.10	.97	.90
57F3900	4PCV-07	7	1.54	1.39	1.23	1.08	1.00
29F2603	4PCV-08	8	1.76	1.58	1.41	1.23	1.14
29F2604	4PCV-09	9	1.98	1.78	1.58	1.39	1.29
29F2605	4PCV-10	10	2.20	1.98	1.76	1.54	1.43
29F2606	4PCV-11	11	2.31	2.08	1.85	1.62	1.50

JUMPERS, 2-Position

Stk. No.	RDI Type	For Series	10	50	100
57F3979	J4-2	#4			
57F3980	J6-2	#6	$.20	$.18	$.16
57F3981	J8-2	#8			

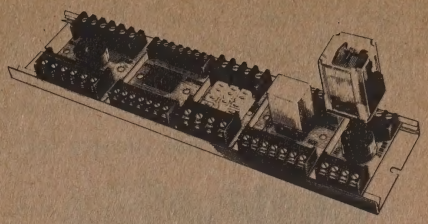
OTHER RDI TERMINAL STYLES



RDI / Reed Devices Inc.

SNAPTRACK™ MOUNTING SYSTEM

The **SNAPTRACK**TM mounting system provides a low cost convenient method for installing plug-in relays, timers and tubes in control equipment. Socket assemblies snap into position along continuous sections of SNAPTRACK, an extruded PVC, non-conductive mounting track, 3⅜" wide and new 2⅞" wide. The track may be installed with rivets or screws. Socket assemblies consist of a socket mounted to a G-10 epoxy glass P.C. board with choice of specially designed U.L. grade P.P. barrier type screw terminal blocks or ¼" quick-connect tabs. The assembly is then wave soldered for circuit reliability. Terminal points are clearly numbered with epoxy ink. Screws are in the raised position and feature captive wire clamps which eliminate need for bending of, or attaching hook or ring terminals to wires. Wired-in 120V, 240V neon lamp to indicate power at coil terminals available as option. Add "1" or "2" to Cat. No.



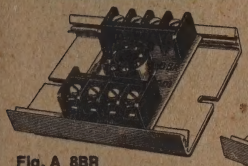


Fig. A 8BR

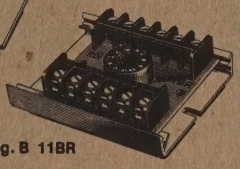


Fig. B 11BR

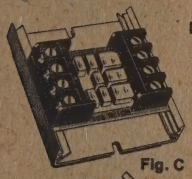


Fig. C 8BS

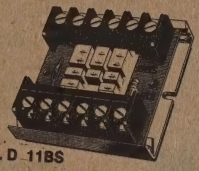


Fig. D 11BS

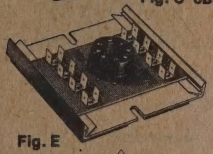


Fig. E

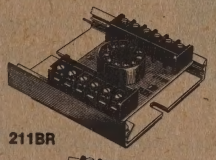


Fig. F 211BR

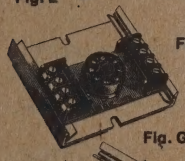


Fig. G 218BR

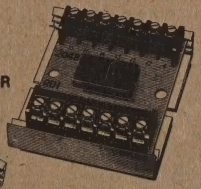


Fig. H 204BS

Fig. J 214BS

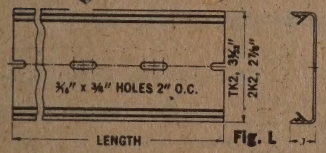


Fig. L

Solve single and two card termination problems. Converts 22 pin card guided edge connector to screw terminal wiring. Also available is optional 22-pin pcb "Kluge" board for prototyping circuits. Holes drilled for DIP devices. Terminal size*: 5" W. x 1¼ H. top of terminal block. PCB size*: 4.5" W. x 5" H. max. suggested. (Guide depth 2½".)

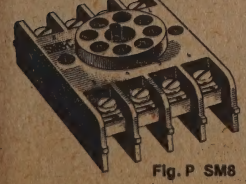


Fig. P SM8

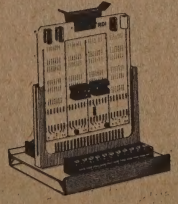


Fig. M

STANDARD SIZE—#8-32 Terminal Screws—For TK2 SNAPTRACKTM

Stk. No.	Cat. No.	Fig.	Description	Length (Inch)	Prices, Each 1-9	10-24	25-49	50-99
29F1200	8BR	A	8 pin Octal	2	2.80	2.55	2.25	2.00
29F1201	8BR1	A	8 pin Octal w/Lamp	2	3.80	3.45	3.05	2.70
29F1202	11BR	B	11 pin Round	3	4.00	3.60	3.20	2.80
29F1203	11BR1	B	11 pin Round w/Lamp	3	5.00	4.50	4.00	3.50
29F1204	8BS	C	8 pin KUP style	2	3.90	3.55	3.15	2.75
29F1205	11BS	D	11 pin KUP style	3	4.50	4.05	3.60	3.15
29F1206	11BS1	D	11 pin KUP Type w/Lamp	3	5.50	4.95	4.40	3.85

STANDARD SIZE—DBL ¼" Quick Connect—For TK2 SNAPTRACKTM

29F1209	8QR	E	8 pin Octal	2	2.30	2.10	1.85	1.65
29F1210	11QR	E	11 pin Round	3	3.40	3.10	2.75	2.40
29F268	11QS	D	11 pin KUP style	3	3.80	3.45	3.05	2.70

MINIATURE SIZE—#4-40 Screws—For TK2 SNAPTRACKTM

29F1273	208BR	A	8 pin Octal	2	2.90	2.65	2.35	2.05
29F271	208BR1	A	8 pin Octal w/Lamp	2	3.90	3.55	3.15	2.75
29F1274	211BR	F	11 pin Round	2⅛	4.00	3.60	3.20	2.80
29F1275	211BR1	F	11 pin Round w/Lamp	2⅛	5.00	4.50	4.00	3.50
29F1272	218BR	G	8 pin Octal—Slim Width	1.5	2.90	2.65	2.35	2.05
29F272	218BR1	G	8 pin Octal—Slim w/Lamp	1.5	3.90	3.55	3.15	2.75
29F274	204BS	H	Miniature Style—4 PDT	2.5	6.15	5.55	4.95	4.35
29F275	204BS1	H	Miniature Style w/Lamp	2.5	7.15	6.45	5.75	5.05
29F276	206BS	H	Miniature—6 PDT	3¾	8.20	7.40	6.60	5.75
29F1276	211BS	D	11 pin KUP style	2⅛	4.50	4.05	3.60	3.15
29F1277	211BS1	D	11 pin KUP w/Lamp	2⅛	5.50	4.95	4.40	3.85
29F1207	214BS	J	KHP style	2.5	5.30	4.80	4.25	3.75
29F1208	214BS1	J	KHP w/Lamp	2.5	6.30	5.70	5.05	4.45

COMPACT SIZE—#4-40 Terminal Screws—For 2TK2 SNAPTRACKTM

29F281	318BR	G	8 pin Round	1.5	2.90	2.65	2.35	2.05
29F282	311BR	F	11 pin Round	2⅛	4.00	3.60	3.20	2.80
29F283	312BS	J	KHP Style 2 N.O. 2 SPDT	2⅛	5.10	4.60	4.10	3.60
29F284	314BS	J	KHP Style, 4 Pole	2.5	5.30	4.80	4.25	3.75

SNAPTRACKTM MOUNTING TRACK—Fig. L

For 3" Wide Sockets		For 2¾" Wide Sockets		Lgth.	Price
Stock No.	Type No.	Stock No.	Type No.	In.	Net, Each
29F1211	TK2-2	29F285	2TK2-2	2	.25
29F1212	TK2-3	29F286	2TK2-3	3	.30
29F1213	TK2-6	29F287	2TK2-6	6	.45
29F1214	TK2-12	29F288	2TK2-12	12	.80
29F1215	TK2-24	29F289	2TK2-24	24	1.45
29F1216	TK2-48	29F290	2TK2-48	48	2.75

P.C. BOARD EDGE CONNECTOR ASSEMBLY/KLUGE BOARD—Fig. M

Stk. No.	Cat. No.	No. of Pins Out	Edge Connector Style	Prices, Each 1-9	10-24	25-49
29F291	22PCB	22	Elco 6022	13.00	11.70	10.40
29F292	22PC	22	Amphenol 143	13.00	11.70	10.40
29F293	44PCB	44	Elco 6022	17.00	15.30	13.60
29F294	KB22	22	Kluge Board	15.00	13.50	12.00

MOLDED STYLE—for mounting single relays—Fig. P

Stk. No.	Cat. No.	Fig.	Description	Length (Inch)	Prices, Each 1-9	10-24	25-49	50-99
29F295	SM8-C	P	8 pin Octal - Wire Clamps	1⅝"	2.30	2.10	1.85	1.65
29F296	SM11-C	P	11 pin Round - Wire Clamps	2⅞"	3.90	3.50	3.15	2.75

RELAY AND TIMER BAILS

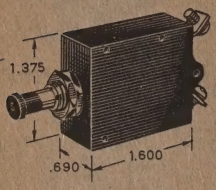
Prevents relays and timers from vibrating out of the sockets.

Stock No.	Type No.	Bail Fits	Pkg. of 10
29F1217	RB1	General Purpose Relays	5.00
29F297	RB4	Miniature Relays	.80
29F1218	TB1	Timers	6.00

Wood Circuit Breakers

Thermal Circuit Breakers contain a trip-free mechanism which allows the contacts to open on overload even if the breaker is manually held in the reset (ON) position. Pushbutton reset models have a white band around the button which becomes visible on trip. Trip times shown for each model are at 200% of load. •Denotes U/L. *Does not meet MS.

BIMETALLIC & FAST TRIP—MODELS 109, 111

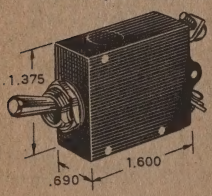


- Pushbutton Reset
- Trip-free Mechanism
- Fast Reaction
- Easily Mounted

Model 109. Must trip between 101-135% of rating @ 25°C; will interrupt 2000 A @ 250 VAC (to 400 Hz), or 5000 A @ 32 VDC. **Model 111** has heater wire for fast trip; must trip between 101-135% of rating @ 25°C; will interrupt over 100 A @ 250 VAC (to 400 Hz), or 150 A @ 32 VDC. **Models 109** and **111** terminals are 90° to each other as shown. Mounting is ⅜-24 bushing nut.

Stock No.	Type	Amps	Trip Time Sec.	Stock No.	Type	Amps	Trip Time Sec.
56F716	109-205-101	5	8-20	57F259	109-240-101	40	8-20
56F717	109-507-101	7.5		56F724	109-250-101	50	
56F718	109-210-101	10		57F260	109-260-101	60	
56F719	109-215-101	15		56F734	111-201-101	1	.55-1.7
56F720	109-220-101	20	.55-1.7	56F735	111-202-101	2	
56F721	109-225-101	25		56F736	111-203-101	3	
56F722	109-230-101	30		56F737	111-204 101	4	
56F723	109-235-101	35		.....	.....	.....	.....

SWITCH/CIRCUIT BREAKER—MODELS 112, 548



- Toggle switch action
- Flatted Bushing Mounting
- 8-32 Screw Termination
- 8-20 Sec. Trip Time

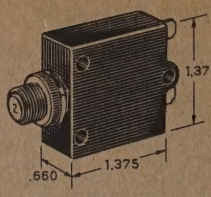
Models 112 and **548** offer the combination of toggle switch/circuit breaker in a single package. Each must trip between 101-135% of rating @ 25°C; will interrupt 3000 A @ 250 VAC (to 400 Hz) or 5000 A @ 32 VDC. Mounting: 15/32-32 screw terminals. **Model 112** has steel toggle with rate marking on end. **Model 548** has silver toggle with no marking.

Stock No.	Type	Amps	Trip Time Sec.	Stock No.	Type	Amps	Trip Time Sec.
56F725	112-205-101	5	8-20	56F731	112-230-101	30	8-20
56F726	112-507-101	7.5		56F732	112-235-101	35	
56F727	112-210-101	10		56F742	112-240-101	40	
56F728	112-215-101	15		56F733	112-250-101	50	
56F729	112-220-101	20		57F262	548-205-106	5	
56F730	112-225-101	25		57F263	548-210-106	10	

PRICE CHART

Type	1-9	10-24	25-99
109	5.40	5.08	4.43
111	10.20	9.59	8.36
112	5.65	5.31	4.63
548	6.75	6.35	5.54
374	2.85	2.68	2.34
375	1.85	1.74	1.52
431	4.15	3.90	3.40
435	2.95	2.77	2.42
436	10.40	9.78	8.53
492	10.45	9.82	8.57
507	9.55	8.98	7.83

RECESSED BUTTON—MODELS 374, 375, 431, 435

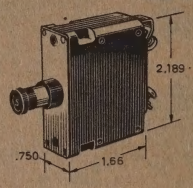


Models 374 and 375 are U/L recognized and C.S.A. listed. Models 431 and 435 are not. Red band on reset button becomes visible on trip. Must trip between 101%-145% of rating @ 25°C. Maximum rating: 250 VAC (to 400 Hz) and 32 VDC. Models 374 and 431 interrupt over 1000% of load; Models 375, 435 over 1000 A. Termination: 374, 375 have Q.C. terminals; 431, 435 have 6/32 screw terminals.

Stock No.	Type	Amps	Trip Time Sec.	Stock No.	Type	Amps	Trip Time Sec.
56F870	374-201-101	1•	9-40	57F281	431-201-101	1	9-40
56F871	374-202-101	2•		57F282	431-202-101	2	
56F872	374-203-101	3•		57F283	431-203-101	3	
56F873	374-204-101	4•		57F284	431-204-101	4	
56F874	375-205-101	5•	5.8-30	57F285	435-205-101	5	5.8-30
57F275	375-206-101	6•		57F286	435-206-101	6	
56F875	375-207-101	7•		57F288	435-208-101	8	
57F276	375-208-101	8		57F289	435-210-101	10	
56F876	375-210-101	10•		57F291	435-215-101	15	
57F277	375-212-101	12		57F292	435-220-101	20	
56F877	375-215-101	15•		57F294	435-230-101	30	
56F878	375-220-101	20•		57F295	435-235-101	35	
57F278	375-225-101	25		.....	.....	.....	.....
57F279	375-230-101	30		.....	.....	.....	.....
57F280	375-235-101	35		.....	.....	.....	.....

• Denotes U.L.

MIL-C-5809—MODEL 436



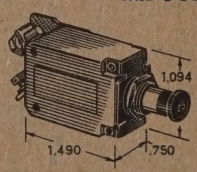
- Exceeds Requirements of MS-25017
- Screw-Mounted
- Interrupts To 400 Hz.
- 8-32 Screw Termination

Model 436 exceeds requirements of MIL-C-5809 and MS-25017 (ASG). Must trip between 116% and 138% of ratings @ 25°C. Will interrupt 6000 A @ 32 VDC or will interrupt over 3500 A @ 120 VAC (to 400 Hz). Mounting: screw mounted, six to thirty-two screws. Termination: 8-32 screw terminals.

Stock No.	Type	Amps	Trip Time Sec.	Stock No.	Type	Amps	Trip Time Sec.
57F296	436-205-101	5	15-55	57F300	436-220-101	20	15-55
57F297	436-507-101	7.5		57F301	436-225-101	25	
57F298	436-210-101	10		57F302	436-230-101	30*	
57F299	436-215-101	15		57F305	436-250-101	50	

*Does not meet MS.

MIL-C-5809—MODELS 492, 507



- Glass Melamine Barrier on Housing
- Exceeds MIL-C-5809 and MS-25244
- Interrupts to 400 Hz.
- Bushing Mounted

Model 492 has glass melamine barrier on one side of housing and is not MS. Model 507 has no barrier but is MS- exceeding MIL-C-5809 and MS-25244. Both models must trip between 116% and 138% of rating @ 25°C., and will interrupt 6000 A @32 VDC or will interrupt over 3500 A @ 120 VAC (to 400 Hz). Bushing mounted, 15-32 bushing. Termination: 8-32 screw terminals.

Stock No.	Type	Amps	Trip Time Sec.	Stock No.	Type	Amps	Trip Time Sec.
57F310	492-205-102	5	15-55	56F712	507-220-101	20	15-55
57F311	492-507-102	7.5		56F713	507-225-101	25	
57F313	492-215-102	15		57F317	507-230-101	30*	
56F708	507-205-101	5		56F714	507-235-101	35	
56F709	507-507-101	7.5		57F318	507-240-101	40*	
56F710	507-210-101	10		56F715	507-250-101	50*	
56F711	507-215-101	15		.....	.....	.....	.....

*Does not meet MS.

Wood Circuit Breakers

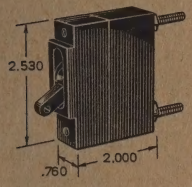
AMF | POTTER & BRUMFIELD

MAGNETIC HYDRAULIC CIRCUIT BREAKERS

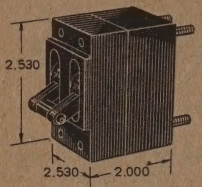
Wood Electric Magnetic Hydraulic Standard and Mini-Mag models are U/L recognized (except type 256). All types contain a trip-free mechanism which allows the contacts to open on overload even if the handle is held in the reset (ON) position. Must trip value is 101%-125% of rating @ 25°C. Standard models are temperature stable from −49°C to +85°C; Mini-Mag types, from −40°C to 85°C. All models mount with 6-32 screws. Standard models terminate to 10-32 studs; Mini-mag models, to .032 x .250 quick-connect terminals.

Auxiliary Switch Models—130 and W67A2Q1 have an SPDT auxiliary switch rated 5 A @ 125 VAC or 1 A @ 50 VDC. Thrown as breaker trips; has solder terminals. See price chart at bottom.

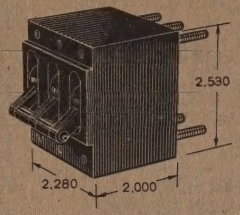
INTERRUPTION CAPACITIES		
Frequency	Max. Volts	Capacity in Amps
DC	32	3000
DC	50	2000
60 Hz	125	2000
60 Hz	250	1000



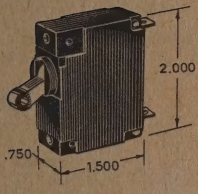
1-POLE MODELS
122
124
130
131



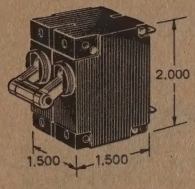
2-POLE MODELS
190
195



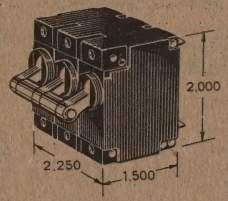
3-POLE MODELS
220
256



MINI-MAG 1-POLE MODELS W67



MINI-MAG 2-POLE MODEL W68



MINI-MAG 3-POLE MODEL W69

STANDARD TYPES

Stock No.	Type	Amps	Trip Time @ 200% of Load	Stock No.	Type	Amps	Trip Time @ 200% of Load
56F762	122-201-101	1		56F792	190-203-101	3	
56F763	122-202-101	2		56F793	190-204-101	4	
56F764	122-203-101	3		56F794	190-205-101	5	
56F765	122-204-101	4		56F795	190-207-101	7	
56F766	122-205-101	5		56F796	190-210-101	10	3-10 sec. 60 Hz
56F767	122-207-101	7	3-10 sec. 60 Hz	56F797	190-215-101	15	
56F768	122-210-101	10		56F798	190-220-101	20	
56F769	122-215-101	15		56F799	190-225-101	25	
56F770	122-220-101	20		56F810	190-230-101	30	
56F771	122-225-101	25		56F811	190-235-101	35	
56F772	122-230-101	30		56F812	190-240-101	40	
56F773	122-235-101	35		56F813	190-250-101	50	
56F774	122-240-101	40		57F237	195-215-101	15	.25-0.8 sec. 60 Hz
56F775	122-250-101	50		57F238	195-220-101	20	
57F220	124-205-101	5	.25-0.8 sec. 60 Hz	57F239	195-230-101	30	
57F221	124-210-101	10		57F240	195-250-101	50	
57F222	124-215-101	15		56F828	220-201-101	1	
57F223	130-201-101	1		56F829	220-202-101	2	
57F224	130-202-101	2		56F830	220-203-101	3	
57F225	130-203-101	3		56F831	220-204-101	4	
57F226	130-205-101	5		56F832	220-205-101	5	
57F227	130-207-101	7		56F833	220-207-101	7	3-10 sec. 60 Hz
57F228	130-210-101	10	.009-.04 sec. DC	56F834	220-210-101	10	
57F229	130-215-101	15		56F835	220-215-101	15	
57F230	130-220-101	20		56F836	220-220-101	20	
57F231	130-225-101	25		56F837	220-225-101	25	
57F232	130-230-101	30		56F838	220-230-101	30	
57F233	130-235-101	35		56F839	220-235-101	35	
57F234	130-240-101	40		56F840	220-240-101	40	
57F235	130-250-101	50		56F841	220-250-101	50	
57F236	131-210-101	10	2.5-8.0 sec. DC	57F241	256-205-101	5	2.3-8.5 sec. 400 Hz
				57F242	256-210-101	10	
				57F243	256-215-101	15	
56F790	190-201-101	1	3-10 sec. 60 Hz	57F244	256-230-101	30	
56F791	190-202-101	2					

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MINI-MAG TYPES

Stock No.	Type	Amps	Trip Time @ 200% of Load	Stock No.	Type	Amps	Trip Time @ 200% of Load
57F245	W67A2Q1-2-5	5	2.3-20 sec. 60 Hz	56F885	W68X2Q1-2-.5*	0.5	2.3-20 sec. 60 Hz
				56F886	W68X2Q1-2-1	1	
57F246	W67X2Q1-2-.5*	0.5	2.3-20 sec. 60 Hz	56F887	W68X2Q1-2-2	2	
56F805	W67X2Q1-2-1	1		56F888	W68X2Q1-2-3	3	
56F806	W67X2Q1-2-2	2		56F889	W68X2Q1-2-4	4	
56F807	W67X2Q1-2-3	3		56F890	W68X2Q1-2-5	5	
56F808	W67X2Q1-2-4	4		56F891	W68X2Q1-2-7	7	
56F809	W67X2Q1-2-5	5		56F892	W68X2Q1-2-10	10	
56F879	W67X2Q1-2-7	7		56F893	W68X2Q1-2-15	15	
56F880	W67X2Q1-2-10	10		56F894	W68X2Q1-2-20	20	
56F881	W67X2Q1-2-15	15		56F895	W68X2Q1-2-25	25	
56F882	W67X2Q1-2-20	20		56F896	W68X2Q1-2-30	30	
56F883	W67X2Q1-2-25	25		56F988	W69X2Q1-2-.5*	0.5	2.3-20 sec. 60 Hz
56F884	W67X2Q1-2-30	30		56F989	W69X2Q1-2-1	1	
57F247	W67X2Q1-3-.5*	0.5	.16-1.6 sec. 60 Hz	56F990	W69X2Q1-2-2	2	
57F248	W67X2Q1-3-1	1		56F991	W69X2Q1-2-3	3	
57F249	W67X2Q1-3-2	2		56F992	W69X2Q1-2-4	4	
57F250	W67X2Q1-3-3	3		56F993	W69X2Q1-2-5	5	
57F251	W67X2Q1-3-4	4		56F994	W69X2Q1-2-7	7	
57F252	W67X2Q1-3-5	5		56F995	W69X2Q1-2-10	10	
57F253	W67X2Q1-3-7	7		56F997	W69X2Q1-2-20	20	
57F254	W67X2Q1-3-10	10		56F998	W69X2Q1-2-25	25	
57F255	W67X2Q1-3-15	15		56F999	W69X2Q1-2-30	30	
57F256	W67X2Q1-3-20	20					
57F257	W67X2Q1-3-25	25					
57F258	W67X2Q1-3-30	30					

PRICE CHART

Type	1-9	10-24	25-99	Type	1-9	10-49	50-99
122	9.05	8.51	7.42	W67A2Q1-2*	10.60	6.89	6.25
124	8.10	7.61	6.64	W67X2Q1-2*	9.05	5.88	5.34
130	10.55	9.92	8.65	W67X2Q1-2	7.50	4.88	4.43
131	8.10	7.61	6.64	W67X2Q1-3*	9.05	5.88	5.34
190	21.00	19.74	17.22	W67X2Q1-3	7.50	4.88	4.43
195	21.00	19.74	17.22	W68X2Q1-2*	22.60	14.69	13.33
220	32.30	30.36	26.49	W68X2Q1-2	19.55	12.71	11.53
256	42.40	39.86	34.77	W69X2Q1-2*	35.35	22.98	20.86
				W69X2Q1-2	30.75	19.99	18.14

BUSSMANN

Fuses

FNM SLOW-BLOWING FUSES

Dual elements, fibre tube, slow blowing fuses avoid needless blows from starting currents or surges. Fuse link operates only on very high overloads, or short circuits. $^{13}/_{32}$"x1½". Ship. wt. 1.5 lbs. per 100. **Sold in mult. of 5 only.**

Stk. No.	Amps.	Volts	5-95 Ea.	100-495 Ea.	500-995 Ea.
27F863	½	250			
27F864	1	250			
27F865	1⅘10	250			
27F866	2	250			
27F872	2½	250			
27F867	3⅖10	250	.65	.54	.49
27F868	4	250			
27F869	5	250			
27F873	6¼	250			
27F874	8	250			
27F870	10	250			
27F875	12	125			
27F876	15	125			

FNA SIGNAL FUSES
DUAL-ELEMENT SLOW BLOWING

Has silver indicating pin which extends from fuse when fuse opens. Carry 110%, open at 135% in 1 hr. Can be used in Buss HPC-C indicating fuseholder or pin can be used to actuate a signal. **Sold in mult. of 5 only.**

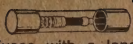
Stk. No.	Amps.	Volts	5-95 Ea.	100-495 Ea.	500-995 Ea.
28F329		250			
28F330		250			
28F331	4/10	250			
28F332	½	250			
28F333	6/10	250			
28F334	8/10	250			
28F335	1	125			
28F336	1⅛	125			
28F338	1¼10	125	1.21	1.00	.90
28F339	1⅘10	125			
28F340	1⅞10	125			
28F341	2	125			
28F344	2⅝10	125			
28F345	3	125			
28F346	3⅖10	125			
28F349	4½	125			
28F350	5	125			
28F356	10	125			

TYPE ABC CERAMIC BODY FUSES

Can take 25,000 amps. @ 125 v. without exploding. Carry 110%, open at 135% of rating. Size: ¼x1¼". **Sold in mult. of 5 only.**

Stk. No.	Amps.	Volts	Each 5-95	Each 100-495	Each 500-995
27F952	2	250	.28	.23	.21
27F953	3	250			
27F954	5	250			
27F955	6	250			
27F956	8	250	.24	.20	.18
27F957	10	250			
27F958	12	250			
27F959	15	250			
27F960	20	250			
27F961	25	125	.35	.30	.27
27F962	30	125			

MDL FUSETRON FUSES



Fuses with a long time lag. Avoid needless blows from starting currents or surges. At 200% load the approximate blowing time is 25 seconds. Size: ¼x1¼. Wt., 1 lb. per 100. **Sold in mult. of 5 only.**

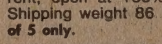
Stk. No.	Amps.	Volts	1-95 Ea.	100-495 Ea.	500-995 Ea.
27F822	1/100	250			
27F823	1/32	250	.55	.46	.42
27F824	1/16	250			
27F825	1/10	250			
28F045	⅛	250			
27F826	15/100	250			
27F827	2/10	250			
28F046	¼	250			
27F828	3/10	250	.41	.34	.31
27F829	4/10	250			
27F830	½	250			
27F831	6/10	250			
27F832	8/10	250			
27F833	1	250			
27F834	1¼	125			
27F835	1⅘10	125	.39	.33	.30
27F836	2	125			
27F837	2½	125			
27F838	2⅝16	125			
27F839	3⅖10	125			
27F840	4	32			
27F841	5	32	.34	.28	.26
27F842	6¼	32			
27F843	8	32			
27F844	10	32			
28F047	15	32			
27F845	20	32			
27F846	25	32			
27F847	30	32			

TYPE MDX FUSES

These fuses have the same specifications as Type MDL. The only main difference being that at a load of 200% the fuse blows in approximately 12 sec. .93 lbs./100. Size: ¼x1¼. **Sold in mult. of 5 only.**

Stk. No.	Amps.	Volts	1-95 Ea.	100-495 Ea.	500-995 Ea.
27F890	1¼	250			
27F891	1½	250	.43	.36	.33
27F892	1⅘10	250			
27F893	2	250			
27F894	3	125			
27F895	3⅖10	125	.34	.28	.26
27F896	4	125			
27F897	5	125			
27F898	6¼	125	.38	.31	.28
27F899	7	125			

TYPE GLD INDICATING FUSES



Silver plated indicating pin extends when fuse is blown, or can activate signal light by using an HKA fuseholder. Carry 110% of rated current, open at 135% in 1 hr. Size ¼"x1¼". Shipping weight 86 lbs. per 100. **Sold in mult. of 5 only.**

Stk. No.	Amps.	Volts	5-15 Ea.	20-95 Ea.	100-195 Ea.
27F964	¾	125	.81	.67	.61
27F965	1	125	.63	.53	.48
27F966	2	125			
27F967	3	125			
27F968	5	125			

TYPE AGX FAST-ACTING FUSES

Provides high speed action necessary to protect sensitive instruments or delicate apparatus. 1/16 to 2 ampere sizes have straight through element. U.L. approved. Size: ¼x1". Shpg. wt. .76 lbs. per 100. **Sold in mult. of 5 only.**

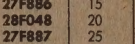
Stk. No.	Amps.	Volts	1-95 Ea.	100-495 Ea.	500-995 Ea.
27F973	1/500	250	2.01	1.67	1.51
27F974	1/200	250	.89	.74	.67
27F975	1/100	250	.75	.62	.56
27F976	1/32	250	.65	.54	.49
27F977	1/16	250	.41	.34	.31
27F978	1/10	250	.34	.28	.26
27F979	⅛	250	.34	.28	.26
27F980	3/16	250	.34	.28	.26
27F981	¼	250	.19	.16	.15
27F982	2/10	250	.34	.28	.26
27F983	⅜	250			
27F984	4/10	250			
27F985	½	250	.19	.16	.15
27F986	¾	125			
27F987	1	125			
27F988	1½	125	.14	.12	.11
27F989	2	125			
28F049	5	125	.10	.08	.08

TYPE AGC FUSES

Formerly called 3AG. Test specifications - carry 110%, open at 135% within 1 hour. Approved by Underwriter's Laboratories. Size ¼x1¼". Shpg. wt., .91 lbs. per 100. **Sold in mult. of 5 only.**

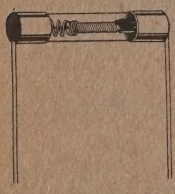
Stk. No.	Amps.	Volts	1-95 Ea.	100-495 Ea.	500-995 Ea.
28F050	1/32	250	.65	.54	.49
28F051	1/16	250	.34	.28	.26
28F052	⅛	250	.34	.28	.26
28F053	¼	250			
28F054	⅜	250	.19	.16	.15
28F055	½	250			
28F056	¾	250			
28F057	1	250			
28F058	1½	250			
28F059	2	250	.14	.12	.11
27F880	3	250			
27F881	4	32			
27F882	5	32			
27F883	6	32			
27F884	7½	32			
27F885	10	32	.10	.08	.08
27F886	15	32			
28F048	20	32			
27F887	25	32			
27F888	30	32			

TYPE MTH FUSES



Formerly called 3AG. Test Specifications: carry 110%, open at 135% within 1 hour. Listed as approved by Underwriters Laboratories. Size: 1¼"x¼". Shpg. wt., .91 lbs. per 100. **Sold in mult. of 5 only.**

Stk. No.	Amps.	Volts	5-95 Ea.	100-495 Ea.	500-995 Ea.
27F877	4	250			
27F878	5	250	.17	.14	.13
27F879	6	250			



- UL listed
- Slow-blowing
- Dual element

TYPE MDV DUAL ELEMENT PIG-TAIL FUSES

¼ x 1¼ inch glass tube with 1¼ inch (minimum) leads of No. 2 tinned wire. Slow-blowing, dual element. Listed by Underwriter Laboratories. Shipping weight 1.1 pounds per 100. **Sold in multiples of 5 only.**

Stk. No.	Amps.	Volts	5-95	100-495	500-995
28F001	1/16	250			
28F002	⅛	250			
28F003	¼	250	.51	.43	.39
28F004	⅜	250			
28F005	½	250			
28F006	¾	250			
28F007	1	250			
28F008	1½	125			
28F009	2	125	.49	.41	.37
28F010	2½	125			
28F011	3	125	.41	.34	.31
28F012	5	125			

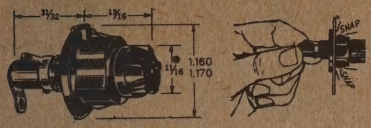
TYPE MDA DUAL-ELEMENT FUSE

Time delay ceramic fuse. Carry 110%, open at 135% in 1 hour. UL recognized. Current ratings below are @ 250V, except 25 & 30 amps, which are @ 125. **Sold in mult. of 5 only.**

Stk. No.	Amps.	5-95	100-495	500-995
28F013	2½			
28F014	2⅘10			
28F015	3			
28F016	3⅖10			
28F017	4			
28F018	5	.41	.34	.31
28F019	6¼			
28F020	7			
28F021	10			
28F022	15			
28F023	20			
28F024	25			
28F025	30			

Fuses and Accessories

SNAP-LOCK FUSEHOLDERS



Rear-mounted in panels. .025-.085" thick. Rated 15A @ 250V. HTA-00 extends 1" behind panel. HLD-00 visual indicating type.

Stk. No.	Type	Fuse	1-99	100-499	500-999
27F850	HTA-00	¼" x 1¼"	.88	.73	.66
27F851	HLD-00	¼" x 1¼"	1.05	.86	.78
27F852	HKP-00	¼" x 1¼"	.89	.74	.67
27F853	HJM-00	¼" x 1"	.88	.73	.66

PANEL-MOUNTED FUSEHOLDERS

Holders 1 23/32 lg, extend 1" behind panel face. Mounts in ½" hole. HTA: bayonet knob. HMM: screw cap. DD, for 3/16", HH for ¼": quick-connect terminals.

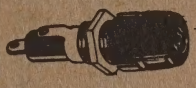
Stk. No.	Type	Fuse	1-99	100-499	500-999
28F454	HTA	¼" x 1¼"	.65	.54	.49
28F026	HTA-DD	¼" x 1¼"	.75	.63	.57
28F027	HTA-HH	¼" x 1¼"	.75	.63	.57
28F811	HMM	¼" x 1¼"	.65	.54	.49

HOLDERS FOR 13/32" x 1½" FUSES

Screw-on cap; mounts w/flange on face of panel. HPC-C visual indicating, HPC-D waterproof.

Stk. No.	Type	UL Listed for	1-99	100-499	500-999
27F818	HPC	30A @ 600V	1.10	.92	.83
28F028	HPC-C	15A @ 250V	1.36	1.13	1.02
28F029	HPC-D	30A @ 600V	2.23	1.86	1.68

HOLDERS FOR ¼" x 1¼" (3AG) FUSES



Mounts in ½" d-hole. Rated 15A @ 250V. DD is 3/16", HH is ¼": quick connect terminal.

Stk. No.	Type	Fuse	1-9	100-499	500-999
27F819	HJM	¼"x1"	.65	.54	.49
27F820	HKP	¼"x1¼"	.65	.54	.49
28F031	HKP-HH	¼"x1¼"	.77	.64	.58
27F821	HCM	9/32"x1¼"	1.02	.85	.77

FUSE & HOLDER COMBINATIONS

Fuse holder panel mounts or can be used in line. UL rated 15 amps @ 300V. Safeguard against use of wrong type fuse.(*) Current ratings for fuses are @ 300 volts.

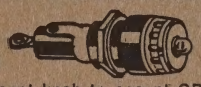
Stk. No.	Type	Rated (amps*)	1-99	100-499	500-999
28F032	HLR	.....	.45	.38	.35
28F302	GLR	1½			
28F304	GLR	2			
28F306	GLR	3	.22	.18	.17
28F307	GLR	4			
28F308	GLR	5			
28F033	GLR	7			
28F034	GLR	10			

LAMP INDICATING FUSEHOLDER

Coilspring provides constant pressure. Accommodates ¼" x 1¼" fuse. (†)-Neon, (*)-Incand. UL recognized for 15 amps @ 250 volts.

Stk. No.	Type	Lamp Volt.	Lens	1-99	100-499	500-999
27F813	HKL†	90-250	Clr.	2.87	2.39	2.16
27F814	HKL-X†	90-250	Clr.	2.87	2.39	2.16
27F812	HKR*	22-33	Amber	4.63	3.85	3.48
28F451	HKT*	13-22	Amber	4.63	3.86	3.48
28F452	HKU*	4-6	Red	4.63	3.86	3.48
28F453	HKX*	22-33	Amber	1.79	1.48	1.34

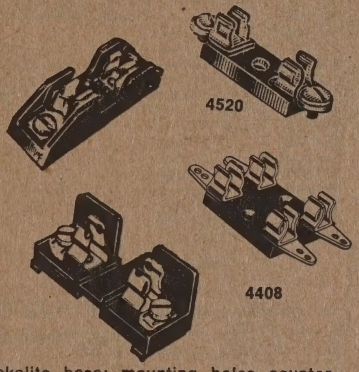
VISUAL INDICATING FUSEHOLDER



Transparent bayonet knob to accept GBA type indicating fuse. UL recognized for 15 amps at 250 volts. Mounts in ½" "D" hole.

Stk. No.	Type	1-99	100-499	500-999
28F293	HLD	.77	.64	.58

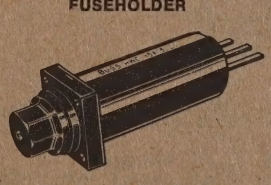
FUSE BLOCKS



Bakelite base; mounting holes countersunk for #6 flat head screws. Rtd. 30A @ 250V.

Stk. No.	Type	No. Poles	Fuse Size (inches)	1-99	100-499	500-999
28F040	4520	1	¼x1	.35	.30	.27
28F041	4405	1	¼x1¼	.35	.30	.27
28F042	4421	1	13/32x1½	.75	.63	.57
28F038	4408	2	¼x1¼	.61	.51	.46
28F039	4411	3	¼x1¼	.95	.79	.72

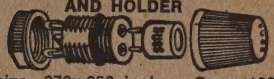
MODEL HWG SIGNAL INDICATING FUSEHOLDER



Designed for Bussmann 70 Series alarm activating fuses (on this page). Rated 15 amps @ 300 volts. Terminals may be soldered or wire wrapped.

Stk. No.	Type	1-99	100-499	500-999
28F380	HWA	1.10	.92	.83

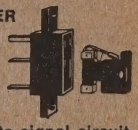
SUBMINIATURE FUSES AND HOLDER



Fuse size .270x.250 inches. Carry 100%, open at 200% within 10 sec. or less. Interrupting rating—300 amps. at 125 volts. AF knob for holder makes holder waterproof.

Stk. No.	GMW-Amp.	1-99 Each	100-499 Each	500-999 Each
28F362	1/100	1.28	1.07	.97
28F363	1/64			
28F364	1/32			
28F366	1/10	.97	.80	.72
28F368	1/4			
28F371	1/2			
28F373	3/4			
28F374	1			
28F375	1-1/2			
28F376	2			
28F377	3			
28F379	5			
28F381	HWA-AF	1.24	1.03	.93
28F380	HWA	1.10	.92	.83

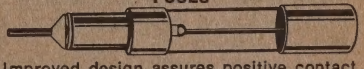
GMT FUSES HLT HOLDER



Permits multiple mounting of fuses in limited space. Colored indicator spring when released makes contact with alarm terminal which can activate signal circuit. Size: ¼x1 15/32".

Stk. No.	Amps	Color	1-99	100-499	500-999
28F315	18/100	Yellow			
28F316	¼	Violet			
28F317	½	Red			
28F318	65/100	Black			
28F319	¾	Brown			
28F320	1	Gray	.73	.61	.55
28F321	1⅓	White			
28F322	2	Orange			
28F323	3	Blue			
28F324	5	Green			
28F325	7½	Blk-White			
28F326	10	Red-White			
28F360	HLT holder Fits all GMT		.77	.64	.58

70 SERIES FUSES



Improved design assures positive contact for alarm circuit. Indicating pin is color coded for amp. identification. Ratings are @ 300V. Carry rated current for 10 sec. min.

Stk. No.	Type	Amps	Color Code	1-99	100-499	500-999
28F116	70E	18/100	Yellow	1.18	.98	.89
28F119	70F	¼	Violet	.95	.79	.72
28F387	70G	½	Red	.95	.79	.72
28F388	70H	¾	Brown	.95	.79	.72
28F113	GKB	1	Pink	1.18	.98	.89
28F390	70A	1⅓	White	.95	.79	.72
28F127	70B	2	Orange	.95	.79	.72
28F139	70C	3	Blue	.95	.79	.72
28F140	70D	5	Green	.95	.79	.72
28F215	70M	8	Red/Wh.	1.02	.85	.77
28F115	GKB	10	Purple	1.02	.85	.77

MODEL HFA WATERPROOF IN-LINE FUSEHOLDER

For ¼" x 1¼" fuses. UL rated 20 A @ 250V. Perfect for any exposed location. Protects fuse in corrosive conditions. Crimp type terminals to take #16 to #12 AWG copper wire.

Stk. No.	Type	1-99	100-499	500-999
28F043	HFA	2.12	1.77	1.60

FUSETRON DUAL-ELEMENT FUSES

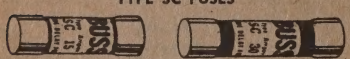
Type FRN. Long time lag prevents opening on starting currents or other harmless overloads. U/L listed for motor protection up to 250 volts.

Stk. No.	Amps.	Sizes	1-99	100-499	500-999
28F250	1	13/32x2"			
28F251	1¼	13/32x2"			
28F252	1-6/10	13/32x2"			
28F253	2	13/32x2"			
28F254	2½	13/32x2"	.85	.71	.64
28F255	3-2/10	13/32x2"			
28F256	4	13/32x2"			
28F257	5	13/32x2"			
28F258	6¼	13/32x2"			
28F259	8	13/32x2"			
28F260	10	13/32x2"			
28F262	15	13/32x2"			
28F263	17½	13/32x2"	.82	.68	.62
28F264	20	13/32x2"			
28F265	25	13/32x2"			
28F266	30	13/32x2"			
28F267	35	¾x3"			
28F268	40	¾x3"			
28F270	50	¾x3"	1.52	1.26	1.14
28F271	60	¾x3"			
28F275	100	1x5⅞"	3.46	2.87	2.85

TYPE FRS—UL LISTED FOR 600 V

Stk. No.	Amps.	Size(in.)	1-99	100-499	500-999
27F2400	1	13/16x5			
27F2401	1¼	13/16x5			
27F2402	1-6/10	13/16x5			
27F2403	2	13/16x5			
27F2404	2½	13/16x5			
27F2405	3-2/10	13/16x5	2.03	1.68	1.52
27F2406	4	13/16x5			
27F2407	5	13/16x5			
27F2408	6¼	13/16x5			
27F2409	8	13/16x5			
27F2410	9	13/16x5			
27F2411	10	13/16x5			
27F2412	15	13/16x5			
27F2413	20	13/16x5	1.85	1.53	1.38
27F2414	25	13/16x5			
27F2415	30	13/16x5			
27F2416	35	1 1/16x5½			
27F2417	40	1 1/16x5½			
27F2418	50	1 1/16x5½	3.18	2.64	2.38
27F2419	60	1 1/16x5½			
27F2420	100	1¼ x7⅞	6.65	5.51	4.96

TYPE SC FUSES



SC fuses have time delay feature. Ratings below are @ 300 volts AC.

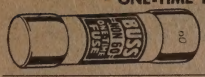
Stk. No.	Amps.	Size(in.)	1-99	100-499	500-999
27F2421	1	13/32x1 5/16			
27F2422	3	13/32x1 5/16	.73	.61	.55
27F2423	6	13/32x1 5/16			
27F2424	10	13/32x1 5/16			
27F2425	15	13/32x1 5/16	.59	.49	.45
27F2426	20	13/32x1 13/32			
27F2427	25	13/32x1⅝			
27F2428	30	13/32x1⅝	.99	.82	.74
27F2429	40	13/32x2¼			
27F2430	50	13/32x2¼	1.07	.89	.81
27F2431	60	13/32x2¼			

FUSE CLIP REDUCERS

Rated for 250 volts except 663: 600 V. 216, 2621: (*) 250V & (†) 600V.

Stk. No.	Type	Fuse Size Reduction	PRICED PER PAIR 1-99	100-499	500-999
27F2432	263	60-30A	1.25	1.03	.93
27F2433	663	60-30A	1.41	1.17	1.06
27F2434	213	100-30A	2.35	1.95	1.76
27F2435	216	100-60A* 100-30A†	1.71	1.41	1.27
27F2436	226	200-60A	5.15	4.27	3.85
27F2437	2621	200-100A*†	3.41	2.83	2.55

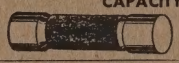
TYPE NON ONE-TIME FUSES



UL and CSA listed. Ratings below are at 250 volts.

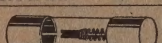
Stk. No.	Amps.	Size(in.)	1-99	100-499	500-999
27F2438	1	13/16x2			
27F2439	3	13/16x2			
27F2440	6	13/16x2			
27F2441	10	13/16x2	.24	.20	.18
27F2442	15	13/16x2			
27F2443	20	13/16x2			
27F2444	25	13/16x2			
27F2445	30	13/16x2			
27F2446	35	1 13/16x3			
27F2447	40	1 13/16x3	.44	.37	.34
27F2448	45	1 13/16x3			
27F2449	50	1 13/16x3			
27F2450	60	1 13/16x3			
27F2451	100	1x5⅞	1.87	1.55	1.40

TYPE KTK—HIGH INTERRUPTING CAPACITY FUSES



Use in circuits w/ up to 100,000 A.

Stk. No.	Amps.	Voltage	1-99	100-499	500-999
28F190	1/10	600 or less			
28F193	¼	600 or less			
28F194	3/10	600 or less			
28F195	½	600 or less			
28F196	¾	600 or less			
28F197	1	600 or less			
28F198	1½	600 or less			
28F199	2	600 or less			
28F200	3	600 or less	1.75	1.45	1.31
28F201	4	600 or less			
28F202	5	600 or less			
28F203	6	600 or less			
28F204	8	600 or less			
28F205	10	600 or less			
28F206	15	600 or less			
28F207	20	600 or less			
28F208	25	600 or less			
28F209	30	600 or less			



TRON FNQ TIME DELAY FUSE—13/32"x1½"

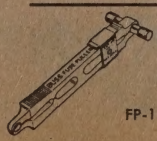
Protects motor-control transformers@ 440-480V. UL listed for 500 volts AC.

Stk. No.	Amps.	1-99	100-499	500-999
27F2452	⅛			
27F2453	3/16			
27F2454	¼			
27F2455	½			
27F2456	1			
27F2457	1-6/10			
27F2458	2			
27F2459	2½			
27F2460	3-2/10	1.80	1.49	1.35
27F2461	4			
27F2462	5			
27F2463	6¼			
27F2464	8			
27F2465	10			
27F2466	12			
27F2467	15			

TRON® CLIP-CLAMPS

Stk. No.	Type	Fuse Size (amps.)	Volts	1-99	100-499
27F2468	1	0-30	250 or 600	1.66	1.37
27F2469	2	35-60	250	2.14	1.78
27F2470	4	35-60	600	2.61	2.17
27F2471	5	70-100	250 or 600	2.49	2.06
27F2472	6	110-200	250 or 600	3.62	3.00

FUSE PULLERS

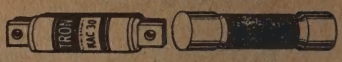


FP-1

A must for every electrician or maintenance man.

Stk. No.	Type	Fuse Size (dia. in.)	Each
27F2473	FP-1	¼	.93
27F2474	FP-2	13/32 to 13/16	1.55
27F2475	FP-3	1 to 1¾	1.79
27F2476	FP-4	1¾ to 2½	6.09

TRON RECTIFIER FUSES



For protection of solid state devices. Carry 100% of rating. Opens within one second at 250% of rating; opens at 1000 sec. between 120-180% of rating.

Stk. No.	Symbol & Amps.	Volts	Each
27F2477	GBB 1	130	
27F2478	GBB 2	130	
27F2479	GBB 3	130	
27F2480	GBB 4	130	
27F2481	GBB 5	130	1.16
27F2482	GBB 6	130	
27F2483	GBB 7	130	
27F2484	GBB 8	130	
27F2485	GBB 9	130	
27F2486	GBB 10	130	
28F210	KAA 1	130	
28F211	KAA 2	130	
28F213	KAA 4	130	
28F214	KAA 5	130	
28F217	KAA 8	130	1.67
28F219	KAA 10	130	
28F221	KAA 15	130	
28F222	KAA 20	130	
28F223	KAA 25	130	
28F224	KAA 30	130	
28F227	KAB 3	250	
28F229	KAB 5	250	
28F230	KAB 6	250	
28F232	KAB 8	250	
28F234	KAB 10	250	1.90
28F235	KAB 12	250	
28F236	KAB 15	250	
28F238	KAB 20	250	
28F239	KAB 25	250	
28F240	KAB 30	250	
28F247	KAW 15	130	1.71
28F248	KAW 20	130	
27F2487	KBH 35	500	
27F2488	KBH 40	500	5.20
27F2489	KBH 50	500	
27F2490	KBH 60	500	
27F2491	KBH 70	500	
27F2492	KBH 80	500	6.33
27F2493	KBH 100	500	
27F2494	KBH 125	500	9.73
27F2495	KBH 150	500	
28F424	KAC 1	600	
28F426	KAC 3	600	
28F428	KAC 5	600	
28F429	KAC 6	600	
28F430	KAC 7	600	
28F432	KAC 9	600	
28F433	KAC 10	600	2.80
28F434	KAC 12	600	
28F435	KAC 15	600	
28F436	KAC 17½	600	
28F437	KAC 20	600	
28F438	KAC 25	600	
28F439	KAC 30	600	

FUSE BLOCKS FOR RECTIFIER FUSES

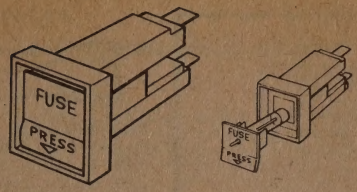
Stk. No.	Type	Fuse	Type	No. of Poles	Ea. 1-99	100-499
27F2497	4515	KAA,	KAW	1	.97	.81
27F2498	4525	KAA,	KAW	2	1.89	1.58
27F2499	4535	KAA,	KAW	3	2.78	2.31
27F2500	4386	KAB		1	1.44	1.20
27F2501	4287	KAB		2	2.78	2.31
27F2502	3959	KAB		3	4.35	3.63
27F2503	3595	KAC		1	2.33	1.94
27F2504	3528	KAC		2	4.59	3.83
27F2505	3526	KAC		3	6.90	5.75

Fuse and Fuse Holders

LITTELFUSE

3AG LOW PROFILE FUSEHOLDERS

- Phenolic Resin Body
- UL Recognized



Snap in to .625" sq. chassis or panel hole, no hardware required. Quick connect and solder type terminal.

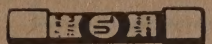
Color	Stk. No.	Type	Terminal	Stk. No.	Type	Terminal	Each
Red	28F161	348610	3/16"	28F164	348810	1/4"	.58
White	28F162	348650	3/16"	28F165	348850	1/4"	
Black	28F163	348670	3/16"	28F166	348870	1/4"	

CAPS

Color	Stk. No.	Type	Each
Red	28F167	348001	.21
White	28F168	348005	.21
Black	28F169	348007	.21

3AB—250 VOLTS

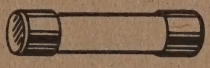
250 volts or less. Blow time 110% 4 hour min; 135% 1 hour max. 200% 15 sec. max. Length 1¼", dia ¼", UL listed thru 15 amps.



Stk. No.	Type	Amps	1-99	100-499	500-999
28F170	314005	5	.24	.20	.16
27F670	314008	8			
27F671	314010	10			
27F672	314012	12			
27F673	314015	15			
27F674	314020	20			

RECTIFIER FUSES

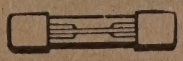
Protects silicon controlled rectifiers and like solid state devices. Blow time: 110% 4-hr. minimum all fuses; 250%—2 sec max (pre-arcing) for 1-10 amp fuses—1 sec max. (pre-arcing) for 12-30 amp fuses. Length 1¼", Dia. ¼". 250 volts 10 amps or less, 65 volts 12 thru 30 amps.



Stk. No.	Type	Amps	1-99	100-499	500-999
28F171	322001	1	1.02	.85	.68
28F172	3221.25	1¼			
28F173	322002	2			
28F174	322003	3			
28F175	322004	4			
28F176	322005	5			
28F177	322006	6			
28F178	322007	7			
28F179	322008	8			
28F180	322009	9			
28F181	322010	10			
28F182	322012	12			
28F183	322015	15			
28F184	322020	20			
28F185	322025	25			
28F186	322030	30			

SFE AUTO FUSES—32 VOLTS OR LESS

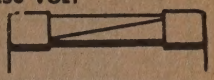
Blow time: 110%, 4 hour min.; 135%, 0-1 hour; 150%, 20 amps or less 0-15 sec., 30 amps 0-30 seconds. Diameter, ¼".



Stk. No.	Type	A	Lgt. Inch	1-99	100-499	500-999
27F710	307-004	4	5/8	.10	.08	.07
27F711	307-006	6	3/4			
27F716	307-07.5	7½	7/8			
27F712	307-009	9	7/8			
27F713	307-014	14	1 1/16			
27F714	307-020	20	1¼			
27F715	307-030	30	1 7/16	.12	.10	.08

3AG PIGTAIL FUSES—250 VOLT

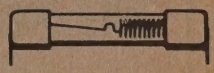
Blow time: 110%, 4-hour min.; 135% 1 hour max.; 200%, 5-sec. max. Length 1¼", Dia. ¼", 1½" pigtails. UL listed.



Stk. No.	Type	Amps	1-99	100-499	500-999
27F739	318.125	.125	.51	.43	.34
27F740	318.250	.25	.34	.28	.23
27F741	318.375	.375			
27F742	318.500	.500			
27F743	318.750	.750			
27F943	318001	1.0	.26	.22	.18
28F187	31801.5	1½			
27F945	318002	2.0			
27F946	318003	3.0			
27F948	318005	5.0	.28	.24	.19

3AG SLO BLO PIGTAIL FUSES—250 VOLT

Blow time: 110%, 4 hr. min.; 135%, 1 hr. max; 200%, 5-sec. min. Lg. 1¼" d a. ¼", 1½" pigtails. UL listed thru 7 amps.



Stk. No.	Type	Amps	1-99	100-499	500-999
27F928	315.100	1/10	.51	.43	.34
27F734	315.250	¼			
27F735	315.300	.3			
27F737	315.500	.5			
27F930	315.600	.6			
27F932	315001	1.0			
27F934	31501.5	1.5	.50	.41	.33
27F935	31501.6	1.6			
27F936	315002	2.0			
27F188	31502.5	2½	.42	.35	.28
27F937	315003	3.0			
27F940	315004	4.0			
27F941	315005	5.0			

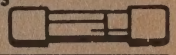
8AG FUSES

Blow time; 110%, 4-hour min; 135%, 1 hr. max; 200%, 10-sec. max. L. 1", dia. ¼". UL listed thru 5 amps.

Stk. No.	Type	Amps	1-99	100-499	500-999
28F189	362.250	¼	.20	.16	.13
28F191	362.500	½	.20	.16	.13
27F1080	362001	1	.14	.12	.10
28F192	36201.5	1.5	.14	.12	.10
27F1081	362002	2	.14	.12	.10
27F1082	362003	3	.14	.12	.10
27F1083	362005	5	.11	.09	.07
28F394	362008	8	.11	.09	.07
28F395	362010	10	.11	.09	.07

8AG INSTRUMENT FUSES

Blow time; 100%, 4-hour min.; 200%, 5-sec. max. Length 1", dia. ¼".



Stk. No.	Type	Amps	1-99	100-499	500-999
27F614	361.002	1/500	2.01	1.67	1.34
27F600	361.005	1/200	.89	.74	.60
27F601	361.010	1/100	.75	.63	.50
27F602	361.031	1/32	.65	.54	.44
27F603	361.062	1/16	.42	.35	.28
27F604	361.125	⅛	.34	.28	.23
27F605	361.250	¼	.20	.16	.13
27F606	361.375	3/8			
27F607	361.500	½			
27F608	361.750	¾			
27F609	361001	1	.14	.12	.10
27F610	36101.5	1½			
27F611	361002	2			
27F612	361003	3			
27F615	361004	4			
27F613	361005	5			

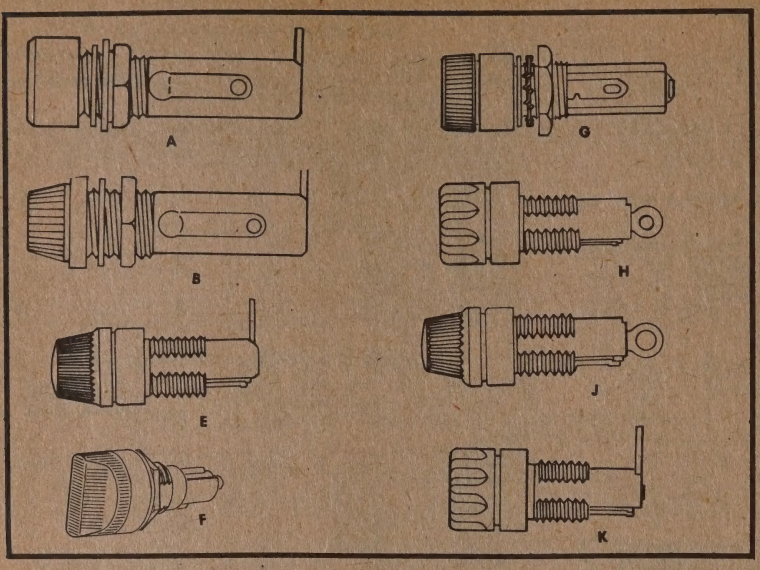
AUTO SERIES PLUG IN FUSE

Fits all 1977 full size GM cars.

Stk. No.	Type	Amps	Each—Sold in Pkg. of 5
28F396	AT0003	3	.30
28F397	AT0005	5	
28F120	AT007.5	7.5	
28F123	AT0010	10	
28F398	AT0020	20	
28F399	AT0025	25	

Fuses Are Sold In Multiples of 5 Only

Fuses and Fuse Holders



STANDARD FUSE POST FOR 3 AG

Stk. No.	Type	Fig.	Description	1-99	100-499	500-999
27F750	341001	A	Panel mtg. Screw slot.	.92	.76	.61
27F752	342001	B	Panel mtg. Finger grip.	.92	.76	.61
27F779	342004	K	Miniature, Rt. Angle Terms.	.65	.54	.44
27F780	342005	K	Drip proof, Rt. Angle Terms	.77	.64	.51
27F720	342012	J	Miniature, Straight terminal	.65	.54	.44
27F668	342014	H	Miniature, Straight Terminal	.65	.54	.44
27F669	342022	E	Miniature, Rt. Angle Terms	.65	.54	.44
28F150	342028	K	3/16" Quick-Connect. Rt. Angle			
28F151	342038	H	3/16" Quick-Connect. Straight term.			
28F152	342048	E	3/16" Quick-Connect. Rt. Angle Term			
28F153	342058	J	3/16" Quick-Connect. Straight Term.	.75	.63	.50
27F794	342828A	K	1/4" Quick-Connect. Rt. Angle Term.			
27F795	342838A	H	1/4" Quick-Connect. Straight Term.			
27F796	342848A	E	1/4" Quick-Connect. Rt. Angle Term			
27F797	342858A	J	1/4" Quick-Connect. Straight Term.			

INDICATING FUSE POST FOR 3 AG

Indication Fuse Posts. Lgt., 2⅜" Front of panel: 13/16" Mtg. hole D. Wt., 3 oz.

Stk. No.	Type	Fig.	Voltage Range	Knob Color	Design Lamp Current	1-99 Each	100-499 Each	500-999 Each
27F790	344006A	F	2.5-7V	Amber	.20 Amp	4.64	3.86	3.09
27F791	344012A	F	7-16V	Amber	.08 Amp	4.64	3.86	3.09
27F783	344024A	F	16-32V	Amber	.04 Amp	4.64	3.86	3.09
27F784	344125A	F	100-125V	Clear	.002 Amp.	2.87	2.39	1.92
27F785	344250A	F	200-250V	Clear	.002 Amp	2.87	2.39	1.92

MIL VERSION OF SERIES 344 (Mil F-19207A)

Stk. No.	Type	MIL. #	Voltage Range	Knob color	1-99	100-499	500-999
28F154	FHL17G2	349250	90-250V	Clear	3.41	2.84	2.28
28F155	FHL18G2-1	349012	12-22V	Amber	5.30	4.42	3.54
28F156	FHL18G2-2	349023	23-23V	Amber	5.30	4.42	3.54

SHOCK-SAFE 3 AG HOLDER

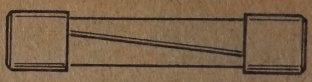
Designed to meet IEC Standards. Electrical insulating shield prevents electrical shock. Rated at 20 amps to 300 volts. UL recognized, 345001 only.

Stk. No.	Type	Fig.	Description	1-99	100-499	500-999
27F854	345001	G	Right Angle Terminal	1.05	.88	.70
27F855	345002	G	Straight Terminal			

8 AG FUSE MOUNTINGS

Stk. No.	Type	Fig.	Description	Base Dimensions	1-99	100-499	500-999
27F751	371001A	A	Screw, Panel Mtg.	2⅛" L. x .729/.700 Max. Dia.	.92	.76	.61
27F781	372001A	B	Finger Knob	2¼" L x .729/.700 Max. Dia.			

3 AG 32 VOLT OR LESS



BLOW-TIME: 110%, 4-hour min.: 135%, 1 hr. max. Len. 1¼", dia. ¼". sold in multiples OF 5 ONLY.

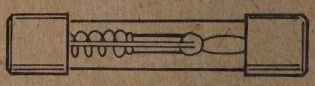
Stk. No.	Type	A	EACH 5-95	100-495	500-995
27F724	311005	5			
27F725	31107.5	7½			
27F726	311010	10	.11	.09	.07
27F728	311015	15			
27F730	311025	25			
27F731	311030	30			

3 AG - 250 VOLT OR LESS

For low time lag usage. 1¼" x ¼". Max. 250V. except (*) denotes 125 Volt. Sold in multiples of 5 only.

Stk. No.	Type	A	5-95	100-495	500-995
27F650	312.062				
27F651	312.125	⅛	.34	.28	.23
27F663	312.175	.175			
27F664	312.187	3/16			
27F652	312.250	¼			
27F667	312.300	.3			
27F653	312.375	⅜	.20	.16	.13
27F654	312.500	½			
27F655	312.750	¾			
27F656	312001	1			
27F657	31201.5	1½	.14	.12	.10
27F658	312002	2			
27F659	312003	3			
27F660	312004	4			
27F661	312005	5	.17	.14	.12
27F662	312006	6			
27F665	312008	8*	.24	.20	.16
27F856	3121.25	1.25	.14	.12	.10
27F857	31202.5	2.5	.14	.12	.10
27F858	312007	7*	.17	.14	.12
27F859	312010	10*	.24	.20	.16

3 AG SLO BLO FUSES



UL Listed thru 7 amps. Length: 1¼", Diam. ¼". (†) denotes 32 Volt Slo-Blo. For circuits with high inductive surge. Sold in multiples of 5 only.

Stk. No.	Type	Amps	5-95	100-495	500-995
27F689	313.010	1/100	.56	.46	.37
27F681	313.031	1/32			
27F682	313.062	1/16			
27F683	313.100	1/10			
27F915	313.125	⅛			
27F684	313.150	.150			
27F668	313.175	.175			
27F916	313.187	3/16			
27F685	313.200	3/10			
27F686	313.250	¼			
27F687	313.300	3/10	.42	.36	.28
27F917	313.375	⅜			
27F688	313.400	4/10			
27F689	313.500	½			
27F690	313.600	6/10			
27F699	313.700	7/10			
27F918	313.750	¾			
27F691	313.800	8/10			
27F692	313001	1			
27F693	3131.25	1¼			
27F705	31301.5	1½			
27F919	31301.6	1.6			
27F694	313002	2			
27F695	31302.5	2½	.40	.33	.27
27F920	313003	3			
27F706	31303.2	3 3/10			
27F696	313004	4			
27F697	313005	5			
27F700	3136.25	6¼			
27F701	313008	8†			
27F702	313010	10†	.34	.28	.23
27F703	313015	15†			
27F704	313020	20†			

Miniature Fuses and accessories

LITTELFUSE

SUB-MINIATURE PICOFUSES

● Incredibly Small—Less than ¼" Long

Series 275. For circuits of 125 volts or less where short-circuit currents as high as 300 amperes occurs. A unique concept in fusing for computers, microelectronic and aero-space circuitry. High accuracy in blowing time at 300% or higher is ideal for sequential switching, or in circuits requiring redundancy. Blow time 4 hours min. at 100% at rating; 5 sec. max. at 200%. Ceramic body 7/32" x 5/64" dia.; tin-coated copper leads .025 dia. Picofuses can be encapsulated. 275 series has axial leads 1 9/16" long for diode clip or in-circuit mounting.

Stk. No.	Type	Amps.	1-99 Ea.	100-499 Ea.	500-999 Ea.
28F128	275.125	⅛			
28F129	275.250	¼	.66	.55	.44
28F130	275.375	⅜			
28F131	275.500	½			
28F132	275.750	¾			
28F133	275001	1			
28F134	27501.5	1.5	.57	.48	.38
28F135	275002	2			
28F136	275003	3			
28F137	275004	4			
28F138	275005	5			

SERIES 276

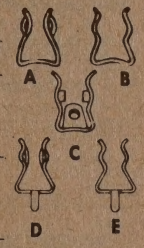
Same as 275 (000) Series but with radial leads 1½" long.

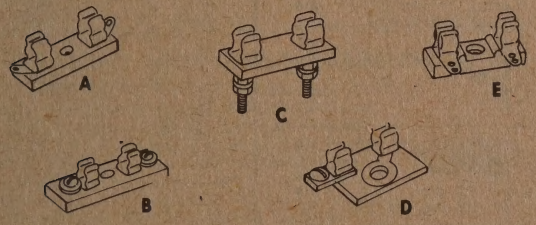
Stk. No.	Type	Amps.	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F1072	276.125	⅛			
27F1073	276.250	¼	.66	.55	.44
27F1074	276.500	½			
27F1075	276001	1			
27F1076	276002	2	.57	.48	.38
27F1077	276005	5			

LITTELFUSE CLIPS

Fits SFE, 3AG, 8AG, and 3AB fuses. Spring brass except (*) Beryllium copper. Shpg. wt., per 100, 5 lbs.

Stk. No.	Type	Fig.	For	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F772	101001	A	3AG	.05	.05	.04
27F773	101002	B	3AG	.06	.05	.04
27F1084	101003	C	3AG	.07	.06	.05
27F1085	102068	D	3AG	.07	.06	.05
27F1086	102069	E	3AG	.07	.06	.05
27F774	105002	B	5AG	.11	.09	.07
27F1087	121001*	A	3AG	.10	.08	.07
27F1088	121002*	B	3AG	.10	.08	.07
27F775	123002*	B	4AG	.17	.14	.11
27F776	127002*	B	9/16"	.60	.50	.40





3 AG MOUNTING WITH SCREW TERMINALS—TYPE T

Stock No.	Type	Fig.	Description	EACH 1-99	100-499	500-999
27F756	356001	B	1 pole	.58	.48	.39
27F769	356002	B	2 pole	1.21	1.00	.81

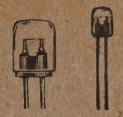
WITH SOLDER TERMINALS—TYPE S

27F754	357001	A	1 pole	.36	.30	.24
27F758	357002	A	2 pole	.62	.51	.41
27F1070	350218	E	Single Pole	.36	.30	.24

8AG FUSE MOUNTINGS

27F759	383002	D	Meter-back mtg.	.62	.52	.42
27F761	383001	C	Panel mtg.	.92	.77	.62
27F755	387001	A	Single Fuse (Lug)	.36	.30	.24

SUBMINIATURE MICROFUSES



Only .250" dia. x .348" long exclusive of leads. Ideal for printed circuits. Features low resistance and high reliability in ultrafast blowing characteristics. Series 279000 has 1 inch leads for wiring into circuit. Short circuit interrupting capacity 125 volts 10,000 amps DC.

Series 273000 has .170 inch leads for plugging into subminiature fuse holder. Blowing specifications: 100% - 4 hrs min — 200% 5 sec. max. Transparent glass cap. Rated at 125 V.

273000 Plug-in-Type Stk. No.	Type	279000 Pigtail Type Stk. No.	Type	Amps.	1-99 Ea.	100-499 Ea.	500-999 Ea.
28F060	273.002	28F083	279.002	1/500			
28F061	273.005	28F084	279.005	1/200			
28F062	273.010	28F085	279.010	1/100	1.58	1.32	1.06
28F063	273.015	28F086	279.015	1/64			
28F064	273.031	28F087	279.031	1/32			
28F065	273.050	28F088	279.050	1/20			
28F066	273.062	28F089	279.062	1/16			
28F067	273.100	28F090	279.100	1/10			
28F068	273.125	28F091	279.125	⅛			
28F069	273.200	28F092	279.200	2/10			
28F070	273.250	28F093	279.250	¼			
28F071	273.300	28F094	279.300	3/10			
28F072	273.400	28F095	279.400	4/10			
28F073	273.500	28F096	279.500	½			
28F074	273.600	28F097	279.600	6/10			
28F075	273.700	28F098	279.700	7/10	1.35	1.12	.90
28F125	273.750	28F126	279.750	¾			
28F076	273.800	28F099	279.800	8/10			
28F077	273.001	28F100	279001	1			
28F078	27301.5	28F101	27901.5	1½			
28F079	273002	28F102	279002	2			
28F080	273003	28F103	279003	3			
28F081	273004	28F104	279004	4			
28F082	273005	28F105	279005	5			

SUBMINIATURE MICROFUSE HOLDER

Type 281001. Subminiature holder ideal for use in printed circuit board mounting, solid terminal ⅜" behind panel. With Spring nut. Avg. Shpg. wt., 3 oz.

28F106. NET EA. 1-99 . . . .47 100-499 . . . .39 500-999 32

MICROFUSE HOLDER

Type 281006. Front panel mount microfuse holder. Body and cap are molded of black phenolic. Heavy duty terminals are electrotin plated brass. Rated at 5 amperes, 125 volts max.

Type 282002. Rear panel mount RF shielded microfuse holder. Housing and knob are aluminum. Body is molded of black phenolic. Rated at 5 amperes, 125 volts max.

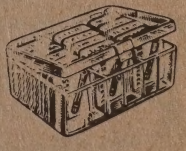
Stk. No.	Type	EACH 1-99	100-499	500-999
27F1078	281006	1.26	1.05	.84
27F1079	282002	2.01	1.68	1.34

281006 282002

INDUSTRIAL FUSE CADDY

Type 094037. Specifically designed and stocked for almost universal use. Has any number of industrial or laboratory applications. Contains 3AG, Reg., Slo Blow Fuses. Has 15 boxes of fuses, 5 fuses per box. Case is clear plastic for quick and accurate fuse selection. Has three spare compartments. Size: 1⅞" x 3 x 4¼". Shipping weight 2 lbs.

27F677. NET 16.97



Type 896-75. Plastic Fuse caddy case separately.

27F809 NET 2.00

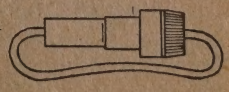
UNIVERSAL FUSE RETAINER

Type 150145. Comes with three different length springs for fuse sizes 7½ SFE through 3AG.

27F1071 NET 68

BAKELITE® IN-LINE FUSE HOLDERS ASSEMBLED WITH 19" LEAD

Stk. No.	Type	Use With Fuses	EACH 1-99
27F792	155009A	SFE 9, 7AG	.68
27F793	155014A	SFE 14	
27F766	155020A	SFE 20, 3AG	



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PC Card Edge Connectors

Elco Corporation
a Gulf + Western manufacturing company

SERIES 6042 (.100″) AND 6044 (.156″) CONNECTORS

Series 6042 and **6044** card-edge receptacles accept double sided printed circuit boards (.062″ nominal). Contacts crimp to round wire conductors and are available in loose form for use on automatic crimping machines. **Series 6042:** 100 position dual-readout available as standard. **Series 6044:** 44 postion dual-readout available as standard. **SPECIFICATIONS:**
CURRENT RATING: 4 amperes, maximum
CONTACT RESISTANCE: 8 milliohms, maximum
CONTACT MATERIAL: Phosphor bronze per QQ-B-750, composition A
CONTACT PLATING: Gold (10 μin. min.) over nickel (30-100 μin.)
INSERTION & WITHDRAWAL FORCE: 2-14 oz. per contact pair
INSULATOR MATERIAL: Thermoplastic polyester (glass reinforced)
INSULATION RESISTANCE: 5000 Megohms min. at 500 VDC
BREAKDOWN VOLT: 6042: 1500 VAC; **6044:** 1800 VAC between adjacent contacts.
WIRE GAUGE: Contacts accept #22 to #30 AWG wire.

SERIES 6307 (.100″) AND 6064 (.125″)

Discrete connectors have bifurcated bellow contacts with .025″ sq. wire wrapping posts. Series 6307 has contacts on .100x.200″ centers; each contact accepts up to three levels of wrapped wire. Series 6064 has contacts on .125x.250″ centers. Current rating: 3 amps max. Contact material: phosphor bronze per QQ-W-321D; 10 microinches minimum gold plate over 30-150 microinches nickel. Insulator: diallyl phthalate.

SERIES 6307 ORDERING CODES—NUMBER OF CONTACTS

Double row: 50 **(050)**, 60 **(060)**, 72 **(072)**, 86 **(086)**, 100 **(100)**.

CONTACT CODE—**309**—Tail length .645″

VARIATION CODE

Code	Mounting	Contacts in
001	.128″ dia. hole	Odd and even row
002	4-40 molded-in insert	Odd and even row

SERIES 6064 ORDERING CODES—NUMBER OF CONTACTS

Double row: **072, 080, 100.**

CONTACT CODE

060—Tail length .655″ **061**—Tail length .560″

VARIATION CODE

Code	Mounting	Contacts in
001	.128″ dia. hole	Odd and even rows
002	.156″ dia. hole	Odd and even rows
003	4-40 molded insert	Odd and even rows

SERIES 6007 (.156″) CONNECTORS

MIL-C-21097 (QPL) approved. Ribbon-type contacts with bifurcated nose. For .062″ PC card. Rated 5 amps. Contact material: Phosphor bronze per QQ-B-750, Composition A. Insulator: diallyl phthalate, glass-filled. Withdrawal force: 2-16 ounces per contact pair. Insulation resistance: 25,000 Megohms, minimum. Breakdown voltage: 2000 Volts RMS at sea level.

NUMBER OF CONTACTS

Single-readout: **006, 010, 012, 015, 018** or **022.**
Dual-readout: **012, 020, 024, 030, 036** or **044.**

CONTACT CODE

Single-Readout Contacts			Dual-Readout Contacts		
Code	Type	Terminals	Code	Type	Terminal
457	60 6007 06 53	Wire Hole, 2 Term.	449	60 6007 19 13	Taper Tab
936	60 6007 06 43	Wire wrap	450	60 6007 19 23	Wire hole
			451	60 6007 19 33	PC tab
938	60 6007 06 33	PC tab	452	60 6007 18 13	Wire
939	60 6007 06 13	Taper tab	453	60 6007 18 23	PC tab
940	60 6007 06 23	Wire Hole, 1 Term.	454	60 6007 18 33	Wire
551	60 6007 16 23	Wire Hole	941	60 6007 05 13	Switching
552	60 6007 16 33	PC Tab			

VARIATION CODE

012—.128″ dia. mounting holes **018**—#4-40 insert
013—.117″ I.D. floating eyelets
Polarization: Order polarizing key 60 6007 4828 separately.

ORDERING CODE FOR SERIES 6042 AND 6044 CONNECTORS

NUMBER OF CONTACTS

22 (Code **022**), 44 **(044)**, 50 **(050)**, 100 **(100)**.

CONTACT CODE

Code	Type	Terminals
000-P/N	60 6042 0213	Crimp (loose)

Note: Contacts to be ordered separately be part number.

VARIATION CODE

Series	Code	No. of Contacts	Insulator Type
6042	001	50/100	W/O mtg. holes
6042	002	50/100	With mtg. holes
6044	001	22/44	W/O mtg. holes

POLARIZATION

Order polarizing key/insert separately by part number.
Series 6042: Key fits between contacts.
Series 6044:
A-Type: 60 6042 3318. Polarizing insert on contacts.
B-Type: 60 6007 4828. Polarizing insert between contacts.

SERIES 6022 AND 6024 (.156″) CONNECTORS

6022

Extended card guides facilitate PC card insertion, minimize effects of vibration. For 1/16″ PC card. #4-40 threaded insert. Current rating: 5 amps max. Contact material: phosphor bronze per QQ-B-750, Composition A (contact number 989 is beryllium copper). Contat plating: 10-20 microinches gold plate over 30-150 microinches nickel plate. Insulator: glass-filled thermoplastic polyester.

SERIES 6022 ORDERING CODES—NUMBER OF CONTACTS

22 single-readout **(022)**; or 44 dual-readout **(044)**.

CONTACT CODE

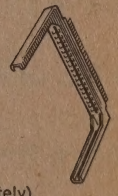
Single-Readout Contacts			Dual-Readout Contacts		
Code	Type	Terminals	Code	Type	Terminals
936	60 6007 06 43	Wire Wrap	450	60 6007 19 23	Wire hole
938	60 6007 06 33	PC tab	451	60 6007 19 33	PC tab
939	60 6007 06 13	Taper Tab	452	60 6007 18 13	Wire wrap
940	60 6007 06 23	Wire hole	453	60 6007 18 23	PC Tab
552	60 6007 16 33	PC Tab	454	60 6007 18 33	Wire wrap
457	60 6007 06 53	Wire Hole, 2 Term.	941	60 6007 05 13	Switching

VARIATION CODE

Insulator Mat'l Polyester	Contact Type and Position
001	44 dual-readout contacts in all positions
002	22 single-readout; on numbered side only
003	22 single-readout; on lettered side only
004	22 single-readout; staggered (1-B-3-D etc.)
005	22 single-readout; staggered (A-2-C-4 etc.)

Polarization: must be specified separately.

SERIES 6024 ORDERING CODES—NUMBER OF CONTACTS



18 single-readout **(018)** or 36 dual-readout **(036)**.

CONTACT CODE—Same as Series 6022 above.

VARIATION CODE

001—Dual-readout contacts
002—Single-readout; tails in positions "1" to "18"
003—Single-readout; tails in positions "A" to "V"
004—Single-readout; tails in positions 1-B-3 etc.
005—Single-readout; tails in positions A-2-C etc.

POLARIZATION (order inserts separately)

A-Type: 60 6007 48 28. Polarizing insert between contacts.
B-Type: 60 6002 31 24. Polarizing insert between contacts.
C-Type: 60 6007 33 14. Polarizing insert on contacts.

HOW TO ORDER

00 — 6XXX — XXX — XXX — XXX

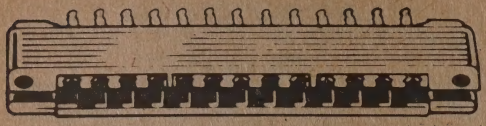
Series — No. of Contacts — Contact Code — Variation Code

For Example: 00-6307-100-309-001 is a Series 6307 connector with 100 contacts in double row, odd and even; tail length .645″; for mounting in .128″ hole.
Polarization must be specified separately.

Elco Corporation
a Gulf + Western manufacturing company

PC Varicon™ Connectors

SERIES 5009 .200″ CONNECTORS

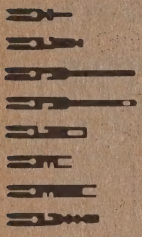


Available in assorted contact terminations, for 1/16″ PC card. Current rating: 10 amps. Contact material and plating: phosphor bronze per QQ-B-750. Comp. A; 10 microinches gold plate over 30-100 microinches nickel plate. Insulator: diallyl phthalate, glass-filled, flame resistant, per MIL-M-14F, Type SDGF. Insulation resistance: 25,000 meg. min. Mil. spec.: MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600 (BuWeps) par. 3.5.5.

NUMBER OF CONTACTS

12 and 26 (codes **012** and **026**)

CONTACT CODE



141—PC termination for 1/8″ card
146—.078″ base taper tab
156—Wire wrapping (.026x.062x.600″)
158—Wire wrapping with wire hole (.026x.062x.600″)
163—.098″ base taper tab; wire hole
165—Forked tail solder term. for bus line conntction (.056x.125″ slot)
166—Dual solder termination for 2 wires or bus line (.056x.125″ slot)
189—Solder termination for 3 wires

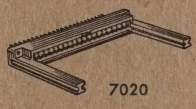
5009 VARIATION CODE

Series	Code number for 1/16″ card
5009	001

POLARIZATION: Must be specified separately.

SERIES 7008/7020 .100″ CONNECTORS

7008



7020

Series 7008 is available with card guides, for 1/16″ card. Series 7020 available only with 51 contacts and card guides, for 1/16″ cards (Variation 001). Current rating: 10 amps. Contact and insulator material: same as Series 5009 above. Mil. spec.: MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600 (BuWeps) par. 3.5.5.

NUMBER OF CONTACTS

017, 023, 029, 035, 041 or 047 (Series 7020, **051** only).

CONTACT CODE

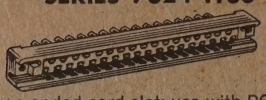
Same as Series 5009 above.

VARIATION CODE

Code	Card Slot	Card Guides
001	1/16″	Yes

Polarization is described separately by contact position.

SERIES 7024 .100″ CONNECTORS



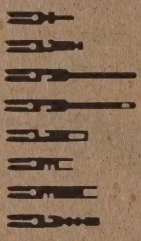
Guide Sockets Facilitate Mating, Ensure Correct Alignment

Open-ended card slot; use with PC card of any width. Wide range of contact terminations. MIL-C-21097 Qualified Products List (QPL)-approved. Current rating: 10 amps. Contact material and plating: phosphor bronze per QQ-B-750, Composition A; 10 microinches gold plate over 30-100 microinches nickel plate. Insulator material: diallyl phthalate, glass-filled, flame resistant, per MIL-M-14F, Type SDGF. Military specifications: MIL-C-21097, MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600 (Para. 3.5.5), MIL-STD-454.

NUMBER OF CONTACTS

17 (**017**), 23 (**023**), 29 (**029**), 35 (**035**) or 41 (**041**).

CONTACT CODE



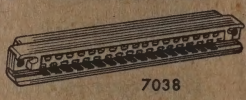
141—PC termination for 1/8″ card
146—.078″ base taper tab
156—Wire wrapping (.026x.062x.600″)
158—Wire wrapping with wire hole (.026x.062x.600″)
163—.098″ base taper tab; wire hole
165—Forked tail solder term. for bus line connection (.056x.125″ slot)
166—Dual solder termination for 2 wires or bus line (.056x.125″ slot)
189—Solder termination for 3 wires

VARIATION CODE

001—For 1/16″ thick PC card
110—For 1/16″ card (for conformance to MIL-C-21097B)
Polarization: Must be specified separately.

SERIES 7015 AND 7038 .100″ CONNECTORS

7015



7038

Varilok™ contacts are insertable and removable. Series 7015 has contacts that lock in position by spring lances. Series 7038 has guide sockets for easy mating and correct alignment (optional on 7015). Open-ended card slot; no notching needed. Current rating: 8.5 amps. Contact and insulator material, and Military specifications: same as Series 7024 above.

NUMBER OF CONTACTS

017, 023, 029, 035, 041, 047 (Series 7015 avail. with **059**).

CONTACT CODE

216—60 8017 04 13. .078″ taper tab
217—60 8017 05 13. Wire hole
218—60 8017 06 13. Solderless wrap tail, .024x.050x.567″
750—60 8017 06 23. Solderless, .024x.050x.760″
296—60 8017 06 33. Solderless, .024x.026x.580″
***000**—60 8017 03 13. Wire crimp (contacts loose)
***000**—60 8017 03 23. Wire crimp (contacts on reel)
*Order separately by part number

VARIATION CODE

	Series 7015	Series 7038	
001	1/16″ card with guides	001	1/16″ card
002	1/16″ card without guides		

Polarization: Must be specified separately.

HOW TO ORDER

00 — XXXX — XXX — XXX — XXX

series — No. of Contacts — Contact Code — Variation Code

The complete 15-digit Elco number consists of the Series number, followed by codes for number and type of contacts, and variation (see below).

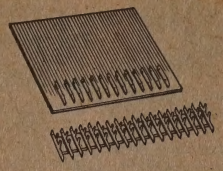
For Example: 00-5009-016-163 is a Series 5009 connector with 16 contacts, .098″ base taper tab. Wire hole for 1/16″ card.

Contact Your Nearest Newark Branch for Complete Pricing Information

PC Varicon™ Connectors

Elco Corporation
a Gulf + Western manufacturing company
2250 PARK PLACE, EL SEGUNDO, CA 90245

02 SERIES CONTACT STRIPS ON .200″ CENTERS MATES WITH 5000 SERIES RECEPTACLES



Contacts can be staked (and soldered, if desired) directly to PC card. Requires no insulator. Contacts are supplied on disposable plastic strips. Staking and strip removing equipment is available. For 1/16″ PC card. MIL-C-21097 Qualified Products List (QPL)-approved. Current rating: 10 amps. Contact material and plating: phosphor bronze per QQ-B-750, Composition A; 10 microinches gold plate, over 30-150 microinches nickel plate. Military spec.: MIL-C-21097, MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-STD-454, MIL-E-19600 (BuWeps) par. 3.5.5.

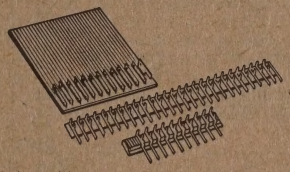
NUMBER OF CONTACTS

1 to 60 (code **001** thru **060**).

CONTACT CODE

013—For 1/16″ thick card. Type 60 5001 19 13 contacts spaced .200″, with wire hole (maximum of 60 contacts per strip)

02 SERIES CONTACT STRIPS ON .100″ CENTERS MATES WITH 7000 SERIES RECEPTACLES

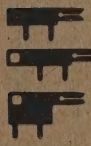


Consists of contacts which can be staked and soldered to PC card; no other insulator needed. Contacts are supplied imbedded in vinyl strips, correctly spaced and ready for insertion and staking into PC card. Complete set of plug contacts supplied on two disposable plastic strips, one for upper-tier contacts and the other for lower-tier contacts. For 1/16″ PC card. Current rating: 10 amps. Contact material and plating; phosphor bronze per QQ-B-750, Composition A; 10 microinches gold plate over 30-150 microinches nickel plate. Military specifications: MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600 (BuWeps), par. 3.5.5. **Upper-tier and lower-tier contacts on separate strips.**

NUMBER OF CONTACTS

1 to 60 (codes **001** thru **060**).

CONTACT CODE



147—For 1/16″ thick card. Lower tier contacts, type 60 7001 15 13

135—For 1/16″ thick card. Lower tier contacts with wire hole, type 60 7001 04 13

137—For 1/16″ thick card. Upper tier contacts with wire hole, type 60 7001 05 13

HOW TO ORDER

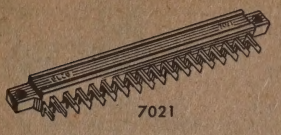
02 — XXX — XXX — 5 — 200

No. of Contacts **Contact Code**

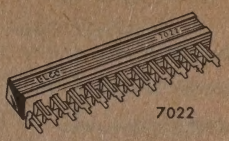
The complete 12-digit number includes codes for no. of contacts and contact type (see listings above).

For Example: 02-010-147-5-200 is a Series 7000 contact strip with ten type 60 7001 15 13 contacts on lower tier.

SERIES 7021 AND 7022 .100″ CONNECTORS



7021



7022

Type 7021 mates with series 7000 receptacles without card guides; 7022 mates with series 7000 receptacles with guides. Insulator maintains exact spacing between contacts; rigidity reduces PC card wrap. Reduces cost of card punching operation (fewer holes are needed), and contact staking operation (one operation instead of two). Reduces assembly time (no plastic strip to remove). Current rating: 10 amps. Contact material and plating: phosphor bronze per QQ-B-750, Composition A; 10-20 microinches gold plate over 30-150 microinches nickel plate. Insulator: diallyl phthalate, glass-filled, flame resistant per MIL-M-14F, type SDGF. Mil spec.: MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600 (BuWeps) par. 3.5.5.

NUMBER OF CONTACTS

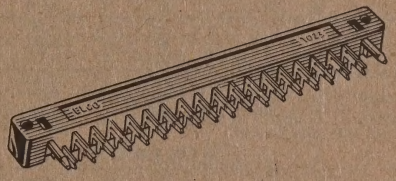
7021 Series: 35 (035)

7022 Series: 17 **(017)** 23 **(023)**, 29 **(029)**, 35 **(035)**, 41 **(041)**, 47 **(047)**, 51 **(051)**.

VARIATION CODE

001—For 1/16″ module card thickness

SERIES 7023 .100″ CONNECTORS



Mates with 7024 and 7038 series. MIL-C-21097 Qualified Products List (QPL)-approved. Guide pins facilitate mating, ensure correct alignment. Insulator maintains exact spacing between contacts; insulator rigidity reduces PC card warp. Reduces cost of card punching operation (fewer holes are needed) and of contact staking operation (one operation instead of two). Reduces assembly time (no plastic strip to remove). For 1/16″ PC card, as indicated. Current rating: 10 amps. Contact material and plating: phosphor bronze per QQ-B-750, Composition A; 10 microinches gold plate over 30-150 microinches nickel plate. Insulator material: diallyl phthalate, glass-filled, flame resistant, per MIL-M-14F, type SDGF. Military specifications: MIL-C-21097, MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600 (Par. 3.5.5.), MIL-STD-454.

NUMBER OF CONTACTS

17 **(017)**, 23 **(023)**, 29 **(029)**, 35 **(035)**, 41 **(041)** or 47 **(047)**.

VARIATION CODE

001—For 1/16″ PC card

110—For 1/16″ PC card; conforms to MIL-C-21097C

HOW TO ORDER

00–70XX–XXX–000–XXX

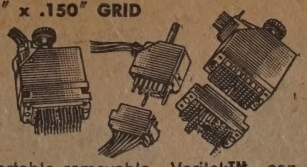
Series **No. of Contacts** **Variation**

The complete 15-digit number includes Series (7021, 7022 or 7023) plus codes for number and type of contacts.

For Example: 00-7021-035-000-001 is a Series 7021 connector with 35 contacts, for 1/16″ card thickness.

Rack-and-Panel Connectors

SERIES 8016 WITH .130″ x .150″ GRID



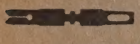
Insertable removable Varilok™ contacts. Guide pins and sockets ensure correct alignment. Polarizing hardware can be reset by user (36 possible positions per pair). Optional cover with top or side cable entry and clamp. Current rating: 8.5 amps max. Contact material: phosphor bronze per QQ-B-750, Comp. A; 10 microinches gold plate over 30-100 microinches nickel. Insulator: diallyl phthalate, glass-filled, flame resistant per MIL-M-14F, type SDGF; or polycarbonate thermoplastic. #terminations should be insulated. †Must be ordered separately. Cover: metal.

NUMBER OF CONTACTS

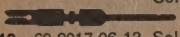
020, 038, 056, 090, or 120.

CONTACT CODE

#216—60 8017 04 13 .078″ taper tab

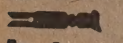


#217—60 8017 05 13 Solder/.098″ tab



#218—60 8017 06 13. Solderless wrap tail, .024x.050x.567″

#750—60 8017 06 23. Solderless wrap tail, .024x.050x.760″



296—60 8017 60 33. Solderless wrap tail, .024x.026x.580″

†000—60 8017 03 13 Crimp (loose)
†000—60 8017 03 23 Crimp (1800 reel)

20 CONTACTS

Type Connector	Variation Code: Polycarbonate	Variation Code: Diallyl	Cover & Cable Entrance	Actuating Screw	Locking Nut
Plug	001	701	None	Yes	No
	002	703	None	No	Yes
	903	803	Top*	Yes	No
	904	804	Side*	Yes	No
	905	805	Top*	No	Yes
	906	806	Side*	No	Yes
Receptacle	007	707	None	No	Yes
	008	708	None	Yes	No
	909	809	Top*	Yes	No
	910	810	Side*	Yes	No
	911	811	Top*	No	Yes
	912	812	Side*	No	Yes
Plug	013	713	None	No	No
	914	814	Top*	No	No
	915	815	Side*	No	No
Receptacle	016	716	None	No	No
	911	818	Top*	No	No
	918	818	Side*	No	No

*Use cover only with crimp contacts.

90 OR 120 CONTACTS

Type Connector	Variation Code: Polycarbonate	Variation Code: Diallyl	Cover & Cable Entrance	Actuating Screw	Locking Nut
Plug	001	701	None	Yes	No
	002	702	None	No	Yes
	903	803	Top	Yes	No
	904	804	Side	Yes	No
	905	805	Top	No	Yes
	906	806	Side	No	Yes
Receptacle	007	707	None	No	Yes
	008	708	None	Yes	No
	909	809	Top	Yes	No
	910	810	Side	Yes	No
	911	811	Top	No	Yes
	912	812	Side	No	Yes

38 OR 56 CONTACTS

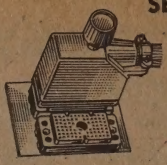
Type Connector	Variation Code: Polycarbonate Std Clamp	Polycarbonate Large Clamp	Diallyl Std Clamp	Diallyl Large Clamp	Cover & Cable Entrance	Actuating Screw	Locking Nut
Plug	001	.....	701	.....	None	Yes	No
	002	.....	702	.....	None	No	Yes
	903	919	803	819	Top	Yes	No
	904	920	804	820	Side	Yes	No
	905	921	805	821	Top	No	Yes
	906	922	806	Side	Side	No	Yes
Receptacle	007	.....	707	.....	None	No	Yes
	008	.....	708	.....	None	Yes	No
	909	923	809	823	Top	Yes	No
	910	924	810	824	Side	Yes	No
	911	925	811	825	Top	No	Yes
	912	926	812	826	Side	No	Yes
Plug	013	.....	713	.....	None	No	No
	914	927	814	827	Top	No	No
	915	928	815	828	Side	No	No
Receptacle	016	.....	716	.....	None	No	No
	917	929	817	829	Top	No	No
	918	930	818	830	Side	No	No

CABLE STRAIN RELIEF CLAMP

Adjustable for large or small cable bundles. Versatile clamp assembly permits mounting in various directions: can mount on plug and/or receptacle. Available for sizes 38 and 56.

30-8026-9601—For plug and cable-to-cable applications
30-8026-9602—For receptacle applications

SERIES 8026



Economical subminiature high-density connectors. Mini-Varilok™ crimp/removable contacts available loose or on reels. Keyed, shrouded insulator. Jackscrews facilitate mating, lock connectors together. Current rating: 3 amps. Contacts: phosphor bronze per QQ-B-750, Comp. A; 10 microinches gold plate over 30-100 microinches nickel. Insulator: .100″ spacing, diallyl phthalate, glass-filled; .125″ spacing, polycarbonate. Cover: metal, except ††polycarbonate.

NUMBER OF CONTACTS

.100″ Spacing: **033, 075** or **117**
.125″ Spacing: **055** or **079**

CONTACT CODE

Order separately by part no.:
000-60 8261 0323. Crimp (3000 reel)
000-60 8216 0313. Crimp (loose)
491-60 8216 0413 Wrappable (.025 sq.)

VARIATION CODE—††33 CONTACT SIZE

Insulator Body	Code	Actuating Screw	Fixed Nut	Polar. Pins	Cover
Male (Exposed Contacts)	701	Yes	No	Yes	No
	702	Yes	No	No	No
	703	No	Yes	Yes	No
	704	No	Yes	No	No
	725	Yes	No	Yes	Yes
	726	Yes	No	No	Yes
	727	No	Yes	Yes	Yes
	728	No	Yes	No	Yes
	733	No	No	Yes	No
	734	No	No	No	No
	745	No	No	Yes	Yes
	746	No	No	No	Yes
Female (Recessed Contacts)	801	No	Yes	Yes	No
	802	No	Yes	No	No
	803	Yes	No	Yes	No
	804	Yes	No	No	No
	825	No	Yes	Yes	Yes
	826	No	Yes	No	Yes
	827	Yes	No	Yes	Yes
	828	Yes	No	No	Yes
	833	No	No	Yes	No
	834	No	No	No	No
	845	No	No	Yes	Yes
	846	No	No	No	Yes

SIZES 55, 75, 79 AND 117
MALE INSULATOR (Exposed Contacts)

Sizes 55 and 79 available only with female.

Variation Code: W/O Cover	Cover, Small Clamp	Cover, Large Clamp	Cable Entry	Actuating Screw	Fixed Nut	Polarizing Hdwe.
701	.....	.....	No	Yes	No	Yes
702	.....	.....	No	Yes	No	No
703	.....	.....	No	No	Yes	Yes
704	.....	.....	No	No	Yes	No
733	.....	.....	No	No	No	Yes
734	.....	.....	No	No	No	No
.....	705	713	Top	Yes	No	Yes
.....	706	714	Side	Yes	No	Yes
.....	707	715	Top	Yes	No	No
.....	708	716	Side	Yes	No	No
.....	709	717	Top	No	Yes	Yes
.....	710	718	Side	No	Yes	Yes
.....	711	719	Top	No	Yes	No
.....	712	720	Side	No	Yes	No
.....	735	739	Top	No	No	Yes
.....	736	740	Side	No	No	Yes
.....	737	741	Top	No	No	No
.....	738	742	Side	No	No	No

FEMALE (Recessed Contacts)

801	.....	.....	No	No	Yes	Yes
802	.....	.....	No	No	Yes	No
803	.....	.....	No	Yes	No	Yes
804	.....	.....	No	Yes	No	No
833	.....	.....	No	No	No	Yes
834	.....	.....	No	No	No	No
.....	805	813	Top	No	Yes	Yes
.....	806	814	Side	No	Yes	Yes
.....	807	815	Top	No	Yes	No
.....	808	816	Side	No	Yes	No
.....	809	817	Top	Yes	No	Yes
.....	810	818	Side	Yes	No	Yes
.....	811	819	Top	Yes	No	No
.....	812	820	Side	Yes	No	No
.....	835	839	Top	No	No	Yes
.....	836	840	Side	No	No	Yes
.....	837	841	Top	No	No	No
.....	838	842	Side	No	No	No

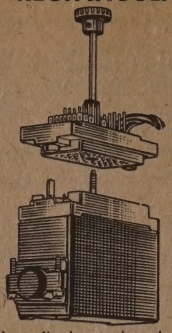
See Preceding Page for Ordering Information

Rack-and-Panel Connectors

Elco Corporation
a Gulf + Western manufacturing company

SERIES 8017 RECTANGULAR WITH .150" OFFSET GRID

- **75, 100 or 130 Contacts**
- **Crimp, Solder/Taper Tab, Solderless Wrap and Taper Tab Terminations**
- **Removable VARILOK™ Contacts**



Rectangular rack-and-panel connectors with .150" offset grid, available with 75, 100 or 130 contacts. Polarizing hardware can be set to any of six positions at the factory; can also be reset by the user (36 possible polarizing position combinations per pair). Guide pins and sockets ensure correct alignment when mating. Optional cover, with top or side cable entrance and clamp. Available with or without actuating screw or nut. U.L. approved. Insertable/removable VARILOK™ contacts. Choice of terminations: .078" taper tab (216), solder/.098" wire hole (217), solderless wrap tail in choice of three sizes (218, 750 and 296), or crimp (to be ordered separately). Current rating: 8.5 amps maximum. Contact material: phosphor bronze per QQ-B-750, Composition A. Contact plating: 10-20 microinches gold plate over 30-150 microinches nickel plate. Cover material and finish: Steel with black wrinkle finish. Clamp material and finish: Zinc (fixed clamp) or steel (movable clamp) with black wrinkle finish. To Order, complete the 15-digit assembly as shown at right.

ORDERING CODE

Complete a 15-digit assembly number for each mating part, plug and receptacle:

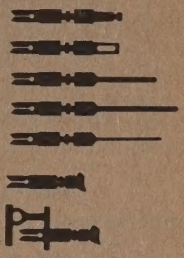
00 — 8017 — XXX — XXX — XXX

NUMBER OF CONTACTS
75 **(075)**, 100 **(100)**

CONTACT CODE

For factory-installed contacts, use 3-digit code no. For loose contacts, use code no. 000 and order contacts separately by part no. (crimp contacts can only be ordered separately)

216—60 8017 04 13—.078" taper tab
217—60 8017 05 13—Solder/.098" wire hole
218—60 8017 06 13—Solderless wrap, .024x.050x.567"
750—60 8017 06 23—Solderless wrap, .024x.050x.760"
296—60 8017 06 33—Solderless wrap, .024x.026x.580"
To be ordered separately:
000—60 8017 03 13—Crimp (loose)
000—60 8017 03 23—Crimp (1800 reel)



VARIATION CODE

Description	Code	Cover and Cable Entry	Actuating Screw	Fixed Screw
PLUG	001	None	Yes	No
	002	None	No	Yes
	003	Top	Yes	No
	004	Side	Yes	No
	005	Top	No	Yes
	006	Side	No	Yes

Description	Code	Cover and Cable Entry	Actuating Screw	Fixed Screw
RECEPTACLE	007	None	Yes	No
	008	None	No	Yes
	009	Top	Yes	No
	010	Side	Yes	No
	011	Top	No	Yes
	012	Side	No	Yes

STANDARD VARICON™ RACK-AND-PANEL CONNECTORS

Current rating: 9 amps maximum. Contact resistance: 0.007 ohm maximum. Contact material: nickel-silver, per specification ASTM B-122, Alloy #8. Insulator material: general purpose phenolic, per MIL-P-10420. Insulation resistance: 25,000 megohms, minimum. Dielectric withstanding voltage: sea level, 2000 volts rms: 3.4" mercury, 1000 volts rms (at 52% relative humidity). Withdrawal force: 2-16 ounces per contact. Hardware plating: 200 microinches copper under 100 microinches bright nickel. Ruggedized units differ from normal assembly by the use of thicker end sections (.202" thick as opposed to regular .140"); recommended for connectors with 12 or more contacts per tier. Covers are coated with blue-black vinyl. Standard Varicon connectors, Series 01, are covered under component recognition program of Underwriters' Laboratories, Inc.

ORDERING CODE

PRODUCT LINE 01 — **01 — X X XX — X XX — X XX — XXX**

END SECTION
1 Plug **2** Plug, Ruggedized
3 Receptacle **4** Receptacle, Ruggedized

NUMBER OF TIERS
1 or **2**

NUMBER OF CONTACTS
02, 04, 06, etc.

INSULATOR MATERIAL
1 General-purpose phenolic
2 Mica-filled phenolic

HARDWARE
00 Plain, without hardware
02 Cover, top cable hole, no clamp
03 Cover, end cable hole, no clamp
04 Cover, top cable hole with clamp
05 Cover, end cable hole with clamp
06 Recessed housing, .125x.171" mtg. hole
07 Cover with actuating screw
11 Standard bracket, .125x.187" mtg. holes
17 Bracket assembly for actuating screw

GUIDE PINS
0 No guide pin or holes
1 One pin **2** Two pins
3 One hole **4** Two holes
Polarization must be specified separately

CONTACT VARIATIONS
On "end section" 1 and 2, the "04" contact is used as standard; on "end section" 3 and 4, "01" contact is standard
01 Nickel-silver **04** Nickel-silver

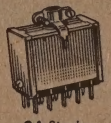
SPECIAL VARIATIONS
000 No special variation (also see variation 002)
001 Standard assembly with printed numbering system
002 Reverse assembly (standard on receptacle w/o hardware)
003 Reverse assembly with printed numbering system

HARDWARE

00 Single-Tier Receptacle

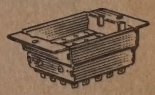
11 Single-Tier Plug

11 Ruggedized 2-Tier Receptacle

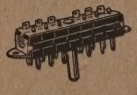


04 Single-Tier Plug

06 Single-Tier Plug



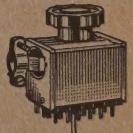
06 Double-Tier Receptacle



11 Single-Tier Plug with Guide Pin

11 Double-Tier Receptacle, Two Guide Holes

07 Ruggedized 2-Tier Plug



17 Ruggedized 2-Tier Receptacle

RIGHT-ANGLE CONNECTORS

Two-wire Varicon connectors make it possible to run wire or cables parallel to panels, conserving space. Can be inserted in mating connectors side-by-side, or in any skip rotation.

01-1102-120-001 Plug (shown)
01-3102-120-001 Receptacle

Contact Your Nearest Newark Branch for Complete Pricing Information

Varipak™ PC Card Enclosures & Access.

SERIES 9016 VARIPAK PC CARD ENCLOSURES

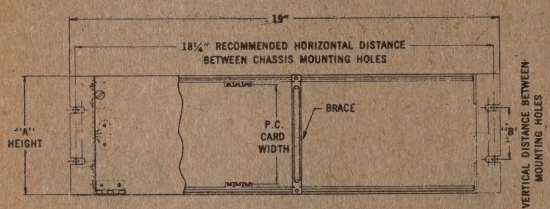
Assembly Code Number		Nominal	Dimension "A"		Dimension "B"		"E" For Double Unit Only	"H" For Double Unit Only
Single Unit	Double Unit	P.C. Card Width	Single Unit	Double Unit	Single Unit	Double Unit		
01	20	3.625	4.343	8.718	1.375	.....	5.750	.....
02	21	4.500	5.218	10.468	2.250	2.250	7.500	3.000
03	22	6.250	6.968	13.968	4.000	4.000	11.000	3.000
04	23	8.000	8.718	17.468	5.750	4.000	14.500	6.500
05	24	3.625	4.343	8.718	1.375	.....	5.750	.....
06	25	4.500	5.218	10.468	2.250	2.250	7.500	3.000
07	26	6.250	6.968	13.968	4.000	4.000	11.000	3.000
08	27	8.000	8.718	17.468	5.750	4.000	14.500	6.500
09	28	3.625	4.343	8.718	1.375	.....	5.750	.....
10	29	4.500	5.218	10.468	2.250	2.250	7.500	3.000
11	30	6.250	6.968	13.968	4.000	4.000	11.000	3.000
12	31	8.000	8.718	17.468	5.750	4.000	14.500	6.500
13	32	3.625	4.343	8.718	1.375	.....	5.750	.....
14	33	4.500	5.218	10.468	2.250	2.250	7.500	3.000
15	34	6.250	6.968	13.968	4.000	4.000	11.000	3.000
16	35	8.000	8.718	17.468	5.750	4.000	14.500	6.500

ORDERING CODE 03 — 9016 — XX — XX — XX

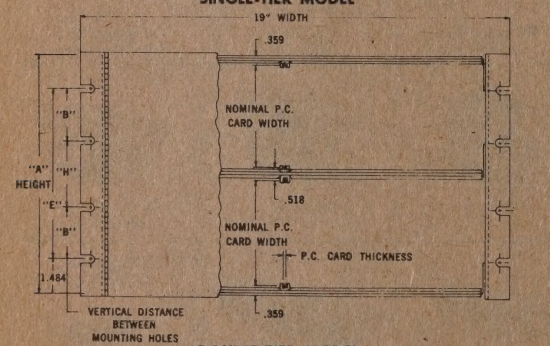
CONNECTOR MOUNTING
- 00—No Connector mounting parts.
- 01—Blank connector panel.
- 02—Blank connector mounting straps.
- 03—Connector mounting straps with 82 (.128" dia.) holes on .200" centers.
- 04—Blank panel and blank connector mounting straps (for double tier models only).
- 05—Blank panel and connector mounting straps with 82 (.128" dia.) holes on .200" centers (for double tier models only).

ACCESSORIES
- 00—None.
- 01—Marker strip.
- 02—Front door panel.
- 03—Marker strip and front door panel.
- 04—Reinforcement bar.
- 05—Reinforcement bar and front door panel.

Front door panels for single tier units are available only for assemblies 02, 06, 10 and 14.



SINGLE-TIER MODEL



DOUBLE-TIER MODEL

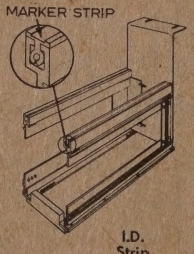
HINGED FRONT PANEL. Made of 6061-T4 aluminum with clear anodize finish; other finishes available. Single-tier model hinged at the bottom; opens from the top and is held by two slot-head fasteners. Available for assemblies 02, 06, 10 and 14.

DOUBLE TIER HINGED FRONT PANEL. Hinged to open from left or right side; 3 wing-head fasteners.

Part No.	Fits Assemblies
33 9016 22 09	20, 24, 28, 32
33 9016 22 10	21, 25, 29, 33
33 9016 22 11	22, 26, 30, 34
33 9016 22 12	23, 27, 31, 35

VARIPAK ACCESSORIES

I.D. MARKER STRIP —63 9016 24 02. White matte surface to print PC rack positions. Made of extruded flexible polyvinyl. 16¾" long.

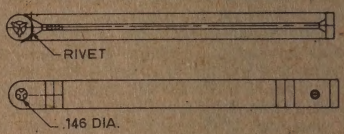


REINFORCEMENT BAR—63 9016 75 04. Provides additional support for heavy PC cards. Extruded aluminum, 16⅝" long. Clear chromate finish; other finishes available. Slides into leading edge (front) of guide plate. Provision for ID labels.

COMPLETE PACKAGE

Designed to fit standard 19" rack. The components necessary to build a complete assembly can be ordered under one composite number, as shown at left. Card guides must be ordered separately (below). Shipped unassembled. Unit holds up to 41 guides per row on .400" ctrs.

P.C. CARD GUIDES



For use with Varipak enclosures. Aligns card with connector; holds card in place. Rugged polycarbonate rated 280-300° F. Wide beveled lead-in edge for easy card alignment. Guides are easily assembled and removed, without damaging either the guide or the enclosure. Guide float allows for tolerance accumulation between guide and connector.

Note: One snap-in rivet is normally supplied with each card guide. However, to fasten guides to center guide plate (double-tier model) a special two-piece snap-together rivet is required. To order, change the guide part number prefix from "33" to "63" and order the special rivet separately (33 9016 20 53).

Part Number	Nom. Card Thickness	Will Fit Assemblies
33 9016 12 01 01	1/16"	01, 02, 03,
33 9016 12 01 02	3/32"	04, 20, 21,
33 9016 12 01 03	1/8"	22 or 23
33 9016 12 01 04	1/16"	05, 06, 07,
33 9016 12 01 05	3/32"	08, 24, 25,
33 9016 12 01 06	1/8"	26 or 27
33 9016 12 01 07	1/16"	09, 10, 11,
33 9016 12 01 08	3/32"	12, 28, 29,
33 9016 12 01 09	1/8"	30 or 31
33 9016 12 01 10	1/16"	13, 14, 15,
33 9016 12 01 11	3/32"	16, 32, 33,
33 9016 12 01 12	1/8"	34 or 35

MOUNTING PANELS

For mounting PC connectors of various sizes in one unit. Made of 6061-T4 aluminum with clear chromate finish; other finishes available. Panel is shipped blank; also available with connector cutouts made per customer's specifications.

Part Number	Will Fit Assemblies
63 9016 11 01 01	01, 05, 09, 13, 20, 24, 28, 32
63 9016 11 01 02	02, 06, 10, 14, 21, 25, 29, 33
63 9016 11 01 03	03, 07, 11, 15, 22, 26, 30, 34
63 9016 11 01 04	04, 08, 12, 16, 23, 27, 31, 35

END GUIDE PLATES

Supports card guides, connector mounting straps or panels. Extruded 6023-T6 aluminum; clear chromate finish. 82 card guide mounting holes on .200" centers. Complete unit requires two end guide plates (double-tier unit also needs center guide plate).

Part Number	Will Fit Assemblies
33 9016 13 01 01	01, 02, 03, 04, 20, 21, 22, 23
33 9016 13 01 02	05, 06, 07, 08, 24, 25, 26, 27
33 9016 13 01 03	09, 10, 11, 12, 28, 29, 30, 31
33 9016 13 01 04	13, 14, 15, 16, 32, 33, 34, 35

MOUNTING STRAPS

63 9016 23 01 01—End strap without connector mounting holes; available in six sizes
63 9016 50 01—End strap with 82 mounting holes
63 9016 50 02—Center strap with 82 connector mount-holes (for double-tier unit only)

Contact Your Nearest Newark Branch for Complete Pricing Information

Transistor Sockets

Elco Corporation
a Gulf + Western manufacturing company

PC 2-Piece Metal-to-Metal Connectors

HOW TO ORDER

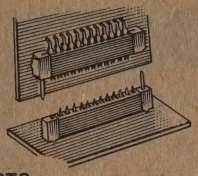
00 — 8XXX — XXX — XXX — XXX

Series / No. of Contacts / Contact Code / Variation Code

The complete 15-digit Elco number consists of the Series number, followed by codes for no. of contacts, contact type, and variation.

For Example: 00-8129-006-610-002 is a Series 8129 connector with six type 60 8106 02 4k contacts, upright brackets, without keying.

SERIES 8129 .100" CONNECTORS



For parallel or perpendicular PC card mounting. Guide pins facilitate mating. Current rating: 5 amps. Contact and insulator material: Phosphor bronze per QQ-B-750, composition A. 10 microinches gold plating over 30 microinches nickel plating. Insulator material: glass-filled diallyl phthalate, flame resistance per MIL-M-14F, type SDGF.

NUMBER OF CONTACTS

6 (006), 9 (009), 12(012) or 15 (015).

CONTACT CODE

Use with Variant 001 or 005
610—contact type 60 8106 02 43

Use with Variant 002 or 006
603—contact type 60 8101 02 23

Use with Variant 003 or 007
603—contact type 60 8101 02 23
605—contact type 60 8101 04 13
610—contact type 60 8106 02 43

Use with Variant 004 or 008
605—contact type 60 8101 04 13
610—contact type 60 8106 02 43

VARIATION CODE

WITHOUT KEYING

001—with side mounting brackets for recessed or flush mounting to edge of PC card (contact tails are formed)
002—with upright mounting brackets
003—without mounting brackets
004—with side mounting brackets for recessed or flush mounting to edge of PC card (contact tails not formed)

WITH KEYING. Polarization must be specified separately.

005—with side mounting bracket for recessed or flush mounting to edge of PC card (contact tails are formed)
006—with upright mounting brackets
007—without mounting brackets
008—same as 005, but contact tails not formed

TRANSISTOR SOCKETS (3 AND 4-PIN)

3301/3303/3304 | 3305 | 3307/3308 | 0799 | Mtg. Ring

Type No.	Pins	Insulator	Contacts	Mounting Type	1-99	100-249
05 3301	4	MICA	BCSPGF	Flat Saddle	.56	.52
05 3303	4	MICA	BCSPGF	PC Solder	.40	.36
05 3304	4	MICA	BCSPGF	Mtg. Ring†	.40	.36
05 3305	4	MICA	BCSPGF	PC Solder	.30	.26
05 3307	4	MICA	BCSPGF	Mtg. Ring†	.40	.36
05 3308	4	DAP	BCSPGF	PC Solder	.34	.32
05 0799	3*	MICA	BCSPGFTD	Retainer†	.44	.40
05 0803	4	MICA	BCSPGF		.52	.46
65 0004 7105 00 001 Retainer for 05 0799, 05 0803					.04	.04
65 0004 7202 00 001 Mounting Ring (BRCP)					.06	.06

*In-line sockets. †Order mtg. ring or retainer separately.

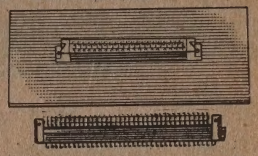
TERMINOLOGY

To simplify the tables, the following symbols are used to describe part materials and platings:

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
BC	Beryllium Copper	MICA	Mica Filled Phenolic
BR	Brass	PH	Phosphor Bronze
CP	Cadmium Plating	SP	Silver-Plating
DAP	Diallyl Phthalate	TLP	Tin-Lead Plating
GP	Gold Flash		

Example: PHSPTD—Phosphor bronze, silver plated, tin dipped

SERIES 8219 .050" CONNECTORS



Miniature 2-piece metal-to-metal PC connectors, intermateable with Series 8221. Current rating: 5 amps max. Contact material and plating; phosphor bronze per QQ-B-750, Comp. A; 10 microinches gold plating over 30 microinches nickel plating insulator; diallyl phthalate, glass-filled, flame resistant, per MIL-M-14F, type SDGF. Guidance hardware: left hand guides are gold color metal; right hand guides are silver color metal. Military specifications: applicable portions of MIL-C-55302. Connectors are supplied with mounting screws or eyelets, as applicable.

NUMBER OF CONTACTS

18 (018), 30 (030), 36 (036), 42 (042), 54 (054), or 72 (072).

CONTACT CODE

For Variation #001 and #011			For Variation #002 and #012		For Variation #005 and #015		
Code No.	Contact Tail	"X" Dim.	Code No.	Contact Tail	Code No.	Contact Tail	"Y" Dim.
722	Wire hole	.187"	000	PC solder	722	Wire hole	.157"
721	PC solder	.250"		tails	721	PC solder	.219"
736	PC solder	.281"		(formed)	736	PC solder	.250"
737	PC solder	.562"	722	Wire hole	737	PC solder	.531"
753	PC solder	.125"		tail (un-	753	PC solder	.093"
771	PC solder	.484"		formed)	771	PC solder	.453"

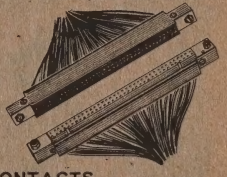
VARIATION CODE

Without Keying	With Keying Pin*	With Keying Holes	Description
001	011	021	Receptacle
002	012	022	Plug, perpendicular bd. mtg., odd positions
	013	023	Plug, perpendicular bd. mtg., even positions
005	015	025	Plug, parallel board mounting

*Polarization must be specified separately.

SERIES 8223 .100" VARICON™ PLUG/RECEPTACLES

- **POLARITY & KEYING BUILT INTO CONNECTOR PREVENT MISMATING**
- **PERPENDICULAR OR PARALLEL CONNECTOR MOUNTING**
- **CURRENT RATING: 3 AMPERES**
- **PROTECTED MALE & RECESSED FEMALE CONTACTS**
- **WIRE WRAP, P.C. SOLDER TAIL, WIRE HOLE, WIRE CRIMP TERMINATIONS**



NUMBER OF CONTACTS

24 (024), 48 (048), 72 (072), 96 (096).

VARIATION CODE

Insul. Type	Use w/Key No.:	Variation	Contact Style
MALE (Exposed Contact)	1	001	Formed Contact Tail
	2 3 4	002	P.C. Coined Tail Wide Hole Tail P.C. Straight Tail
	5 6	003	Crimp Contact Wrappable/Removable
FEMALE (Recessed Contact)	1	901	Formed Contact Tail
	2 3 4	902	P.C. Coined Tail Wire Hole Tail P.C. Straight Tail
	5 6	903	Crimp Contact Wrappable/Removable

Code	Description	Key No.	Code	Description	Key No.
000	Coined Tail-Formed 90°	1	737	P.C. Tail	4
473	P.C. Tail Coined	2	753	P.C. Tail	4
519	P.C. Tail Coined	2	771	P.C. Tail	4
520	P.C. Tail Coined	2	000	Crimp Contact	5
722	Wire Hole Tail	3	000	Crimp Cont. (loose)	5
721	P.C. Tail	4	491	Wrappable/Remov.	6
736	P.C. Tail	4			

AMPHENOL® CONNECTORS FROM BUNKER RAMO

"MS" Connector Insert Contact Arrangements

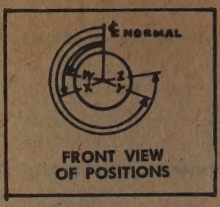
Exclusive non-rotating contact design simplifies soldering and lowers termination cost. Blue diallyl phthalate inserts provide high insulating resistance and dimensional stability in the presence of both high humidity and high temperature. Only Amphenol MS "A" and "B" inserts feature molded barriers between each contact.

CURRENT RATING:

Contact Size	20	16	12	8	4	0
Amperes	10	22	41	73	135	245

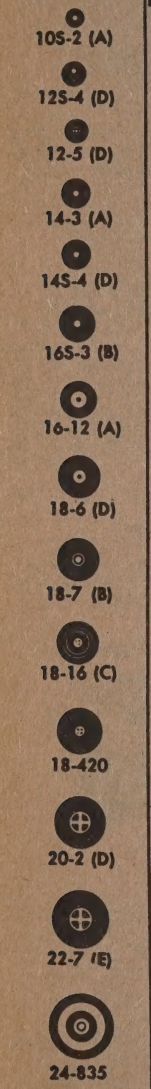
ALTERNATE INSERT POSITIONS—

(H) W, X, Y, or Z (L) X or Y (N) W or Z
(J) W, X, or Y (M) X (P) W or Y
(K) W, Y, or Z

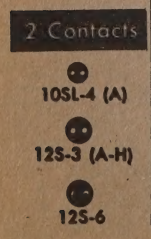


FRONT VIEW OF POSITIONS

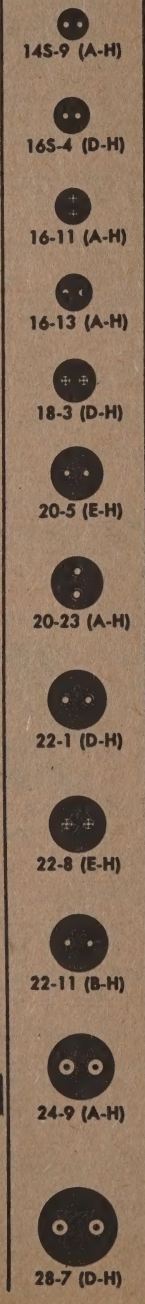
1 Contact



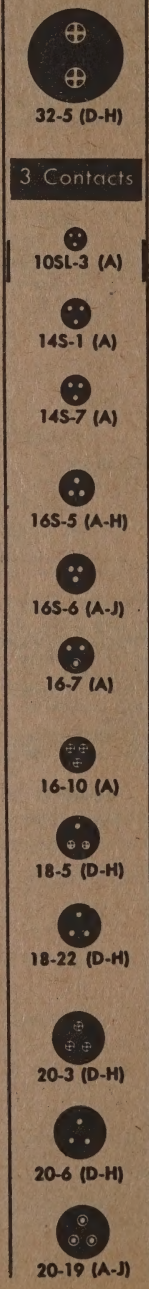
2 Contacts



2 Contacts (Con't.)

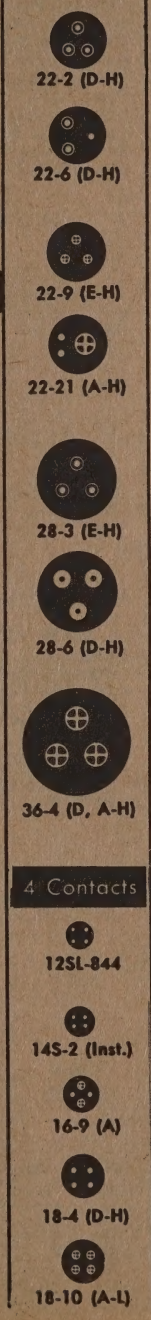


2 Contacts (Con't.)



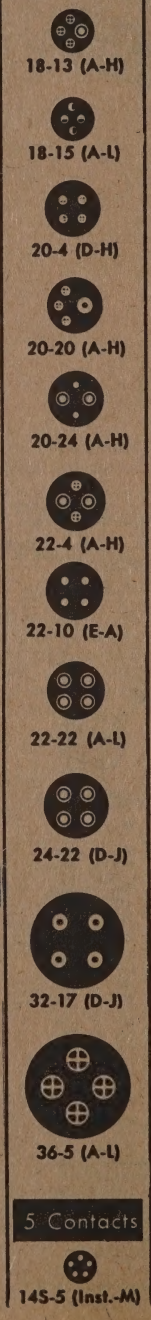
3 Contacts

3 Contacts (Con't.)



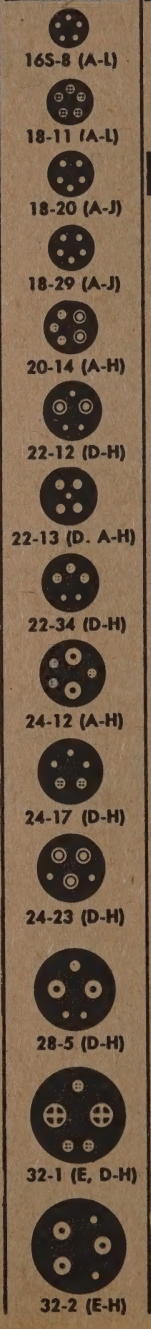
4 Contacts

4 Contacts (Con't.)

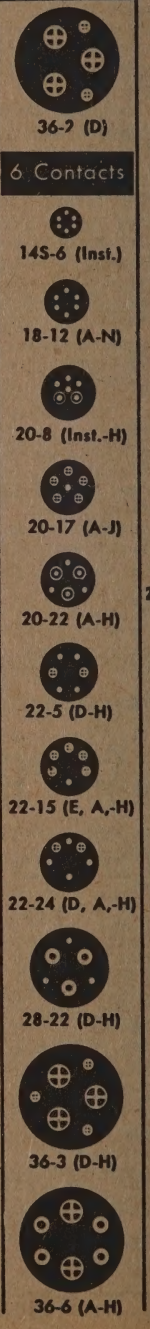


5 Contacts

5 Contacts (Con't.)

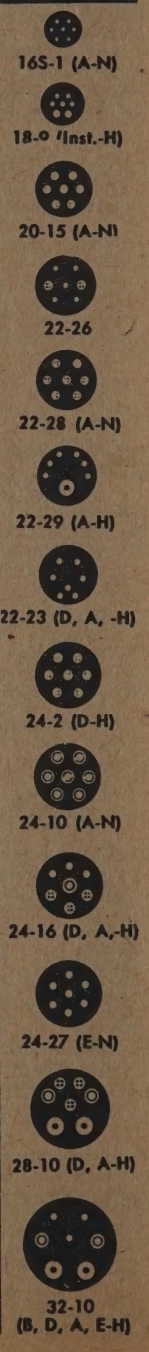


5 Contacts (Con't.)



6 Contacts

7 Contacts



Contact Arrangements

AMPHENOL® CONNECTORS FROM BUNKER RAMO

97 3101 A 28-21 S Y 639

Series Number
Like MS but Amphenol exclusive design for A & B construction.

Shell Type
3100 Wall Receptacle
3101 Cable Receptacle
3102 Box Receptacle
3106 Straight Plug
3108 Angle Plug

Shell Construction
A-Solid B-Split

Shell Finish
Omit for standard finish
639-Clear cadmium plate

Alternate Insert Position
Omit for standard position W, X, Y, or for alternate positions, depending on insert.

Contact
P-Pin S-Socket

Insert Number Consist Of

Shell Size: 10SL, 12S, 12, 14S 14, 16S, 16, 18, 20 22, 24, 28, 32, 36

Configuration: Code numbers (from 1 up) for insert configuration.

Service—Limiting Operating Voltages @ Sea Level						
	Inst.	A	D	E	B	C
DC	250	700	1250	1750	3450	4200
AC (rms)	200	500	900	1250	1750	3000

CODE OF WIRE SIZES

8 Contacts

18-8 (A-N)

20-7 (D, A-H)

20-9 (D, A-H)

22-18 (A-H)

22-23 (D, A-P)

22-36 (D, A-P)

24-6 (D, A-H)

32-15 (D-H)

9 Contacts

20-16 (A-H)

20-18 (A-H)

22-16 (A-H)

9 Contacts (Con't.)

20-21 (A-H)

22-17 (D, A-H)

22-20 (A-H)

22-27 (D, A-K)

24-11 (A-H)

28-1 (D, A-H)

28-4 (D, E-H)

32-3 (D-H)

10 Contacts

18-1 (A, Inst.)

18-19 (A)

10 Contacts (Con't.)

24-21 (D)

28-19 (A, B, D)

11 Contacts

20-33 (A)

24-20 (D-H)

28-14 (D-H)

12 Contacts

24-19

28-8 (A, D, E-H)

28-9 (D-H)

28-18 (Inst., A, C, D-H)

12 Contacts (Con't.)

32-101 (D-H)

13 Contacts

20-11 (Inst.)

14 Contacts

20-27 (Inst., A-H)

22-19 (A-H)

28-2 (D-H)

28-20 (A-H)

32-4 (A, D-H)

32-9 (D-H)

14 Contacts (Con't.)

32-102 (A, C, D-H)

15 Contacts

28-17 (A, B, D-H)

32-12 (A, D, -H)

36-405

36-407

16 Contacts

24-5 (A-H)

24-7 (A-H)

16 Contacts (Con't.)

36-14 (D-J)

17 Contacts

20-29 (A-N)

19 Contacts

22-14 (A-H)

20 Contacts

28-16 (A-H)

22 Contacts

28-11 (A-H)

36-1 (D-H)

23 Contacts

32-6 (A-H)

23 Contacts (Con't.)

32-13 (D-H)

24 Contacts

24-28 (Inst.-H)

26 Contacts

28-12 (A-J)

30 Contacts

32-8 (A-H)

31 Contacts

36-9 (A-H)

35 Contacts

28-15 (A-H)

32-7 (Inst, A-H)

35 Contacts; (Con't.)

36-15 (A, D-H)

37 Contacts

28-21 (A-H)

36-406 (A)

47 Contacts

36-7 (A-H)

36-8 (A-H)

48 Contacts

36-10 (A-H)

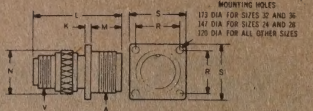
52 Contacts

32-414 (A)

36-403 (A)

DIMENSIONAL INFORMATION (INCHES)
PIN & SOCKET INSERTS ARE INTERCHANGEABLE WITHIN PLUG & RECEPTACLE SHELLS EXCEPT FOR (SL)) SHELL SIZES

MS 3100A WALL MOUNTING RECEPTACLES

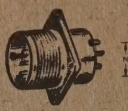


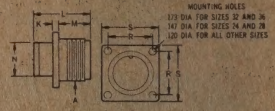
Solid shell construction. Integral polarizing key.

MS 3101A CABLE RECEPTACLES

Solid shell construction. Integral polarizing key. MS/AN fittings.

MS 3102A BOX MOUNTING RECEPTACLES





One piece aluminum die cast shell. Internal polarizing key. Solid shell.

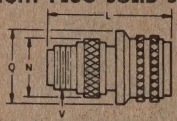
MS3100A & MS3101A

Connector Size	A Coupling Threads	K	L	M	N	O	R	S	V Fitting Threads
10S	5/8—24	5/64	1 5/16	9/16	5/8	.688	2 3/32	1	1/2—28
10SL	5/8—24	5/64	1 3/32	9/16	5/8	.812	2 3/32	1	5/8—24
12S	3/4—20	5/64	1 1 5/32	9/16	2 5/32	.812	1 3/16	1 3/32	5/8—24
12	3/4—20	5/64	1 27/32	3/4	2 5/32	.812	1 3/32	1 3/32	5/8—24
14S	7/8—20	5/64	1 7/16	9/16	7/8	.938	2 5/32	1 3/16	3/4—20
14	7/8—20	5/64	1 27/32	3/4	7/8	.938	2 5/32	1 3/16	3/4—20
16S	1 —20	5/64	1 3 1/64	9/16	1	1.062	3 1/32	1 3/32	7/8 —20
16	1 —20	1/8	1 5 7/64	3/4	1	1.062	3 1/32	1 3/32	7/8 —20
18	1 1/8—18	1/8	2	3/4	1 1/8	1.188	1 1/16	1 3/8	1 —20
20	1 1/4—18	1/8	2 1/8	3/4	1 1/4	1.312	1 5/32	1 1/2	1 3/16—18
22	1 3/8—18	1/8	2 1/8	3/4	1 3/8	1.438	1 1/4	1 5/8	1 3/16—18
24	1 1/2—18	1/8	2 1/4	1 3/16	1 1/2	1.562	1 3/8	1 3/4	1 7/16—18
28	1 3/4—18	1/8	2 1/4	1 3/16	1 3/4	1.812	1 5/16	2	1 7/16—18
32	2 —18	1/8	2 3/8	7/8	2 1/32	2.062	1 3/4	2 1/4	1 3/4—18
36	2 1/4—16	1/8	2 3/8	7/8	2 1/4	2.312	1 1 5/16	2 1/2	2 —18

MS3102A

Connector Size	A Coupling Threads	K	L	M	N	O	R	S
10S	5/8—24	5/64	2 7/32	9/16	1/2	.688	2 3/32	1
10SL	5/8—24	5/64	2 7/32	3 5/64	5/8	.812	2 3/32	1
12S	3/4—20	5/64	6 1/64	9/16	1 1/16	.812	1 3/16	1 3/32
12	3/4—20	5/64	1 5/16	3/4	1 1/16	.812	1 3/16	1 3/32
12SL	3/4—20	5/64	2 7/32	3 5/64	1 1/16	.938	1 3/16	1 3/32
14S	7/8—20	5/64	1 5/16	9/16	3/4	.938	2 3/32	1 3/16
14	7/8—20	5/64	1 5/16	3/4	3/4	.938	2 3/32	1 3/16
16S	1 —20	5/64	1 5/16	9/16	7/8	1.062	3 1/32	1 3/32
16	1 —20	1/8	1 1 1/16	3/4	7/8	1.062	3 1/32	1 3/32
18	1 1/8—18	1/8	1 1 1/32	3/4	1	1.188	1 1/16	1 3/8
20	1 1/4—18	1/8	1 1 1/32	3/4	1 1/8	1.312	1 5/32	1 1/2
22	1 3/8—18	1/8	1 1 1/32	3/4	1 1/4	1.438	1 1/4	1 5/8
24	1 1/2—18	1/8	1 1 1/32	1 3/16	1 3/8	1.562	1 3/8	1 3/4
28	1 3/4—18	1/8	1 1 1/32	1 3/16	1 5/8	1.812	1 5/16	2
32	2 —18	1/8	1 7/16	7/8	1 2 3/32	2.062	1 3/4	2 1/4
36	2 1/4—16	1/8	1 7/16	7/8	2 1/8	2.312	1 1 5/16	2 1/2

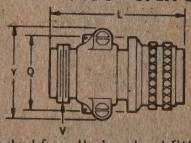
MS3106A—STRAIGHT PLUG—SOLID SHELL



Extremely high tensile strength coupling ring. Polarizing keyway. Mates with all types of MS receptacles. Standard fittings may be used on back shell.

Connector Size	L	N	Q	V Fitting Threads
10S	1 5/16	5/8	7/8	1/2—28
10SL	1 3/8	3/4	7/8	5/8—24
12S	1 7/16	2 5/32	1	5/8—24
12	1 3/8	2 5/32	1	5/8—24
12SL	1 3 1/64	7/8	1	3/4—20
14S	1 7/16	7/8	1 1/8	3/4—20
14	1 7/8	7/8	1 1/8	3/4—20
16S	1 2 9/64	1	1 1/4	7/8—20
16	1 5 7/64	1	1 1/4	7/8—20
18	2	1 1/8	1 1 1/32	1 —20
20	2 1/8	1 1/4	1 1 1/32	1 3/16—18
22	2 1/8	1 3/8	1 1 1/32	1 3/16—18
24	2 1/4	1 1/2	1 2 3/32	1 7/16—18
28	2 1/4	1 3/4	1 3 1/32	1 7/16—18
32	2 3/8	2 1/32	2 7/32	1 3/4—18
36	2 3/8	2 1/4	2 1 5/32	2 —18

MS3106B—STRAIGHT PLUG—SPLIT SHELL

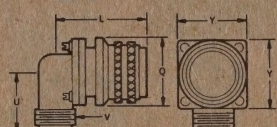


Back shell threaded for all standard fittings. One or both halves of the back shell may be removed.

Connector Size	L	Q	V Fitting Threads	Y
14S	1 1 1/16	1 1/8	3/4—20	1 5/32
16S	1 1 1/16	1 1/4	7/8 —20	1 1/4
18	2 1/16	1 1 1/32	1 —20	1 4 1/64
20	2 1/8	1 1 5/32	1 3/16—18	1 1 3/16
22	2 1/8	1 1 9/32	1 3/16—18	1 1 5/16
24	2 3/32	1 2 3/32	1 7/16—18	2 1/16
28	2 3/32	1 3 1/32	1 7/16—18	2 5/16
32	2 5/16	2 7/32	1 3/4—18	2 1 5/32
36	2 1 1/32	2 1 5/32	2 —18	2 2 7/32

MS 3108A—ANGLE PLUG—SOLID SHELL

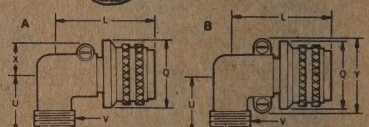
Right-angle configuration. Use where space in front is at a premium.



Connector Size	L	Q	U	V Fitting Threads	Y
10S	1 1/4	7/8	7/8	1/2—28	2 5/32
10SL	1 5/16	7/8	1	5/8—24	1 1/16
12S	1 3/8	1	1	5/8—24	1 1/16
12SL	1 3/8	1	1	3/4—20	1 1/16
12	1 1 3/64	1	1	5/8—24	1 1/16
14S	1 3/8	1 1/8	1	3/4—20	1 1/16
14	1 1 3/16	1 1/8	1	3/4—20	1 1/16
16S	1 1/2	1 1/4	1 1/8	7/8—20	1 5/16
16	1 1 5/16	1 1/4	1 1/8	7/8—20	1 5/16
18	1 1 5/16	1 1 1/32	1 1/8	1 —20	1 5/16
20	2 1/16	1 1 5/32	1 1/16	1 3/16—18	1 5/8
22	2 1/16	1 1 9/32	1 1/16	1 3/16—18	1 5/8
24	2 1 5/32	1 2 3/32	1 1/2	1 7/16—18	2
28	2 1 5/16	1 3 1/32	1 1/2	1 7/16—18	2
32	2 1 1/16	2 7/32	1 2 5/32	1 3/4—18	2 1/2
36	2 1 1/16	2 1 5/32	1 2 5/32	2 —18	2 1/2

MS 3108B—ANGLE PLUG—SPLIT SHELL

Longitudinally split 90° back shell. One or both halves removable for soldering.



A Connector Size	L	Q	U	V Fitting Threads	X
10S	1 3/8	7/8	7/8	1/2—28	
10SL	1 1/2	7/8	1	5/8—24	
12S	1 9/16	1	1	5/8—24	1/2
12	1 7/8	1	1	5/8—24	1/2
14S	1 2 3/32	1 1/8	1 1/16	3/4—20	2 1/32
14	1 1 5/16	1 1/8	1 1/16	3/4—20	2 1/32

B Connector Size	L	Q	U	V Fitting Threads	Y
16S	1 3/4	1 1/4	1 1/8	7/8 —20	1 1/2
16	2 1/8	1 1/4	1 1/8	7/8 —20	1 1/2
18	2 5/32	1 1 1/32	1 3/16	1 —20	1 4 1/64
20	2 3/8	1 1 5/32	1 3/16	1 3/16—18	1 1 3/16
22	2 1 3/16	1 1 9/32	1 3/16	1 3/16—18	1 1 5/16
24	2 5/8	1 2 3/32	1 7/16	1 7/16—18	2 1/16
28	2 5/8	1 3 1/32	1 7/16	1 7/16—18	2 5/16
32	2 1 3/16	2 7/32	1 3/4	1 3/4—18	2 1 5/32
36	2 2 7/32	2 1 5/32	1 1 5/16	2 —18	2 2 7/32

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MS Connectors

AMPHENOL® CONNECTORS FROM BUNKER RAMO

Meet current MIL-C-5015 specifications; interchangeable with units made to meet previous specs. Finish: Cadmium-plated aluminum with olive drab chromate conversion coating; non-reflective, corrosion-resistant. Inserts: Molded diallyl phthalate; offers dimensional stability, high insulation resistance, high arc resistance. Contacts: Non-rotating, silver-plated; pre-tinned solder pockets. Coupling Rings: Made from solid aluminum bar stock.

RECEPTACLES

Shell Style Insert	3100A– EACH 1-9	3100A– EACH 10-49	3101A– EACH 1-9	3101A– EACH 10-49	3102A– EACH 1-9	3102A– EACH 10-49	Total Contacts
10S-02P	3.59	2.74	2.93	2.23	1.35	1.03	1
10S-02S	3.65	2.78	2.98	2.28	1.41	1.07	1
10SL-03P	2.24	1.71	3.38	2.58	1.75	1.33	3
10SL-04P	2.22	1.70	3.17	2.42	1.75	1.33	2
12S-03P	2.45	1.87	2.87	2.19	1.31	1.00	2
12S-03S	2.49	1.90	2.93	2.23	1.41	1.07	2
12S-04P	2.51	1.91	2.98	2.28	1.43	1.09	1
12S-04S	2.51	1.91	2.98	2.28	1.43	1.09	1
12S-06P	7.83	5.97	8.28	6.32	6.71	5.12	2
12S-06S	8.32	6.35	8.70	6.64	7.14	5.45	2
12SL-844P	...	...	...	...	3.15	2.41	4
12-05P	2.98	2.28	3.33	2.54	1.84	1.41	1
12-05S	3.17	2.42	3.57	2.73	2.11	1.61	1
14S-01P	2.58	1.97	3.17	2.42	1.73	1.32	3
14S-01S	2.68	2.04	3.23	2.47	1.75	1.33	3
14S-02P	2.57	1.96	3.15	2.41	1.71	1.31	4
14S-02S	2.77	2.12	3.34	2.55	1.84	1.41	4
14S-04P	2.47	1.89	3.02	2.31	1.54	1.17	1
14S-04S	2.51	1.91	3.14	2.39	1.65	1.26	1
14S-05P	2.87	2.19	3.44	2.62	1.94	1.48	5
14S-05S	2.98	2.28	3.57	2.73	2.09	1.60	5
14S-06P	2.98	2.28	3.57	2.73	2.09	1.60	6
14S-06S	3.02	2.31	3.65	2.78	2.13	1.62	6
14S-07P	2.58	1.97	3.17	2.42	1.73	1.32	3
14S-07S	2.68	2.04	3.23	2.47	1.75	1.33	3
14S-09P	2.47	1.89	3.02	2.31	1.54	1.17	2
14S-09S	2.49	1.90	3.12	2.38	1.56	1.19	2
14S-10P	2.87	2.19	3.44	2.62	1.94	1.48	...
14S-10S	3.12	2.38	3.67	2.80	2.19	1.67	...
16S-01P	3.33	2.54	3.59	2.74	2.11	1.61	7
16S-01S	3.67	2.80	3.91	2.99	2.45	1.87	7
16S-04P	2.93	2.23	3.17	2.42	1.73	1.32	2
16S-04S	3.02	2.31	3.33	2.54	1.81	1.38	2
16S-05P	3.14	2.39	3.38	2.58	1.90	1.45	3
16S-05S	3.17	2.42	3.48	2.65	2.01	1.54	3
16S-08P	3.23	2.47	3.55	2.71	2.07	1.58	5
16S-08S	3.34	2.55	3.65	2.78	2.13	1.62	5
16-09P	3.67	2.80	3.78	2.89	2.22	1.70	4
16-09S	4.09	3.12	4.26	3.25	2.74	2.09	4
16-10P	3.57	2.73	3.67	2.80	2.13	1.62	3
16-10S	3.97	3.03	4.07	3.10	2.51	1.91	3
16-11P	3.33	2.54	3.44	2.62	1.90	1.45	2
16-11S	3.71	2.83	3.86	2.94	2.34	1.78	2
16-13P	8.08	6.16	8.21	6.26	6.71	5.12	2
16-13S	9.37	7.15	9.46	7.22	7.94	6.06	2
18-01P	4.09	3.12	4.62	3.52	2.85	2.18	10
18-01S	4.47	3.41	5.00	3.81	3.15	2.41	10
18-03P	3.25	2.48	3.78	2.89	2.01	1.54	2
18-03S	4.05	3.09	4.56	3.48	2.76	2.10	2
18-04P	3.33	2.54	3.82	2.91	2.07	1.58	4
18-04S	3.59	2.74	4.07	3.10	2.24	1.71	4
18-05P	3.15	2.41	3.67	2.80	1.84	1.41	3
18-05S	3.59	2.74	4.07	3.10	2.24	1.71	3
18-08P	4.09	3.12	4.62	3.52	2.85	2.18	8
18-08S	4.37	3.34	4.85	3.70	3.12	2.38	8
18-09P	3.90	2.97	4.37	3.34	2.57	1.96	7
18-09S	4.22	3.22	4.69	3.58	2.89	2.20	7
18-10P	3.97	3.03	4.47	3.41	2.68	2.04	4
18-10S	4.37	3.34	4.85	3.70	3.12	2.38	4
18-11P	3.97	3.03	4.47	3.41	2.68	2.04	5
18-11S	4.09	3.12	4.62	3.52	2.85	2.18	5
18-12P	3.69	2.81	4.22	3.22	2.41	1.84	6
18-12S	3.97	3.03	4.47	3.41	2.68	2.04	6
18-13P	3.99	3.05	4.50	3.44	2.74	2.09	4
18-13S	4.33	3.31	4.88	3.72	2.92	2.23	4
18-16P	3.59	2.74	4.07	3.10	2.24	1.71	1
18-16S	4.22	3.22	4.69	3.58	2.89	2.20	1
18-19P	5.53	4.22	6.08	4.64	4.31	3.29	10
18-19S	4.56	3.48	5.04	3.84	3.23	2.47	10
18-20P	3.57	2.73	4.05	3.09	2.22	1.70	5
18-20S	3.78	2.89	4.31	3.29	2.47	1.89	5
18-22P	3.25	2.48	3.78	2.89	2.01	1.54	3
18-22S	3.57	2.73	4.05	3.09	2.22	1.70	3
18-29P	3.59	2.74	4.07	3.10	2.24	1.71	5
18-29S	3.59	2.74	4.07	3.10	2.24	1.71	5
20-03P	3.91	2.99	4.22	3.22	2.41	1.84	3
20-03S	5.15	3.93	5.42	4.13	3.65	2.78	3
20-04P	4.10	3.13	4.43	3.38	2.58	1.97	4
20-04S	4.71	3.60	5.02	3.83	3.17	2.42	4
20-05P	4.07	3.10	4.35	3.32	2.51	1.91	2
20-05S	4.43	3.38	4.69	3.58	2.89	2.20	2

MATING PLUGS

Shell Style Insert	3106A– EACH 1-9	3106A– EACH 10-49	3106B– EACH 1-9	3106B– EACH 10-49	3108A– EACH 1-9	3108A– EACH 10-49	3108B– EACH 1-9	3108B– EACH 10-49
10S-02S	3.15	2.41	...	...	...	...	...	...
10S-02P	3.14	2.39	...	...	...	...	...	...
10SL-03S	2.74	2.09	...	...	4.85	3.70	2.51	1.91
10SL-04S	2.68	2.04	...	...	4.83	3.68	2.47	1.89
12S-03S	2.39	1.83	...	...	5.53	4.22	3.02	2.31
12S-03P	2.24	1.71	...	...	5.49	4.19	2.98	2.28
12S-04S	2.41	1.84	...	...	5.57	4.25	3.12	2.38
12S-04P	2.41	1.84	...	...	5.57	4.25	3.12	2.38
12S-06S	8.19	6.25	...	...	11.36	8.67	8.84	6.74
12S-06P	7.68	5.86	...	...	10.85	8.28	8.34	6.37
12SL-844S	5.87	4.48	...	...	8.84	6.74	...	...
12-05S	3.23	2.47	...	...	5.68	4.34	3.44	2.62
12-05P	3.00	2 29	...	...	5.43	4.15	3.17	2.42
14S-01S	2.68	2.04	3.17	2.42	5.43	4.15	2.98	2.28
14S-01P	2.58	1.97	3.15	2.41	5.42	4.13	2.93	2.23
14S-02S	2.77	2.12	3.33	2.54	5.53	4.22	3.12	2.38
14S-02P	2.57	1.96	3.14	2.39	5.40	4.12	2.89	2.20
14S-04S	2.51	1.91	3.12	2.38	5.38	4.10	2.87	2.19
14S-04P	2.47	1.89	3.00	2.29	5.28	4.03	2.77	2.12
14S-05S	2.98	2.28	3.55	2.71	5.80	4.42	3.25	2.48
14S-05P	2.87	2.19	3.38	2.58	5.64	4.31	3.15	2.41
14S-06S	3.02	2.31	3.59	2.74	5.83	4.45	3.34	2.55
14S-06P	2.98	2.28	3.55	2.71	5.80	4.42	3.25	2.48
14S-07S	2.68	2.04	3.17	2.42	5.43	4.15	2.98	2.28
14S-07P	2.58	1.97	3.15	2.41	5.42	4.13	2.93	2.23
14S-09S	2.49	1.90	3.02	2.31	5.30	4.05	2.85	2.18
14S-09P	2.47	1.89	3.00	2.29	5.28	4.03	2.77	2.12
14S-10S	3.12	2.38	3.65	2.78	5.87	4.48	3.38	2.58
14S-10P	2.87	2.19	3.38	2.58	5.64	4.31	3.15	2.41
16S-01S	3.33	2.54	4.10	3.13	7.30	5.57	3.90	2.90
16S-01P	2.98	2.28	3.82	2.91	6.97	5.32	3.57	2.73
16S-04S	2.74	2.09	3.57	2.73	6.71	5.12	3.25	2.48
16S-04P	2.57	1.96	3.44	2.62	6.56	5.00	3.15	2.41
16S-05S	2.87	2.19	3.69	2.81	6.82	5.21	3.44	2.62
16S-05P	2.77	2.12	3.65	2.78	6.76	5.16	3.34	2.55
16S-08S	3.00	2.29	3.86	2.94	6.99	5.34	3.59	2.74
16S-08P	2.89	2.20	3.71	2.83	6.84	5.22	3.48	2.65
16-09S	3.91	2.99	...	...	7.14	5.45	4.77	3.64
16-09P	3.48	2.65	...	...	6.75	5.15	4.33	3.31
16-10S	3.78	2.89	...	...	7.01	5.35	4.62	3.52
16-10P	3.34	2.55	...	...	6.61	5.05	4.22	3.22
16-11S	3.57	2.73	...	...	6.80	5.19	4.37	3.34
16-11P	3.14	2.39	...	...	6 37	4.86	3.97	3.03
16-13S	9.14	6.97	...	...	12.39	9.45	10.01	7.64
16-13P	7.90	6.03	...	...	11.15	8.51	8.70	6.64
18-01S	4.31	3.29	5.04	3.84	8.32	6.35	5.23	3.99
18-01P	3.91	2.99	4.69	3.58	7.96	6.08	4.85	3.70
18-03S	3.86	2.94	4.62	3.52	7.90	6.03	4.79	3.65
18-03P	3.12	2.38	3.86	2.94	7.11	5.42	4.05	3.09
18-04S	3.38	2.58	4.10	3.13	7.47	5.70	4.35	3.32
18-04P	3.14	2.39	3.90	2.97	7.14	5.45	4.07	3.10
18-05S	3.38	2.58	4.10	3.13	7.47	5.70	4.35	3.32
18-05P	2.98	2.28	3.71	2.83	7.01	5.35	3.91	2.99
18-08S	4.22	3.22	5.00	3.81	8.28	6.32	5.15	3.93
18-08P	3.91	2.99	4.69	3.58	7.96	6.08	4.85	3.70
18-09S	3.99	3.05	4.77	3.64	8.06	6.15	5.00	3.81
18-09P	3.69	2.81	4.47	3.41	7.73	5.90	4.66	3.55
18-10S	4.22	3.22	5.00	3.81	8.28	6.32	5.15	3.93
18-10P	3.78	2.89	4.56	3.48	7.83	5.97	4.71	3.60
18-11S	3.91	2.99	4.69	3.58	7.96	6.08	4.85	3.70
18-11P	3.78	2.89	4.56	3.48	7.83	5.97	4.71	3.60
18-12S	3.78	2.89	4.56	3.48	7.83	5.97	4.71	3.60
18-12P	3.55	2.71	4.31	3.29	7.54	5.76	4.47	3.41
18-13S	4.33	3.31	5.11	3.90	8.34	6.37	5.28	4.03
18-16S	3.99	3.05	4.77	3.64	8.06	6.15	5.00	3.81
18-16P	3.38	2.58	4.10	3.13	7.47	5.70	4.35	3.32
18-19S	4.35	3.32	5.13	3.92	8.40	6.41	5.30	4.05
18-19P	5.40	4.12	6.14	4.68	9.42	7.19	6.33	4.83
18-20S	3.59	2.74	4.35	3.32	7.66	5.84	4.56	3.48
18-20P	3.34	2.55	4.09	3.12	7.41	5.66	4.33	3.31
18-22S	3.34	2.55	4.09	3.12	7.41	5.66	4.33	3.31
18-22P	3.12	2.38	3.86	2.94	7.11	5.42	4.05	3.09
18-29S	3.38	2.58	4.10	3.13	7.47	5.70	4.35	3.32
18-29P	3.38	2.58	4.10	3.13	7.47	5.70	4.35	3.32
20-03S	5.53	4.22	6.14	4.68	9.75	7.44	6.40	4.89
20-03P	4.35	3.32	4.90	3.74	8.47	6.47	5.17	3.94
20-04S	5.15	3.93	5.76	4.39	9.31	7.11	6.04	4.61
20-04P	4.58	3.49	5.15	3.93	8.70	6.64	5.42	4.13
20-05S	4.83	3.68	5.42	4.13	9.01	6.87	5.68	4.34
20-05P	4.50	3.44	5.11	3.90	8.66	6.61	5.38	4.10

BUNKER RAMO

AMPHENOL' CONNECTORS FROM

"MS" Connectors

RECEPTACLES

MATING PLUGS

Shell Style Insert	3100A- EACH 1-9	3100A- EACH 10-49	3101A- EACH 1-9	3101A- EACH 10-49	3102A- EACH 1-9	3102A- EACH 10-49	Total Con-tacts
20-06P	3.71	2.83	3.97	3.03	2.19	1.67	3
20-06S	3.78	2.89	4.05	3.09	2.22	1.70	3
20-07P	4.10	3.13	4.43	3.38	2.58	1.97	8
20-07S	4.50	3.44	4.77	3.64	2.98	2.28	8
20-08P	4.71	3.60	5.02	3.83	3.17	2.42	6
20-08S	5.49	4.19	5.80	4.42	3.97	3.03	6
20-09P	4.47	3.41	4.71	3.60	2.93	2.23	8
20-09S	4.56	3.48	4.79	3.65	3.00	2.29	8
20-11P	5.28	4.03	5.51	4.21	3.71	2.83	13
20-11S	8.06	6.15	8.32	6.35	6.54	4.99	13
20-14P	5.00	3.81	5.23	3.99	3.44	2.62	5
20-14S	6.40	4.89	6.71	5.12	4.85	3.70	5
20-15P	4.58	3.49	4.83	3.68	3.02	2.31	7
20-15S	6.19	4.73	6.50	4.96	4.69	3.58	7
20-16P	4.62	3.52	4.85	3.70	3.12	2.38	9
20-16S	4.90	3.74	5.17	3.94	3.38	2.58	9
20-17P	4.56	3.48	4.79	3.65	3.00	2.29	6
20-17S	5.51	4.21	5.81	4.44	3.99	3.05	6
20-18P	4.79	3.65	5.11	3.90	3.25	2.48	9
20-18S	5.30	4.05	5.53	4.22	3.78	2.89	9
20-19P	5.11	3.90	5.40	4.12	3.57	2.73	3
20-19S	6.19	4.73	6.50	4.96	4.69	3.58	3
20-21P	4.47	3.41	4.71	3.60	2.93	2.23	9
20-21S	4.69	3.58	5.00	3.81	3.15	2.41	9
20-22P	5.28	4.03	5.51	4.21	3.71	2.83	6
20-22S	6.19	4.73	6.50	4.96	4.69	3.58	6
20-23P	4.43	3.38	4.69	3.58	2.89	2.20	2
20-23S	4.83	3.68	5.13	3.92	3.33	2.54	2
20-24P	4.56	3.48	4.79	3.65	3.00	2.29	4
20-24S	5.64	4.31	5.89	4.50	4.09	3.12	4
20-27P	4.71	3.60	5.02	3.83	3.17	2.42	14
20-27S	5.17	3.94	5.43	4.15	3.67	2.80	14
20-29P	5.13	3.92	5.40	4.12	3.59	2.74	17
20-29S	5.68	4.34	5.93	4.52	4.10	3.13	17
20-33P	5.11	3.90	5.38	4.10	3.57	2.73	11
20-33S	5.23	3.99	5.49	4.19	3.69	2.81	11
22-01P	4.69	3.58	4.90	3.74	2.85	2.18	2
22-01S	5.43	4.15	5.68	4.34	3.67	2.80	2
22-02P	5.02	3.83	5.23	3.99	3.17	2.42	3
22-02S	6.10	4.65	6.33	4.83	4.33	3.31	3
22-04P	5.17	3.94	5.42	4.13	3.38	2.58	4
22-04S	5.87	4.48	6.10	4.65	4.07	3.10	4
22-05P	4.83	3.68	5.11	3.90	3.02	2.31	6
22-05S	4.85	3.70	5.13	3.92	3.12	2.38	6
22-06P	4.77	3.64	5.02	3.83	2.98	2.28	3
22-06S	5.57	4.25	5.83	4.45	3.82	2.91	3
22-08P	4.07	3.10	4.33	3.31	2.24	1.71	2
22-08S	5.15	3.93	5.40	4.12	3.34	2.55	2
22-09P	4.31	3.29	4.50	3.44	2.47	1.89	3
22-09S	5.43	4.15	5.68	4.34	3.67	2.80	3
22-10P	4.31	3.29	4.50	3.44	2.47	1.89	4
22-10S	4.47	3.41	4.69	3.58	2.68	2.04	4
22-11P	3.97	3.03	4.22	3.22	2.19	1.67	2
22-11S	4.31	3.29	4.50	3.44	2.47	1.89	2
22-12P	5.17	3.94	5.42	4.13	3.38	2.58	5
22-12S	6.04	4.61	6.19	4.73	4.22	3.22	5
22-14P	5.76	4.39	5.93	4.52	3.91	2.99	19
22-14S	6.56	5.00	6.80	5.19	4.77	3.64	19
22-15P	5.13	3.92	5.38	4.10	3.33	2.54	6
22-19P	5.64	4.31	5.87	4.48	3.86	2.94	14
22-19S	5.76	4.39	5.93	4.52	3.91	2.99	14
22-20P	4.90	3.74	5.15	3.93	3.14	2.39	9
22-20S	5.15	3.93	5.40	4.12	3.34	2.55	9
22-22P	5.80	4.42	6.04	4.61	3.97	3.03	4
22-22S	7.28	5.55	7.49	5.71	5.43	4.15	4
22-23P	5.51	4.21	5.80	4.42	3.71	2.83	8
22-23S	7.09	5.41	7.33	5.60	5.30	4.05	8
22-27P	5.43	4.15	5.68	4.34	3.67	2.80	9
22-27S	5.87	4.48	6.10	4.65	4.07	3.10	9
22-28P	5.23	3.99	5.43	4.15	3.44	2.62	7
22-28S	7.22	5.51	7.47	5.70	5.42	4.13	7
22-29P	5.68	4.34	5.89	4.50	3.90	2.97	7
22-29S	6.44	4.92	6.71	5.12	4.66	3.55	7
22-34P	4.79	3.65	5.04	3.84	3.00	2.29	5
22-34S	5.02	3.83	5.23	3.99	3.17	2.42	5
22-36P	25.00	19.08	25.21	19.24	23.22	17.72	8
22-36S	27.36	20.88	27.61	21.07	25.61	19.55	8
24-02P	5.81	4.44	5.83	4.45	3.69	2.81	7
24-02S	7.01	5.35	7.03	5.37	4.90	3.74	7
24-05P	6.44	4.92	6.50	4.96	4.35	3.32	16
24-05S	7.28	5.55	7.30	5.57	5.15	3.93	16
24-06P	6.06	4.63	6.08	4.64	3.91	2.99	8
24-06S	7.87	6.00	7.90	6.03	5.80	4.42	8
24-07P	6.75	5.15	6.76	5.16	4.62	3.52	16

Shell Style Insert	3106A EACH 1-9	3106A EACH 10-49	3106B EACH 1-9	3106B EACH 10-49	3108A EACH 1-9	3108A EACH 10-49	3108B EACH 1-9	3108B EACH 10-49
20-06S	4.22	3.22	4.77	3.64	8.34	6.37	5.04	3.84
20-06P	4.09	3.12	4.69	3.58	8.30	6.34	5.00	3.81
20-07S	4.90	3.74	5.49	4.19	9.08	6.93	5.80	4.42
20-07P	4.58	3.49	5.15	3.93	8.70	6.64	5.42	4.13
20-08S	5.89	4.50	6.50	4.96	10.05	7.67	6.76	5.16
20-08P	5.15	3.93	5.76	4.39	9.31	7.11	6.04	4.61
20-09S	5.00	3.81	5.51	4.21	9.12	6.96	5.81	4.44
20-09P	4.85	3.70	5.43	4.15	9.06	6.92	5.76	4.39
20-11S	8.46	6.45	9.06	6.92	12.65	9.66	9.31	7.11
20-11P	5.68	4.34	6.21	4.74	9.84	7.51	6.54	4.99
20-14S	6.82	5.21	7.41	5.66	10.96	8.37	7.68	5.86
20-14P	5.40	4.12	5.93	4.52	9.52	7.26	6.19	4.73
20-15S	6.63	5.06	7.22	5.51	10.81	8.25	7.49	5.71
20-15P	5.02	3.83	5.53	4.22	9.14	6.97	5.83	4.45
20-16S	5.38	4.10	5.89	4.50	9.48	7.24	6.16	4.70
20-16P	5.04	3.84	5.57	4.25	9.20	7.02	5.87	4.48
20-17S	5.93	4.52	6.54	4.99	10.13	7.73	6.80	5.19
20-17P	5.00	3.81	5.51	4.21	9.12	6.96	5.81	4.44
20-18S	5.76	4.39	6.31	4.81	9.88	7.54	6.50	4.96
20-18P	5.23	3.99	5.81	4.44	9.39	7.16	6.08	4.64
20-19S	6.63	5.06	7.22	5.51	10.81	8.25	7.49	5.71
20-19P	5.49	4.19	6.08	4.64	9.69	7.40	6.33	4.83
20-21S	5.13	3.92	5.68	4.34	9.27	7.08	5.93	4.52
20-21P	4.85	3.70	5.43	4.15	9.06	6.92	5.76	4.39
20-22S	6.63	5.06	7.22	5.51	10.81	8.25	7.49	5.71
20-22P	5.64	4.31	6.21	4.74	9.84	7.51	6.54	4.99
20-23S	5.28	4.03	5.83	4.45	9.42	7.19	6.10	4.65
20-23P	4.83	3.68	5.42	4.13	9.01	6.87	5.68	4.34
20-24S	6.08	4.64	6.63	5.06	10.18	7.77	6.86	5.23
20-24P	5.00	3.81	5.51	4.21	9.12	6.96	5.81	4.44
20-27S	5.57	4.25	6.16	4.70	9.77	7.45	6.44	4.92
20-27P	5.15	3.93	5.76	4.39	9.31	7.11	6.04	4.61
20-29S	6.10	4.65	6.71	5.12	10.26	7.83	6.97	5.32
20-29P	5.51	4.21	6.10	4.65	9.73	7.42	6.37	4.86
20-33S	5.64	4.31	6.19	4.73	9.79	7.47	6.50	4.96
20-33P	5.49	4.19	6.08	4.64	9.69	7.40	6.33	4.83
22-01S	5.43	4.15	6.16	4.70	10.03	7.66	6.54	4.99
22-01P	4.69	3.58	5.38	4.10	9.20	7.02	5.68	4.34
22-02S	6.10	4.65	6.82	5.21	10.68	8.15	7.14	5.45
22-02P	5.02	3.83	5.76	4.39	9.60	7.32	6.08	4.64
22-04S	5.87	4.48	6.61	5.05	10.45	7.98	6.97	5.32
22-04P	5.17	3.94	5.89	4.50	9.77	7.45	6.21	4.74
22-05S	4.85	3.70	5.57	4.25	9.46	7.22	5.93	4.52
22-05P	4.83	3.68	5.53	4.22	9.42	7.19	5.89	4.50
22-06S	5.57	4.25	6.33	4.83	10.17	7.76	6.71	5.12
22-06P	4.77	3.64	5.49	4.19	9.37	7.15	5.83	4.45
22-08S	5.15	3.93	5.87	4.48	9.75	7.44	6.19	4.73
22-08P	4.07	3.10	4.79	3.65	8.66	6.61	5.15	3.93
22-09S	5.43	4.15	6.16	4.70	10.03	7.66	6.54	4.99
22-09P	4.31	3.29	5.02	3.83	8.84	6.74	5.38	4.10
22-10S	4.47	3.41	5.17	3.94	9.06	6.92	5.51	4.21
22-10P	4.31	3.29	5.02	3.83	8.84	6.74	5.38	4.10
22-11S	4.31	3.29	5.02	3.83	8.84	6.74	5.38	4.10
22-11P	3.97	3.03	4.69	3.58	8.55	6.53	5.04	3.84
22-12S	6.04	4.61	6.75	5.15	10.60	8.09	7.03	5.37
22-12P	5.17	3.94	5.89	4.50	9.77	7.45	6.21	4.74
22-14S	6.56	5.00	7.30	5.57	11.15	8.51	7.66	5.84
22-14P	5.76	4.39	6.44	4.92	10.34	7.89	6.80	5.19
22-15S	6.21	4.74	6.99	5.34	10.83	8.27	7.33	5.60
22-19S	5.76	4.39	6.44	4.92	10.34	7.89	6.80	5.19
22-19P	5.64	4.31	6.37	4.86	10.18	7.77	6.75	5.15
22-20S	5.15	3.93	5.87	4.48	9.75	7.44	6.19	4.73
22-20P	4.90	3.74	5.64	4.31	9.48	7.24	6.04	4.61
22-22S	7.28	5.55	7.96	6.08	11.86	9.05	8.32	6.35
22-22P	5.80	4.42	6.50	4.96	10.39	7.93	6.82	5.21
22-23S	7.09	5.41	7.83	5.97	11.65	8.89	8.19	6.25
22-23P	5.51	4.21	6.21	4.74	10.13	7.73	6.61	5.05
22-27S	5.87	4.48	6.61	5.05	10.45	7.98	6.97	5.32
22-27P	5.43	4.15	6.16	4.70	10.03	7.66	6.54	4.99
22-28S	7.22	5.51	7.94	6.06	11.74	8.96	8.30	6.34
22-28P	5.23	3.99	5.93	4.52	9.79	7.47	6.31	4.81
22-29S	6.44	4.92	7.14	5.45	11.00	8.40	7.52	5.74
22-29P	5.68	4.34	6.40	4.89	10.26	7.83	6.76	5.16
22-34S	5.02	3.83	5.76	4.39	9.60	7.32	6.08	4.64
22-34P	4.79	3.65	5.51	4.21	9.39	7.16	5.87	4.48
22-36S	27.36	20.88	28.12	21.46	31.96	24.39	28.42	21.69
22-36P	25.00	19.08	25.75	19.65	29.60	22.59	26.05	19.88
24-02S	7.11	5.42	8.44	6.44	12.05	9.19	7.75	5.92
24-02P	5.89	4.50	7.22	5.51	10.83	8.27	6.56	5.00
24-05S	7.37	5.63	8.66	6.61	12.29	9.38	8.02	6.12
24-05P	6.56	5.00	7.87	6.00	11.50	8.77	7.22	5.51
24-06S	7.96	6.08	9.27	7.08	12.92	9.86	8.63	6.58
24-06P	6.14	4.68	7.47	5.70	11.10	8.47	6.80	5.19
24-07S	7.37	5.63	8.66	6.61	12.29	9.38	8.02	6.12

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"MS" Connectors

AMPHENOL® CONNECTORS FROM BUNKER RAMO

RECEPTACLES

Shell Style	3100A- EACH		3101A- EACH		3102A- EACH		Total Con-
Insert	1-9	10-49	1-9	10-49	1-9	10-49	tacts
24-07S	7.28	5.55	7.30	5.57	5.15	3.93	16
24-09P	5.76	4.39	5.80	4.42	3.65	2.78	2
24-09S	6.37	4.86	6.40	4.89	4.31	3.29	2
24-10P	8.40	6.41	8.44	6.44	6.31	4.81	7
24-10S	9.67	7.38	9.69	7.40	7.90	6.03	7
24-11P	7.14	5.45	7.22	5.51	5.11	3.90	9
24-11S	9.12	6.96	9.14	6.97	7.01	5.35	9
24-12P	7.49	5.71	7.52	5.74	5.40	4.12	5
24-12S	8.99	6.86	9.01	6.87	6.84	5.22	5
24-17P	5.15	3.93	5.17	3.94	3.02	2.31	5
24-17S	5.76	4.39	5.80	4.42	3.65	2.78	5
24-19P	6.44	4.92	6.50	4.96	4.35	3.32	12
24-19S	6.84	5.22	6.86	5.23	4.77	3.64	12
24-20P	6.04	4.61	6.06	4.63	3.90	2.97	11
24-20S	6.08	4.64	6.10	4.65	3.97	3.03	11
24-21P	6.04	4.61	6.06	4.63	3.90	2.97	10
24-21S	6.44	4.92	6.50	4.96	4.35	3.32	10
24-22P	6.82	5.21	6.84	5.22	4.71	3.60	4
24-22S	8.46	6.45	8.47	6.47	6.37	4.86	4
24-27P	5.15	3.93	5.17	3.94	3.02	2.31	7
24-27S	5.30	4.05	5.38	4.10	3.17	2.42	7
24-28P	7.03	5.37	7.09	5.41	5.00	3.81	24
24-28S	7.96	6.08	8.02	6.12	5.87	4.48	24
24-835P	6.08	4.64	6.10	4.65	3.97	3.03	1
24-835S	7.49	5.71	7.52	5.74	5.40	4.12	1
28-01P	7.41	5.66	8.15	6.22	5.42	4.13	9
28-01S	9.46	7.22	10.17	7.76	7.49	5.71	9
28-02P	6.61	5.05	7.33	5.60	4.62	3.52	14
28-02S	7.03	5.37	7.75	5.92	5.11	3.90	14
28-03P	6.82	5.21	7.54	5.76	4.83	3.68	3
28-03S	7.28	5.55	7.96	6.08	5.28	4.03	3
28-06P	8.02	6.12	8.70	6.64	6.06	4.63	3
28-06S	8.99	6.86	9.73	7.42	6.99	5.34	3
28-08P	6.61	5.05	7.33	5.60	4.62	3.52	12
28-08S	6.82	5.21	7.54	5.76	4.83	3.68	12
28-09P	6.99	5.34	7.70	5.87	5.02	3.83	12
28-09S	7.66	5.84	8.34	6.37	5.64	4.31	12
28-10P	9.06	6.92	9.77	7.45	7.03	5.37	7
28-10S	11.38	8.69	12.14	9.27	9.42	7.19	7
28-11P	7.49	5.71	8.21	6.26	5.49	4.19	22
28-11S	9.08	6.93	9.79	7.47	7.09	5.41	22
28-12P	7.75	5.92	8.47	6.47	5.81	4.44	26
28-12S	9.08	6.93	9.79	7.47	7.09	5.41	26
28-14P	7.47	5.70	8.19	6.25	5.43	4.15	11
28-14S	8.19	6.25	8.93	6.82	6.16	4.70	11
28-15P	8.70	6.64	9.46	7.22	6.76	5.16	35
28-15S	10.05	7.67	10.81	8.25	8.08	6.16	35
28-16P	7.70	5.87	8.44	6.44	5.76	4.39	20
28-16S	7.75	5.92	8.47	6.47	5.81	4.44	20
28-17P	6.54	4.99	7.28	5.55	4.56	3.48	15
28-17S	6.99	5.34	7.70	5.87	5.02	3.83	15
28-18P	6.33	4.83	7.03	5.37	4.33	3.31	12
28-18S	6.86	5.23	7.66	5.84	4.90	3.74	12
28-19P	6.40	4.89	7.11	5.42	4.43	3.38	10
28-19S	7.75	5.92	8.47	6.47	5.81	4.44	10
28-20P	7.54	5.76	8.30	6.34	5.53	4.22	14
28-20S	8.40	6.41	9.12	6.96	6.40	4.89	14
28-21P	9.01	6.87	9.75	7.44	7.01	5.35	37
28-21S	10.18	7.77	10.94	8.35	8.28	6.32	37
28-22P	8.84	6.74	9.60	7.32	6.84	5.22	6
32-04S	8.55	6.53	9.20	7.02	6.37	4.86	14
32-05P	9.37	7.15	10.01	7.64	7.14	5.45	2
32-05S	10.39	7.93	10.96	8.37	8.19	6.25	2
32-06P	10.05	7.67	10.72	8.18	7.90	6.03	23
32-06S	14.31	10.92	14.97	11.43	12.14	9.27	23
32-07P	9.52	7.26	10.17	7.76	7.37	5.63	35
32-07S	12.14	9.27	12.79	9.76	9.94	7.58	35
32-08P	10.43	7.96	11.10	8.47	8.28	6.32	30
32-08S	10.60	8.09	11.25	8.58	8.40	6.41	30
32-09P	8.97	6.84	9.60	7.32	6.76	5.16	14
32-09S	10.17	7.76	10.83	8.27	8.02	6.12	14
32-12P	7.75	5.92	8.44	6.44	5.57	4.25	15
32-12S	9.73	7.42	10.39	7.93	7.52	5.74	15
32-13P	8.63	6.58	9.27	7.08	6.44	4.92	23
32-13S	9.84	7.51	10.49	8.00	7.68	5.86	23
32-15P	11.86	9.05	12.45	9.50	9.69	7.40	8
32-15S	13.05	9.96	13.68	10.44	10.83	8.27	8
32-17P	11.70	8.93	12.37	9.44	9.52	7.26	4
32-17S	12.83	9.79	13.47	10.28	10.66	8.13	4
32-101P	22.04	16.82	22.69	17.31	19.87	15.17	12
32-101S	20.62	15.73	21.30	16.25	18.43	14.07	12
32-102P	16.25	12.40	16.87	12.88	14.04	10.72	14
32-102S	18.89	14.41	19.55	14.92	16.68	12.73	14
32-414P	14.44	11.02	15.09	11.51	12.27	9.37	52
32-414S	19.27	14.70	19.93	15.21	17.06	13.02	52
36-01P	9.84	7.51	10.15	7.74	6.61	5.05	22
36-04P	14.04	10.72	14.36	10.96	10.81	8.25	3

MATING PLUGS

Shell Style	3106A EACH		3106B EACH		3108A EACH		3108B EACH	
Insert	1-9	10-49	1-9	10-49	1-9	10-49	1-9	10-49
24-07P	6.82	5.21	8.15	6.22	11.72	8.95	7.49	5.71
24-09S	6.50	4.96	7.75	5.92	11.38	8.69	7.11	5.42
24-09P	5.83	4.45	7.11	5.42	10.77	8.22	6.50	4.96
24-10S	9.75	7.44	11.00	8.40	14.65	11.18	10.41	7.95
24-10P	8.47	6.47	9.79	7.47	13.43	10.25	9.14	6.97
24-11S	9.22	7.03	10.51	8.02	14.14	10.79	9.88	7.54
24-11P	7.30	5.57	8.59	6.55	12.24	9.34	7.94	6.06
24-12S	9.08	6.93	10.41	7.95	14.02	10.70	9.75	7.44
24-12P	7.62	5.81	8.93	6.82	12.50	9.54	8.28	6.32
24-17S	5.83	4.45	7.11	5.42	10.77	8.22	6.50	4.96
24-17P	5.28	4.03	6.56	5.00	10.17	7.76	5.89	4.50
24-19S	6.99	5.34	8.30	6.34	11.93	9.11	7.66	5.84
24-19P	6.56	5.00	7.87	6.00	11.50	8.77	7.22	5.51
24-20S	6.16	4.70	7.49	5.71	11.12	8.48	6.82	5.21
24-20P	6.10	4.65	7.41	5.66	11.00	8.40	6.76	5.16
24-21S	6.56	5.00	7.87	6.00	11.50	8.77	7.22	5.51
24-21P	6.50	4.96	7.41	5.66	11.00	8.40	6.76	5.16
24-22S	8.59	6.55	9.88	7.54	13.51	10.31	9.22	7.03
24-22P	6.97	5.32	8.28	6.32	11.91	9.09	7.62	5.81
24-27S	5.42	4.13	6.75	5.15	10.39	7.93	6.08	4.64
24-27P	5.28	4.03	6.56	5.00	10.17	7.76	5.89	4.50
24-28S	8.08	6.16	9.39	7.16	13.05	9.96	8.70	6.64
24-28P	7.14	5.45	8.40	6.41	12.10	9.24	7.83	5.97
24-835S	7.62	5.81	8.93	6.82	12.50	9.54	8.28	6.32
24-835P	6.16	4.70	7.49	5.71	11.12	8.48	6.82	5.21
28-01S	9.75	7.44	10.43	7.96	14.63	11.17	10.49	8.00
28-01P	7.68	5.86	8.34	6.37	12.56	9.58	8.44	6.44
28-02S	7.33	5.60	8.02	6.12	12.24	9.34	8.08	6.16
28-02P	6.86	5.23	7.54	5.76	11.72	8.95	7.66	5.84
28-03S	7.52	5.74	8.21	6.26	12.39	9.45	8.30	6.34
28-03P	7.09	5.41	7.75	5.92	11.99	9.15	7.87	6.00
28-06S	9.22	7.03	9.92	7.57	14.12	10.77	10.01	7.64
28-06P	8.30	6.34	8.99	6.86	13.15	10.03	9.06	6.92
28-08S	7.09	5.41	7.75	5.92	11.99	9.15	7.87	6.00
28-08P	6.84	5.22	7.54	5.76	11.72	8.95	7.66	5.84
28-09S	7.90	6.03	8.59	6.55	12.79	9.76	8.66	6.61
28-09P	7.28	5.55	7.94	6.06	12.14	9.27	8.02	6.12
28-10S	11.65	8.89	12.37	9.44	16.59	12.66	12.43	9.48
28-10P	9.31	7.11	10.01	7.64	14.23	10.86	10.05	7.67
28-11S	9.37	7.15	10.03	7.66	14.27	10.89	10.13	7.73
28-11P	7.73	5.90	8.44	6.44	12.65	9.66	8.47	6.47
28-12S	9.37	7.15	10.03	7.66	14.27	10.89	10.13	7.73
28-12P	8.06	6.15	8.70	6.64	12.94	9.87	8.82	6.73
28-14S	8.44	6.44	9.12	6.96	13.34	10.18	9.20	7.02
28-14P	7.70	5.87	8.40	6.41	12.64	9.64	8.46	6.45
28-15S	10.39	7.93	11.00	8.40	15.24	11.63	11.12	8.48
28-15P	9.01	6.87	9.73	7.42	13.87	10.59	9.77	7.45
28-16S	8.06	6.15	8.70	6.64	12.94	9.87	8.82	6.73
28-16P	7.96	6.08	8.66	6.61	12.84	9.80	8.70	6.64
28-17S	7.28	5.55	7.94	6.06	12.14	9.27	8.02	6.12
28-17P	6.80	5.19	7.49	5.71	11.65	8.89	7.49	5.71
28-18S	7.14	5.45	7.87	6.00	12.05	9.19	7.94	6.06
28-18P	6.61	5.05	7.30	5.57	11.50	8.77	7.37	5.63
28-19S	8.06	6.15	8.70	6.64	12.94	9.87	8.82	6.73
28-19P	6.71	5.12	7.37	5.63	11.59	8.85	7.47	5.70
28-20S	8.66	6.61	9.37	7.15	13.57	10.35	9.42	7.19
28-20P	7.83	5.97	8.47	6.47	12.71	9.70	8.59	6.55
28-21S	10.49	8.00	11.19	8.54	15.35	11.72	11.27	8.60
28-21P	9.27	7.08	9.94	7.58	14.14	10.79	10.03	7.66
28-22S	10.81	8.25	11.50	8.77	15.69	11.98	11.59	8.85
32-04P	9.06	6.92	9.12	6.96	14.76	11.27	9.73	7.42
32-05S	11.97	9.14	12.03	9.18	17.69	13.50	12.64	9.64
32-05P	10.94	8.35	11.00	8.40	16.68	12.73	11.61	8.86
32-06S	15.94	12.17	16.00	12.21	21.66	16.53	16.59	12.66
32-06P	11.65	8.89	11.72	8.95	17.42	13.30	12.31	9.40
32-07S	13.76	10.50	13.81	10.54	19.51	14.89	14.40	10.99
32-07P	11.15	8.51	11.25	8.58	16.87	12.88	11.74	8.96
32-08S	12.18	9.29	12.27	9.37	17.88	13.64	12.83	9.79
32-08P	12.03	9.18	12.10	9.24	17.73	13.53	12.67	9.67
32-09S	11.74	8.96	11.91	9.09	17.52	13.37	12.43	9.48
32-09P	10.51	8.02	10.62	8.11	16.26	12.41	11.19	8.54
32-12S	11.32	8.64	11.36	8.67	17.02	12.99	11.97	9.14
32-12P	9.39	7.16	9.46	7.22	15.12	11.54	10.03	7.66
32-13S	11.46	8.74	11.53	8.80	17.20	13.12	12.10	9.24
32-13P	10.18	7.77	10.34	7.89	15.96	12.18	10.85	8.28
32-15S	14.63	11.17	14.69	11.21	20.35	15.53	15.28	11.66
32-15P	13.43	10.25	13.51	10.31	19.19	14.65	14.08	10.74
32-17S	14.44	11.02	14.50	11.06	20.12	15.36	15.09	11.51
32-17P	13.34	10.18	13.41	10.24	19.02	14.51	13.98	10.67
32-101S	22.23	16.97	22.29	17.01	27.95	21.33	22.88	17.46
32-101P	23.62	18.02	23.67	18.07	29.34	22.39	24.28	18.53
32-102S	20.44	15.60	20.58	15.70	26.20	20.00	21.11	16.11
32-102P	17.80	13.59	17.88	13.64	23.56	17.98	18.45	14.08
32-414S	20.86	15.92	20.94	15.98	26.60	20.30	21.53	16.43
32-414P	16.02	12.22	16.09	12.28	21.77	16.62	16.68	12.73
36-01S	13.64	10.41	13.87	10.59	19.86	15.15	14.63	11.17
36-04S	17.88	13.64	18.18	13.88	24.07	18.37	18.91	14.43

RECEPTACLES

Shell Style	3100A- Each		3101A- Each		3102A- Each		Total Con-	Shell Style	3106A- Each		3106B- Each		3108A- Each		3108B- Each	
Insert	1-9	10-49	1-9	10-49	1-9	10-49	tacts	Insert	1-9	10-49	1-9	10-49	1-9	10-49	1-9	10-49
36-04S	16.63	12.69	16.93	12.92	13.38	10.21	3	36-04P	15.33	11.70	15.60	11.90	21.53	16.43	16.32	12.46
36-07P	13.57	10.35	13.83	10.56	10.34	7.89	47	36-07S	16.26	12.41	16.55	12.53	22.42	17.11	17.27	13.18
36-07S	14.97	11.43	15.28	11.66	11.70	8.93	47	36-07P	14.80	11.30	15.12	11.54	21.05	16.07	15.87	12.11
36-08P	13.11	10.01	13.43	10.25	9.88	7.54	47	36-08S	15.33	11.70	15.60	11.90	21.53	16.43	16.32	12.46
36-08S	14.04	10.72	14.36	10.96	10.81	8.25	47	36-08P	14.44	11.02	14.69	11.21	20.62	15.73	15.39	11.75
36-09P	15.60	11.90	15.94	12.17	12.37	9.44	31	36-09S	20.24	15.44	20.48	15.63	26.45	20.18	21.24	16.21
36-09S	18.94	14.46	19.25	14.69	15.69	11.98	31	36-09P	16.93	12.92	17.20	13.12	23.09	17.62	17.88	13.64
36-10P	12.94	9.87	13.21	10.08	9.73	7.42	48	36-10S	15.28	11.66	15.56	11.88	21.43	16.36	16.26	12.41
36-10S	13.98	10.67	14.29	10.90	10.72	8.18	48	36-10P	14.23	10.86	14.50	11.06	20.43	15.59	15.24	11.63
36-14P	17.27	13.18	17.54	13.38	14.02	10.70	16	36-14S	19.78	15.09	20.03	15.28	25.94	19.79	20.77	15.85
36-14S	18.45	14.08	18.77	14.33	15.24	11.63	16	36-14P	18.56	14.17	18.87	14.40	24.72	18.86	19.57	14.94
36-15P	10.96	8.37	11.32	8.64	7.73	5.90	35	36-15S	13.38	10.21	13.64	10.41	19.57	14.94	14.36	10.96
36-15S	12.05	9.19	12.37	9.44	8.82	6.73	35	36-15P	12.29	9.38	12.56	9.58	18.45	14.08	13.30	10.15
36-403P	15.60	11.90	15.94	12.17	12.37	9.44	52	36-403S	22.25	16.98	22.57	17.23	28.42	21.69	23.26	17.75
36-403S	20.94	15.98	21.30	16.25	17.71	13.51	52	36-403P	16.93	12.92	17.20	13.12	23.09	17.62	17.88	13.64
36-404P	18.13	13.83	18.43	14.07	14.93	11.40	....	36-404S	22.74	17.36	22.99	17.55	28.96	22.10	23.75	18.13
36-404S	21.43	16.36	21.77	16.62	18.22	13.91	....	36-404P	19.40	14.80	19.68	15.02	25.65	19.58	20.43	15.59
36-405P	21.39	16.33	21.72	16.57	18.18	13.88	15	36-405S	28.18	21.50	28.42	21.69	34.39	26.25	29.17	22.26
36-405S	26.89	20.52	27.21	20.76	23.62	18.02	15	36-405P	22.72	17.34	22.97	17.53	28.92	22.07	23.67	18.07

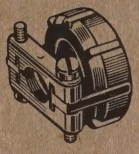
HARDWARE FOR CIRCULAR CONNECTORS

CABLE CLAMP

One half of clamp is fixed. Two fiber washers included. *Stepdown.

Type	Fits Shell	1-9	10-49	50-99	100-499
97-3057-3	8S, 10S	1.73	1.31	1.18	1.10
97-3057-4	12, 12S	1.78	1.33	1.19	1.11
97-3057-6	14, 14S	1.83	1.37	1.22	1.14
97-3057-8	16, 16S	1.98	1.49	1.33	1.23
97-3057-10	18	1.67	1.25	1.11	1.03
97-3057-10-6*	18	1.77	1.35	1.20	1.13
97-3057-12	20, 22	1.79	1.37	1.23	1.15
97-3057-12-6*	20, 22	1.79	1.37	1.23	1.15
97-3057-16	24, 28	1.80	1.39	1.25	1.17
97-3057-20	32	2.63	1.99	1.78	1.65
97-3057-24	36	2.70	2.05	1.83	1.70
97-3057-28	40	2.94	2.24	2.01	1.87

CABLE CLAMP



Both clamping halves float. To order clamp with bushing, add -1 to the Amphenol part no. Two telescoping bushings are supplied with size 16 and larger.

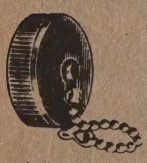
Type	Fits Shell	1-9	10 49	50 99	100-499
97-3057-1004	10SL,12,12	1.86	1.41	1.27	1.17
97-3057-1007	12SL,14,14	1.91	1.45	1.30	1.22
97-3057-1008	16,16S	2.06	1.57	1.41	1.31
97-3057-1010	18	1.75	1.33	1.19	1.11
97-3057-1012	20,22	1.75	1.33	1.19	1.11
97-3057-1016	24,28	1.87	1.42	1.28	1.19
97-3057-1020	32	2.71	2.07	1.86	1.73
97-3057-1024	36	2.71	2.07	1.86	1.73

RUBBER BUSHING

Designed for use with adjacent clamps. Provides wire and cable protection and acts as reducing bushing.

Type	Cable O.D.	EACH 1-9	10-49	50-99	100-499
9779-513-3	0.130	.22	.17	.15	.14
9779-513-4	0.220	.25	.19	.17	.16
9779-513-6	0.312	.26	.20	.18	.17
9779-513-8	0.437	.22	.17	.15	.14
9779-513-10	0.562	.22	.17	.15	.14
9779-513-12	0.625	.25	.19	.17	.16
9779-513-16	0.750	.31	.24	.22	.20
9779-513-20	0.937	.49	.38	.34	.32
9779-513-24	1.250	.49	.38	.34	.32

9760 DUST CAPS FOR RECEPTACLES



Internal threads for use with Amphenol MS3100A, MS3101A, and MS3102A receptacles. Includes beaded chains for mounting. Av. wt., 2 oz.

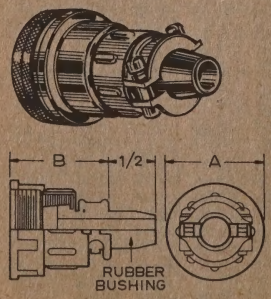
Type	Fits Shell	EACH 1-9	10-49	50-99	100-999
9760-10	10S,10SL	.91	.81	.68	.54
9760-12	12,12S,12SL	.82	.73	.60	.48
9760-14	14,14S	.91	.77	.64	.52
9760-16	16,16S	.99	.86	.72	.60
9760-18	18	1.17	1.01	.85	.67
9760-20	20	1.29	1.12	.91	.82
9760-22	22	1.48	1.27	1.04	.85
9760-24	24	1.93	1.48	1.32	1.23
9760-28	28	2.04	1.77	1.46	1.19
9760-32	32	2.90	2.21	1.99	1.84
9760-36	36	3.33	2.54	2.28	2.13

9760P DUST CAPS FOR PLUGS

Male caps and chains for plugs MS3106 and MS3108 listed on facing page. Has external threads, provides tight dust-free cover. Av. wt., 2 oz.

Type	Fits Shell	EACH 1-9	10-49	50-99	100-999
9760-10P	10S, 10SL	1.13	.98	.81	.64
9760-12P	12,12S	1.24	1.06	.89	.72
9760-14P	14,14S	1.43	1.23	1.02	.81
9760-16P	16,16S	1.62	1.40	1.16	.92
9760-18P	18	1.81	1.43	1.24	1.15
9760-20P	20	1.84	1.46	1.27	1.18
9760-22P	22	2.14	1.84	1.53	1.23
9760-24P	24	2.55	2.20	1.84	1.46
9760-28P	28	2.67	2.32	1.93	1.58
9760-32P	32	3.94	3.40	2.83	2.33
9760-36P	36	4.54	3.52	3.10	2.89

WATERPROOF CABLE CLAMPS



Complete waterproof cable clamp assembly, Number 9767, consists of a 97-3057 Cable Clamp,a rubber bushing, a washer and a 97-3055 Adaptor

Type	Connector Size	Dimensions Inches A	B	Max. Cable O.D. Inches	Each 1-9	10-49	50-99	100-499
9767-12-4	10SL,12S,12	25/32	1-17/32		3.24	2.58	2.26	2.01
9767-14-4	12SL,14S,14	29/32	1-17/32	7/32	3.43	2.70	2.43	2.28
9767-16-4	16S,16	1-1/16	1-17/32		4.53	3.44	3.08	2.88
9767-14-6	12SL,14S,14	29/32	1-19/32		3.32	2.62	2.36	2.22
9767-16-6	16S,16	1-1/16	1-19/32	11/32	3.34	2.64	2.39	2.24
9767-18-6	18	1-3/16	1-19/32		3.34	2.57	2.27	2.12
9767-18-8	18	1-3/16	1-19/32	7/16	3.70	2.81	2.52	2.34
9767-22-8	20,22	1-3/8	1-19/32		3.84	2.96	2.62	2.43
9767-22-10	20,22	1-3/8	1-19/32	9/16	3.91	3.01	2.66	2.47
9767-28-12	24,28	1-5/8	1-21/32	11/16	4.93	4.02	3.47	3.22
9767-32-16	32	1-15/16	1-27/32	27/32	8.99	6.89	6.19	5.77

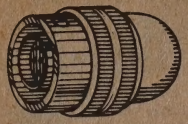
AMPHENOL® CONNECTORS FROM BUNKER RAMO

67 SERIES MinniE® ENVIRONMENT RESISTANT CONNECTORS

67-02E

67-03E

67-06E


67-06P

Takes 1500V rms @ 70,000 ft. (No derating for altitude required up to 70,000 feet if sealed connectors are mated.) Vibration resistance per Method 204, MIL-STD-202A; 10-2000 cps @ 20 G's. Temperature cycling range per MIL-C-5015 is −67°F to +257°F. Exceeds moisture resistance requirements of MIL-C-5015. Face seal gasket has individual barriers to isolate each contact.

Clamp and grommet combine to form unitized seal for easy maintenance. Flattened incline angle of bayonet slots facilitates mating. Yellow ring on receptable shell gives visual indication of connector engagement. Type P construction for potting. Type E has utilized grommet/clamp sealing conductor at back.

	67-02			67-03			67-06					
	E			E			E			P		
Shell Insert	1-9	10-49	50-99	1-9	10-49	50-99	1-9	10-49	50-99	1-9	10-49	50-99
12-60P	11.86	9.00	7.56	14.14	10.72	9.02	25.56	19.39	16.30	13.66	10.36	8.71
12-60S	13.00	9.86	8.29	15.24	11.56	9.72	26.33	19.97	16.79	14.47	10.97	9.23
14-5P	9.71	7.36	6.19	11.90	9.03	7.59	16.56	12.56	10.56	11.61	8.81	7.41
14-5S	10.85	8.23	6.92	13.04	9.89	8.32	17.62	13.36	11.23	12.71	9.64	8.10
14-9P	10.00	7.58	6.38	12.23	9.28	7.80	16.85	12.78	10.74	12.01	9.11	7.66
14-9S	12.01	9.11	7.66	14.18	10.75	9.04	18.71	14.19	11.93	13.81	10.47	8.80
14-12P	10.47	7.94	6.68	12.67	9.61	8.08	19.48	14.77	12.42	12.42	9.42	7.92
14-12S	13.48	10.22	8.59	15.67	11.88	9.99	22.27	16.89	14.20	15.34	11.63	9.78
14-63P	14.14	10.72	9.02	16.33	12.39	10.41	21.09	16.00	13.45	14.10	10.69	8.99
14-63S	14.06	10.66	8.96	16.19	12.28	10.32	22.96	17.41	14.64	16.00	12.14	10.20
18-24P	15.05	11.41	9.60	15.19	11.52	9.69	25.67	19.47	16.37	15.01	11.38	9.57
18-24S	18.90	14.33	12.05	19.04	14.44	12.14	29.89	22.67	19.06	19.23	14.59	12.26
18-64P	13.14	9.97	8.38	13.29	10.08	8.47	16.70	12.67	10.65	13.77	10.44	8.78
18-64S	14.86	11.27	9.48	15.05	11.41	9.60	18.61	14.11	11.87	15.67	11.88	9.99
20-37P	16.62	12.61	10.60	20.99	15.92	13.38	25.09	19.03	16.00	18.86	14.30	12.03
20-27S	24.65	18.70	15.72	29.04	22.03	18.52	31.80	24.12	20.28	25.61	19.42	16.33
22-48P	23.29	17.66	14.85	40.99	31.09	26.14	38.46	29.17	24.53	22.42	17.00	14.30
22-48S	31.75	24.08	20.25	.....	.....	.....	46.04	34.92	29.36	29.95	22.72	19.10

12-60 14-5 14-63

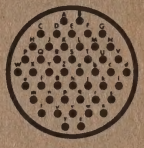
14-9

14-12

18-64

18-24

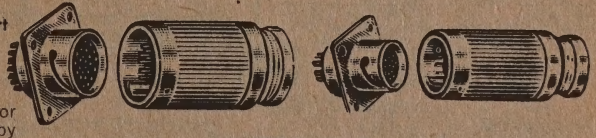
20-37


22-48

Consult NEWARK for availability of other inserts.

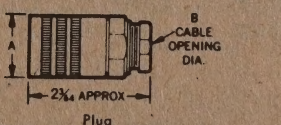
165 SERIES MINIATURE MS TYPE CONNECTORS

- **Pressure-proof and waterproof, mated or apart**
- **Extremely efficient in operation**
- **Built-in cable clamp**

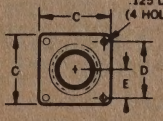


Pressure-proof and completely waterproof mated or apart. Withstand government saltspray tests by many hours in excess of standards. Extremely efficient in operation, contacts are bronze, gold plated over silver. Features built-in cable clamp. Average Shpg. wt. 3 oz.

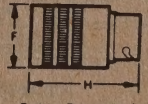
No.	Type	Description	Contacts @ AWG	1-9	10-49	50-99
38F300	165-9	Sml. plug	12-#20 male	9.29	7.05	5.92
38F301	165-10	Sml. plug	12-#20 female	12.08	9.16	7.70
38F302	165-11	Sml. recpt.	12-#20 male	6.91	5.24	4.40
38F303	165-12	Sml. recpt.	12-#20 female	9.60	7.28	6.12
38F304	165-13	Sml. plug	9-#20 male	8.17	6.20	5.21
38F305	165-14	Sml. plug	9-#20 female	10.69	8.11	6.81
38F306	165-15	Sml. recpt.	9-#20 male	5.78	4.38	3.69
38F307	165-16	Sml. recpt.	9-#20 female	8.25	6.26	5.26
38F312	165-25	Lge. plug	24-#20 male	16.52	12.53	10.53
38F313	165-26	Lge. plug	24-#20 female	19.04	14.44	12.14
38F314	165-27	Lge. recpt.	24-#20 male	11.69	8.86	7.46
38F315	165-28	Lge. recpt.	24-#20 female	14.16	10.74	9.03
38F316	165-29	Lge. plug	14-#16 male	12.34	9.36	7.86
38F317	165-30	Lge. plug	14-#16 female	15.38	11.67	9.81
38F318	165-31	Lge. recpt.	14-#16 male	7.56	5.73	4.82
38F319	165-32	Lge. recpt.	14-#16 female	10.56	8.01	6.73
38F320	165-33	Sml. plug	5-#20 male	7.99	6.06	5.09
38F321	165-34	Sml. plug	5-#20 female	9.82	7.44	6.26
38F322	165-35	Sml. recpt.	5-#20 male	5.39	4.08	3.43
38F323	165-36	Sml. recpt.	5-#20 female	7.21	5.47	4.60



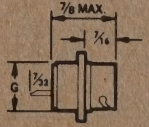
Plug



Receptacle



Cable Receptacle



	A	B	C	D	E	F	G	H
Small	57/64	3/8	1 1/16	2 5/32	2 5/64	7/8	1 3/16	1 5/64
Large	1 7/64	2 1/32	1 5/16	3 1/32	3 1/64	1 1/8	1 1/16	1 5/16

MERLIN 118 SERIES CONNECTORS

Rear release, polymer contact retention connector. Qualified to MIL-C-83723 Series I, MIL-C-0026482 Series II and MIL-C-26482 Series II. Greater dielectric spacing through elimination of metal contact retention clips. Uses integrally molded polymer contact retention clips. Thermoplastic polymer resistant to alkalies, acids, fuels and solvents. Closed entry socket inserts and contacts eliminates mis-mating due to bent pins. Bayonet coupling system. 5 key shell polarization. Self-sealing rear grommets. Visual mating indicators. Durable conductive shell finish. Static peripheral shell seal maintains system integrity. Monoblock construction-inserts bonded to shells. Accepts standard MIL-C-26482 Series 2, MIL-C-83723 and NAS 1599 hardware. Fluorosilicone fluid resistant seal material. Interfacial mating seal. Shell to shell grounding fingers. Intermateable and intermountable.

Square Flange

Cable Rcpt.

Single Hole Rcpt.

Plug

MILITARY STANDARD PART NUMBER FOR MIL-C-26482

MS3470-L2255PN

- SPECIFICATION NUMBER: MS3470-Receptacle, narrow flange mount; MS3471-Receptacle Cable Connecting; MS3474-Receptacle, rear mounting jam nut; MS3476-Plug, straight
- ALTERNATE INSERT POSITION: N, W, X, Y, Z
- CONTACT TYPE: P-Pin Contact; S-Socket Contact
- CONNECTOR CLASS: E-Order Class L; L-Fluid Resistant, 200°C, conductive finish
- SHELL SIZE: 8 10 12 14 16 18 20 22 24
- INSERT ARRANGEMENT: SEE CHART ON RIGHT

MILITARY STANDARD PART NUMBER FOR MIL-C-83723

M832723-02R2255N

- SPECIFICATION NUMBER
- ALTERNATE INSERT POSITION: N, W, X, Y, Z
- SHELL AND CONTACT STYLE: 01-Narrow Square Flange with socket contacts; 02-Narrow Square Flange with pin contacts; 05-Single Hole Mount with socket contacts; 06-Single Hole Mount with pin contacts; 07-Cable Receptacle with socket contacts; 08-Cable Receptacle with pin contacts; 13-Straight Plug with socket contacts; 14-Straight Plug with pin contacts
- INSERT ARRANGEMENT: SEE CHART ON RIGHT
- CONNECTOR CLASS: R-Fluid Resistant 200°C, conductive finish
- SHELL SIZE: 8 10 12 14 16 18 20 22 24

HOW TO ORDER MERLIN 118 CONNECTORS

118-20L22-55PN(101)

- SERIES DESIGNATION
- DEVIATION: (101) Connector less contacts
- MILITARY SPECIFICATION: MIL-C-83723; MIL-C-26482; MIL-C-0026482
- ALTERNATE INSERT POSITION: N, W, X, Y, Z
- CONTACT TYPE: P-Pin Contact; S-Socket Contact
- SHELL STYLE: 0-Square Flange Receptacle; 1-Cable Connecting Receptacle; 3-Single Hole Mtg. Receptacle; 6-Straight Plug
- CONNECTOR CLASS: E-Order Class L; R-Order Class L; L-Fluid Resistant, 200°C conductive finish (MIL-C-26482)
- SHELL SIZE: 8 10 12 14 16 18 20 22 24
- INSERT ARRANGEMENT: SEE CHART ON RIGHT

ACCESSORY HARDWARE

Available for shell sizes 8 through 24, has a Electroless Nickel finish, and is QPL'd to MIL-C-26482, Series II. For additional information contact your nearest NEWARK facility.

Type	Mil. Type	Fig.	Description
118-3416-XXEN	MS3416-XXEN	A	Straight backshell or "E" Nut
118-3417-XXN	MS3417-XXN	B	Straight Cable Clamp
118-3418-XXN	MS3418-XXN	C	90° Cable Clamp

CRIMPING TOOL

Type 294-542. Basic tool with M22520/1-02 Turret Head.
38F1404. NET **153.38**
38F294-1889. M22520/1-02 Turret Head.
39F1432. NET **61.13**

INSERT ARRANGEMENTS

Size 8-33
3-#20 Contacts

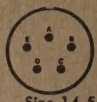
Size 8-98
3-#20 Contacts

Size 10-6
6-#20 Contacts

Size 12-8
8-#20 Contacts

Size 12-10
10-#20 Contacts

Size 14-4
4-#12 Contacts


Size 14-5
5-#16 Contacts

Size 14-12
8-#20, 4-#16 Contacts

Size 14-15
14-#20, 1-#16 Contacts

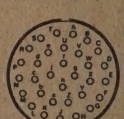
Size 14-19
19-#20 Contacts

Size 16-8
8-#16 Contacts

Size 16-26
26-#20 Contacts

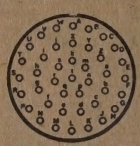
Size 18-8
8-#12 Contacts

Size 18-11
11-#16 Contacts


Size 18-32
32-#20 Contacts

Size 20-16
16-#16 Contacts

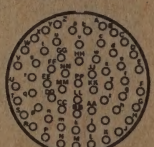
Size 20-39
37-#20, 2-#16 Contacts


Size 20-41
41-#20 Contacts

Size 22-21
21-#16 Contacts

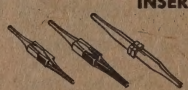
Size 22-41
27-#20, 14-#16 Contacts

Size 22-55
55-#20 Contacts


Size 24-61
61-#20 Contacts

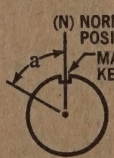
Contact identification is for front face of pin insert.

INSERTION/EXTRACTION TOOLS



Stk. No.	Type No.	Contact Size	Each
38F1401	294-108	20	.16
38F1402	294-109	16	.29
38F1403	294-110	12	2.77

ALTERNATE INSERT POSITIONS

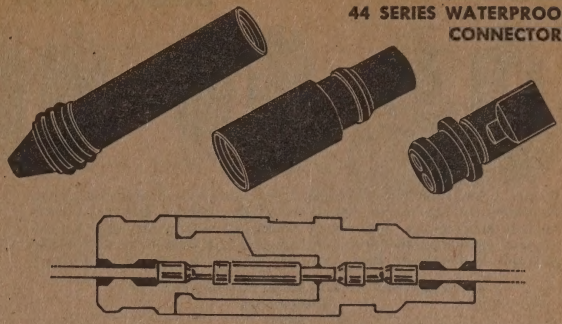


VERTICAL C/L OF INSERT ROTATED IN RESPECT TO MASTER KEYWAY

Shell Size	Insert Arrangement	a N	a W	a X	a Y	a Z
8	-33	0°	90°	—	—	—
8	-89	0°	—	—	—	—
10	-6	0°	90°	—	—	—
12	-8	0°	90°	112°	203°	292°
12	-10	0°	60°	155°	270°	295°
14	-4	0°	45°	—	—	—
14	-5	0°	40°	92°	184°	273°
14	-12	0°	43°	90°	—	—
14	-15	0°	17°	110°	155°	234°
14	-19	0°	30°	165°	315°	—
16	-8	0°	54°	152°	180°	331°
16	-26	0°	60°	—	275°	338°
18	-8	0°	180°	—	—	—
18	-11	0°	62°	119°	241°	340°
18	-32	0°	35°	138°	222°	265°
20	-16	0°	238°	318°	333°	347°
20	-39	0°	63°	144°	252°	333°
20	-41	0°	45°	126°	225°	—
22	-21	0°	16°	135°	175°	349°
22	-41	0°	39°	135°	264°	—
22	-55	0°	30°	142°	226°	314°
24	-61	0°	30°	180°	270°	324°

44 Series Waterproof AMPHENOL® CONNECTORS FROM BUNKER RAMO

All resilient, one piece, waterproof connector. Incorporates crimp Poke-Home contacts. High performance, low cost. Ideally suited for applications where an environmentally sealed, inexpensive connector is needed. Waterproof seals to prevent liquid entry. One piece shell and insert construction for longer service life. Abrasion resistant. Impervious to water, lubricants, fuel, ozone and road salts. Hooded female contacts and molded-in polarizing flat for high reliability. Installed and maintained with inexpensive hand crimp and insertion tools. Simple, positive, push-pull coupling for easy mating. Cable to cable or panel mounting. Voltage Rating: limiting operating voltage at sea level DC 250 volts, AC 200 volts RMS. Current Rating: 8 amps continuous. Temperature Range: Continuous operation from −40°C to +105°C. Punch-press contacts enable the use of automated stripping and crimping equipment resulting in lower on-line production and installed assembly cost. No possibility of lost or cross-wired circuits. Obvious visual and mechanical indicators help avoid damage to components resulting in lost or intermittent circuits.



44 SERIES WATERPROOF CONNECTORS

RECEPTACLES

Stock No.	Contacts	Type	1-9	10-49	50-99
61F1700	2	44-104-10002-02	.72	.59	.55
61F1706	3	44-104-10003-02	.73	.60	.56
61F1710	4	44-104-10004-02	.83	.68	.63
61F1730	5	44-104-10005-02	.88	.72	.67
61F1749	6	44-104-10006-02	.92	.76	.70

PLUGS

Stock No.	Contacts	Type	1-9	10-49	50-99
61F1715	2	44-103-10002	.57	.47	.44
61F1741	3	44-103-10003	.62	.51	.48
61F1726	4	44-103-10004	.75	.61	.57
61F1745	5	44-103-10005	.79	.65	.60
61F1712	6	44-103-10006	.83	.68	.63

BOOTS

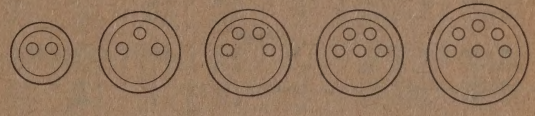
61F1737	2	44-105-10002-02	.57	.47	.43
61F1722	3	44-105-10003-02	.60	.49	.45

CONTACTS

Sold in packages of 100 only.

			Per Pkg. of 100		
Stk. No.	Contacts	Type	1-4	5-9	10-49
61F1733	Pin	44-100-1414P-100-101	5.05	4.20	3.95
61F1718	Socket	44-102-1414S-100-101	11.20	9.27	8.65

INSERTS AVAILABLE

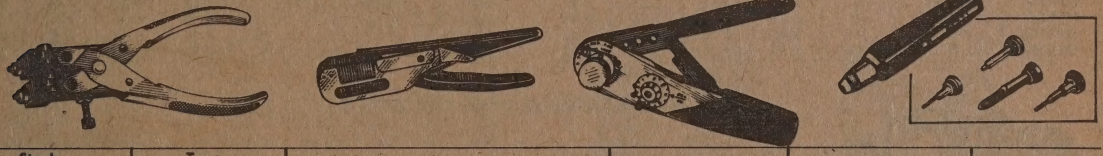


TOOLS

61F1702. 294-562: Full cycle hand crimp tool.....Each 51.00
61F1711. 357-561: Economy hand crimp tool.....Each 9.50
61F1703. 294-553: Hand contact insertion tool.....Each 4.69
61F1724. 294-557: Socket contact removal tool.....Each 8.81

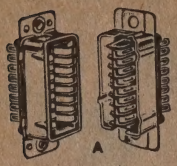
Contact your local NEWARK Branch for additional information on Amphenol Connectors

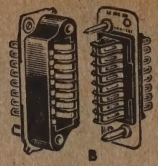
CRIMPING/INSERTION/REMOVAL TOOL GUIDE

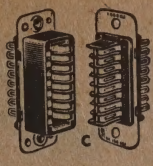


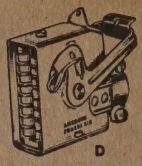
Stock No.	Type No.	For use with RG- ( )/U Cables	Series	Function	Each
57F3110	227-944	Frame only for all 227-1221-xx Die Sets		Frame only	90.00
61F1704	227-1221-57	55, 58, 141, 223, 303, 400	N	Crimp	40.00
61F1708	227-1221-59	59, 62, 140, 210	Braid	Crimp	40.00
61F1720	227-1221-29	5, 6, 21, 143, 212, 222, 304	&	Crimp	40.00
61F1728	227-1221-25	8, 9, 11, 87A, 149, 165, 213, 214 216, 225, 393	Contact	Crimp	40.00
61F1713	227-1221-09	122, 174, 179, 180, 188, 195	BNC/TNC	Crimp	40.00
57F3111	227-1221-11	55, 58, 141, 142, 223, 303, 400	Braid	Crimp	40.00
57F3112	227-1221-13	59, 62, 140, 120	&	Crimp	40.00
61F1732	227-1221-15	71	Contact	Crimp	40.00
57F3111	227-1221-11	55, 58, 141, 142, 223, 303, 400	MHV	Crimp	40.00
57F3111	227-1221-11	55, 58, 141, 142, 223, 303, 400	UHF	Crimp	40.00
57F3112	227-1221-13	59, 62, 140, 210	Braid	Crimp	40.00
61F1717	227-1221-23	8, 11, 149, 213	Only	Crimp	40.00
61F1713	227-1221-09	122, 174, 179, 180, 187, 188, 195	SMA	Crimp	40.00
57F3111	227-1221-11	55, 58, 141, 142, 223, 303, 400		Crimp	40.00
38F1440	227-900	174, 179, 187, 188	Braid	Crimp	72.05
38F1441	227-901	180, 195	Only	Crimp	72.05
61F1739	227-902	Adapter for 27-14	.....	.....	16.00
61F1735	227-913	Adapter for 27-4, 27-8, 27-10	.....	.....	5.00
61F1747	227-914	Adapter for 27-16, 27-20, 27-22	.....	.....	15.00
61F1705	357-564	.....	32	Crimp	65.20
61F1711	357-561	.....	32	Econ Crimp	9.50
61F1743	356-228	.....	32	Insert/Remove	8.50
39F3044	357-100	.....	17	Crimp	113.91
38F1437	357-300-2	17-763, 766, 1037, 1038	17	Locator	22.19
39F1262	356-200	.....	.....	Tool Handle	3.89
39F3037	356-400-1	17-763	.....	Insertion	11.40
39F3038	356-400-5	17-763	.....	Removal	6.29
35F1148	KA-260	3 piece (12, 16, 20)	Various	Insertion Kit	39.00
35F1149	KR-260	3 piece (12, 16, 20)	Various	Removal Kit	49.50

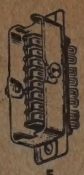
AMPHENOL BLUE RIBBON CONNECTORS











Barrier polarization type connectors are designed for interconnecting electronic sub-assemblies, circuit switching, rerouting and other multi-contact applications. Interlocking design of mating dielectric bodies provide positive polarization. The dimensional stability and high tensile strength of Amphenol Blue dielectric make this type of polarization possible Float mounted receptacle corrects misalignment of plug and receptacle. Corrosion resistant, stainless steel molded-in mounting plates and housing. Rated: 5 amps, 800 volts DC at sea level, 300 volts at 70,000 ft. altitude. Av. Shpg. Wt., 3 oz.

(A) BARRIER POLARIZATION CONNECTORS WITH KEYED SHELLS

Stk. No.	Type	Con.	1-9	10-49	50-99	100-249
Male						
42FX182	26-4101-8P	8	3.17	2.66	2.16	1.94
42FX183	26-4101-16P	16	4.77	4.01	3.25	2.82
42FX184	26-4101-24P	24	5.50	4.62	3.75	3.37
42FX185	26-4101-32P	32	6.25	5.25	4.26	3.85
Female						
42FX186	26-4201-8S	8	3.63	3.05	2.47	2.22
42FX187	26,4201-16S	16	4.91	4.12	3.34	3.01
42FX188	26-4201-24S	24	5.87	4.94	4.00	3.61
42FX189	26-4201-32S	32	6.84	5.75	4.66	4.21

(B) PIN POLARIZATION TYPE CONNECTORS

Stk. No.	Type	Con.	1-9	10-49	50-99	100-249
Male						
39FX132	26-159-16	16	3.21	2.70	2.19	1.96
39FX134	26-159-24	24	3.63	3.05	2.48	2.22
39FX136	26-159-32	32	4.60	3.87	3.14	2.81
Female						
39FX133	26-190-16	16	4.07	3.42	2.77	2.51
39FX135	26-190-24	24	4.88	4.11	3.33	2.99
39FX137	26-190-32	32	5.72	4.81	3.90	3.53

(C) BARRIER POLARIZATION TYPE CONNECTORS

Stk. No.	Type	Con.	1-9	10-49	50-99	100-249
Male						
39FX130	26-182	8	1.76	1.48	1.20	1.01
42FX150	26-4100-8P	8	1.36	1.17	.96	.87
42FX151	26-4100-16P	16	2.56	2.17	1.79	1.63
42FX152	26-4100-24P	24	3.14	2.66	2.19	1.98
42FX153	26-4100-32P	32	3.68	3.13	2.57	2.36
Female						
39FX131	26-183	8	2.75	2.31	1.87	1.69
42FX154	26-4200-8S	8	2.21	1.86	1.54	1.37
42FX155	26-4200-16S	16	3.25	2.76	2.26	2.04
42FX156	26-4200-24S	24	3.87	3.28	2.69	2.43
42FX157	26-2400-32S	32	4.64	3.94	3.24	2.93

(D) CABLE TYPE—END OUTLET—KEYED LOCK SHELLS

Mate with 4401 series plugs and sockets.

Stk. No.	Type	Con.	1-9	10-49	50-99	100-249
Male						
42FX158	26-4301-8P	8	8.51	7.15	5.80	5.21
42FX159	26-4301-16P	16	10.65	8.96	7.26	6.55
42FX160	26-4301-24P	24	12.05	10.06	8.16	7.33
42FX161	26-4301-32P	32	13.26	11.15	9.04	8.17
Female						
42FX162	26-4301-8S	8	10.32	8.68	7.04	6.34
42FX163	26-4301-16S	16	11.51	9.67	7.84	7.06
42FX164	26-4301-24S	24	13.44	11.31	9.17	8.24
42FX165	26-4301-32S	32	14.55	12.24	9.92	8.92

(E) CABLE TYPE—SIDE OUTLET—KEYED LATCH LOCK SHELLS

Mate with 4401 Series plugs and sockets.

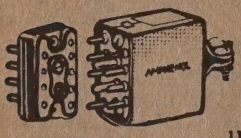
Stk. No.	Type	Con.	1-9	10-49	50-99	100-249
Male						
42FX174	26-4501-8P	8	8.51	7.15	5.80	5.21
42FX175	26-4501-16P	16	10.63	8.94	7.24	6.54
42FX176	26-4501-24P	24	11.97	10.06	8.16	7.33
42FX177	26-4501-32P	32	13.26	11.15	9.04	8.16
Female						
42FX178	26-4501-8S	8	9.51	8.00	6.49	5.85
42FX179	26-4501-16S	16	11.51	9.67	7.84	7.06
42FX180	26-4501-24S	24	12.98	10.92	8.85	7.97
42FX181	26-4501-32S	32	14.34	12.06	9.79	8.79

(F) CHASSIS TYPE—KEYED LATCH—LOCK SHELLS

Mate with 4301 and 4501 Series plugs and sockets.

Stk. No.	Type	Con.	1-9	10-49	50-99	100-249
Male						
42FX166	26-4401-8P	8	4.88	4.11	3.33	2.99
42FX167	26-4401-16P	16	6.38	5.37	4.35	3.94
42FX168	26-4401-24P	24	7.19	6.05	4.91	4.43
42FX169	26-4401-32P	32	7.30	6.14	4.98	4.93
Female						
42FX170	26-4401-8S	8	5.87	4.94	4.00	3.65
42FX171	26-4401-16S	16	7.22	6.07	4.92	4.45
42FX172	26-4401-24S	24	8.18	6.88	5.58	5.03
42FX173	26-4401-32S	32	9.26	7.79	6.32	5.68

126 SERIES RECTANGULAR PLUGS AND SOCKETS



Rated 900V rms. Gold over silver contacts. Aluminum housing except (*) insert-only. #12 rated 23 amps, #20 rated 7½ amps. Av. Shpg. Wt. 3 oz.

11 CONTACTS

Stk. No.	Type	Contacts #12	Contacts #20	Description	1-49	50-99	100-249
39FX050	126-804*	2	9	Plug-Chassis type	1.50	1.18	.95
39FX051	126-805*	2	9	Socket-chassis type	1.57	1.22	1.00
39FX052	126-809	2	9	Plug with cable clamp	2.45	1.90	1.56
39FX053	126-808	2	9	Socket with cable clamp	2.52	1.96	1.60

15 CONTACTS

Stk. No.	Type	Contacts		Description	1-49	50-99	100-249
39FX054	126-151*	3	12	Plug chassis type	2.00	1.56	1.26
39FX055	126-150*	3	12	Socket chassis type	1.51	1.18	.96
39FX056	126-152	3	12	Plug with cable clamp	3.85	3.00	2.43
39FX057	126-153	3	12	Socket with cable clamp	3.00	2.35	1.92

20 CONTACTS

39FX058	126-806*	4	16	Plug chassis type	2.41	1.86	1.53
39FX059	126-807*	4	16	Socket chassis type	1.93	1.49	1.23
39FX060	126-811	4	16	Plug with cable clamp	3.80	2.98	2.43
39FX061	126-810	4	16	Socket with cable clamp	3.35	2.61	2.12

126 SERIES HEX CONNECTORS

For inter-connecting miniature equipment. Uses inter-changeable brass, hardware and gold-finished contacts. Type 1-105 dielectric body molds, silver plated bases. For No. 20AWG or No. 22 JAN C-76 wire. Has ⅜" threaded body with hex nut for panel mounting. Ship wt. 2 oz.

Stk. No.	Type	Contacts	Description	1-49	50-99	100-240
42FX100	126-010	5	Chassis Plug	1.08	.85	.68
42FX101	126-011	5	Chassis Socket	1.70	1.32	1.08
42FX104	126-191	7	Chassis Plug	1.26	.97	.79
42FX105	126-192	7	Chassis Socket	2.15	1.67	1.39
42FX102	126-012	9	Chassis Plug	1.46	1.15	.93
42FX103	126-013	9	Chassis Socket	2.66	2.07	1.70
42FX108	126-1063	Hood and clamp assembly		.87	.68	.56
42FX109	126-1064-02	Locking sleeve for cord conn		.51	.38	.33
42FX110	126-1069-02	Clip retainer for chassis unit		.10	.08	.07

WITH HOOD AND CLAMP

Stk. No.	Type	Cont.	Desc.	1-49	50-99	100-249
42FX119	126-215	4	Socket	2.15	1.67	1.37
42FX120	126-217	5	Plug	2.32	1.81	1.50
42FX121	126-223	5	Socket	3.03	2.36	1.92
42FX122	126-195	7	Plug	2.57	2.01	1.63
42FX123	126-196	7	Socket	3.47	2.71	2.21
42FX124	126-220	9	Plug	2.78	2.15	1.77
42FX125	126-222	9	Socket	3.97	3.10	2.53

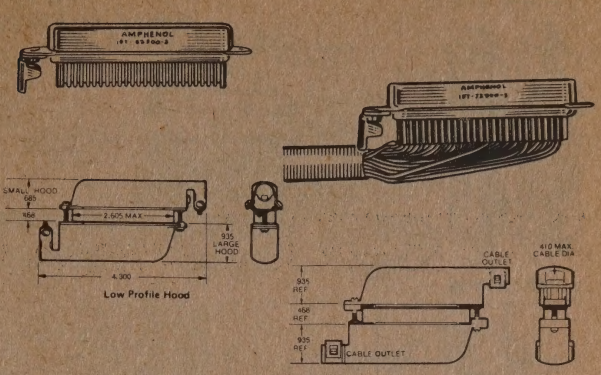
WITH LOCKING CLIP

42FX112	126-214	4	Plug	1.29	.99	.81
42FX113	126-216	5	Plug	1.14	.91	.74
42FX114	126-218	5	Socket	1.82	1.42	1.15
42FX115	126-197	7	Plug	1.34	1.06	.89
42FX116	126-198	7	Socket	2.27	1.77	1.45
42FX117	126-219	9	Plug	1.57	1.23	.99
42FX118	126-221	9	Socket	2.78	2.16	1.77

SERIES 157 MICRO-PIERCE SOLDERLESS TERMINATION SYSTEM

- **Fast, No-Solder Termination in Factory or Field**
- **Easy to Use** • **Trouble Free** • **Gas-Tight**

Designed to combine the proven reliability and engineering of the standard Micro Ribbon connector with the important cash and time savings advantages of a portable, solderless field termination system. Unique insulation piercing contact permits fast, easy, reliable solderless termination. 50 contacts. All mounting arrangements, panel cut-outs and dimensions are identical to the standard Series 57.



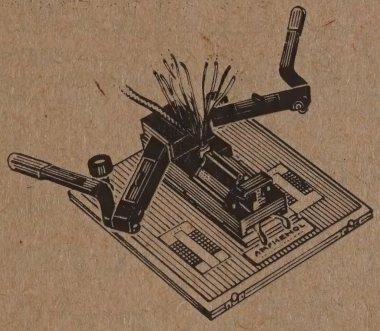
CABLE TO CABLE

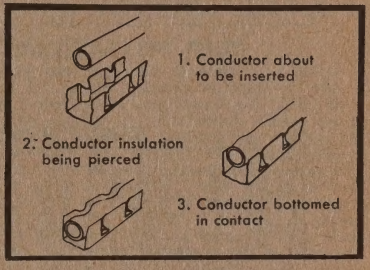
Stock No.	Type	Description	1-9	10-49	50-99	100-249
39F3600	157-72500-3	Plug-steel, low-profile hood	**4.58**	**3.87**	**3.17**	**2.84**
39F3601	157-82500-3	Receptacle, low-profile hood	**4.58**	**3.87**	**3.17**	**2.84**

TELE-PIERCE FIELD TERMINATOR

Portable, hand operated tool capable of terminating up to 64 contacts in one operation. It is designed to readily terminate 157 Series Micro-Pierce connectors to 25 pair "D" type inside running cables having 24 or 26 gauge solid conductors with PVC or irradiated PVC insulation. The tool holds the connector in position, facilitates wire fanning and insertion, terminates and trims the wires in one easy motion. The resulting termination is mechanically and electrically reliable, gas-tight, and has low resistance with no soldering required. 12" x 10½" x 5", 11¾ lbs., including carrying case.

39F3608. Type 356-236. NET.....400.00

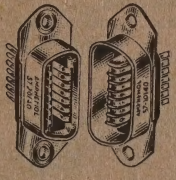




MICRO-RIBBON CONNECTORS (SOLDER VERSION)

RACK AND PANEL TYPE (Solder Tail)

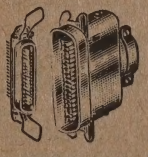
Stk. No.	Type	Cont.	Descrip.	1-9	10-49	50-99	100-249
42F190	57-10140	14	Male	**2.30**	**1.94**	**1.58**	**1.46**
42F193	57-20140	14	Female	**2.36**	**2.00**	**1.61**	**1.49**
42F191	57-10240	24	Male	**3.10**	**2.63**	**2.28**	**1.94**
42F194	57-20240	24	Female	**3.16**	**2.67**	**2.20**	**1.97**
42F192	57-10360	36	Male	**3.58**	**3.04**	**2.49**	**2.25**
42F195	57-20360	36	Female	**3.66**	**3.10**	**2.54**	**2.31**
42F132	57-10500	50	Male	**4.73**	**4.02**	**3.28**	**2.95**
42F133	57-20500	50	Female	**4.77**	**4.06**	**3.33**	**3.00**



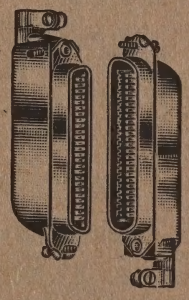
Rack and Panel Type

CABLE TO PANEL TYPE (Latch type; Top cable entry)

Stk. No.	Type	Cont.	Descrip.	1-9	10-49	50-99	100-249
42F126	57-30140	14	Male	**4.38**	**3.79**	**3.00**	**2.70**
42F127	57-40140	14	Female	**3.93**	**2.45**	**2.00**	**1.80**
42F128	57-30240	24	Male	**4.85**	**4.08**	**3.32**	**3.00**
42F129	57-40240	24	Female	**3.46**	**2.92**	**2.39**	**2.16**
42F130	57-30360	36	Male	**5.94**	**5.03**	**4.09**	**3.67**
42F131	57-40360	36	Female	**3.79**	**3.21**	**2.62**	**2.36**
42F134	57-30500	50	Male	**6.55**	**5.54**	**4.54**	**4.08**
42F135	57-40500	50	Female	**4.96**	**4.20**	**3.43**	**3.10**



Cable to Panel Type



Cable to Cable Type

CABLE TO CABLE TYPE (Low Profile)

Stk. No.	Type	Cont.	Descrip.	1-9	10-49	50-99	100-249
42F198	57-10500-7	50	Male	**5.40**	**4.61**	**3.77**	**3.35**
42F199	57-20500-7	50	Female	**5.67**	**4.85**	**3.97**	**3.55**

RACK AND PANEL TYPE (PC Tails)

Stock No.	Type	Cont.	Descrip.	1-9	10-49	50-99	100-249
40F6336	57-10140-4	14	Male	**2.59**	**2.19**	**1.79**	**1.60**
40F6337	57-20140-8	14	Female	**2.96**	**2.50**	**2.04**	**1.83**
40F6338	57-10240-3	24	Male	**3.52**	**2.98**	**2.43**	**2.18**
40F6339	57-20240-8	24	Female	**3.57**	**3.02**	**2.48**	**2.23**
40F6340	57-10360-13	36	Male	**4.24**	**3.59**	**2.94**	**2.64**
40F6341	57-20360-9	36	Female	**4.33**	**3.66**	**3.00**	**2.70**
40F6342	57-10500-27	50	Male	**5.68**	**4.80**	**3.94**	**3.53**
40F6343	57-20500-31	50	Female	**5.73**	**4.84**	**3.98**	**3.57**

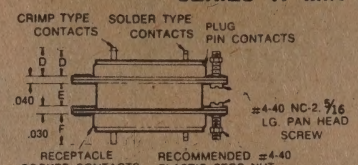
CABLE TO PANEL TYPE (Plug; Side cable entry)

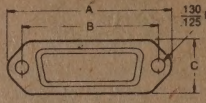
Stock No.	Type	Contacts	1-9	10-49	50-99	100-249
40F6344	57-50140	14	**5.91**	**5.52**	**4.04**	**3.63**
40F6345	57-50240	24	**6.60**	**5.56**	**4.39**	**4.05**
40F6346	57-50360	36	**7.28**	**6.11**	**5.07**	**4.36**
40F6347	57-50500	50	**8.03**	**6.77**	**5.48**	**4.97**

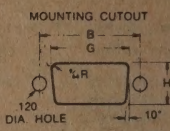
CABLE TO CABLE TYPE (Receptacle)

Stock No.	Type	Contacts	1-9	10-49	50-99	100-249
40F6348	57-60140	14	**4.91**	**4.09**	**3.30**	**2.97**
40F6349	57-60240	24	**6.25**	**5.17**	**4.25**	**3.84**
40F6350	57-60360	36	**6.64**	**5.57**	**4.42**	**4.07**
40F6351	57-60500	50	**8.02**	**6.76**	**5.49**	**4.93**

SERIES 17 MIN RAC® CONNECTORS

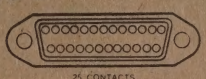


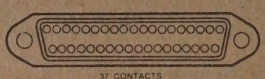


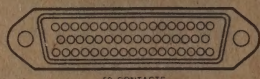


9 CONTACTS

15 CONTACTS


25 CONTACTS


37 CONTACTS


50 CONTACTS

Poke Home

Conn. Size	A Max.	B	C Max.	D (1)	D (2)	D Encapsulated Contact Line Only	D Rear Release	E All Lines	F (1)	F (2)	F Encapsulated Contact Line Only	MOUNTING DIM.—ALL LINES G Min Back Mtg.	G Min Front Mtg.	H Min. Back Mtg.	H Min. Front Mtg.
9	1.239	.984	.515	2⅝₄	⅜₂	2⅝₄	2⅜₄	1⅝₄	1⅜₂	1⅛₄	2⅝₄	.798	.830	.448	.505
15	1.567	1.312	.515	2⅝₄	⅜₂	2⅝₄	2⅜₄	1⅝₄	1⅜₂	1⅛₄	2⅝₄	1.116	1.161	.448	.505
25	2.114	1.852	.515	2⅝₄	⅜₂	2⅝₄	2⅜₄	1⅝₄	1⅜₂	1⅛₄	2⅝₄	1.654	1.701	.448	.505
37	2.754	2.500	.515	2⅝₄	⅜₂	2⅝₄	2⅜₄	1⅝₄	1⅜₂	1⅛₄	2⅝₄	2.304	2.348	.448	.505
50	2.661	2.406	.626	2⅝₄	⅜₂	2⅝₄	2⅜₄	1⅝₄	1⅜₂	1⅛₄	2⅝₄	2.210	2.285	.559	.645

REAR RELEASE CONTACT LINE

Crimp Poke-Home® contacts inserted and removed from rear after contact is installed. Rated 7.5 A. Temp.. range —55° to +125°C. Dielectric: glass-filled nylon. Wire size 20-24 AWG.

RECEPTACLE

Stk. No.	Type	1-9	10-24	25-99	100-249
39F1342	17-81090-17	2.09	1.77	1.55	1.28
39F1343	17-81150-17	2.84	2.41	2.20	1.78
39F1344	17-81250-17	4.30	3.66	3.26	2.68
39F1345	17-81370-17	6.01	5.11	4.73	3.84
39F1346	17-81500-17	7.97	6.78	6.04	4.91

PLUG

39F1347	17-91090-17	1.60	1.36	1.14	.92
39F1348	17-91150-17	2.17	1.84	1.55	1.26
39F1349	17-91250-17	3.20	2.71	2.15	1.77
39F1350	17-91370-17	4.56	3.88	3.09	2.52
39F1351	17-91500-17	5.77	4.90	3.89	3.18

ORIGINAL POKE-HOME LINE

Solder type contacts are gold-over-copper plated brass, rated 7.5 amps, -55°C to 125°C.

PLUGS Chromate finish

Stk. No.	No. of Contacts	Type	1-9	10-24	25-99	100-249
39F1370	9	17-20090	1.57	1.33	1.16	.95
39F1371	15	17-20150	2.12	1.80	1.57	1.31
39F1372	25	17-20250	3.09	2.63	2.29	1.83
39F1373	37	17-20370	4.16	3.54	3.08	2.54
39F1374	50	17-20500	5.25	4.47	3.89	3.23

RECEPTACLES Chromate finish

39F1360	9	17-10090	2.14	1.81	1.58	1.31
39F1361	15	17-10150	3.03	2.57	2.24	1.87
39F1362	25	17-10250	4.55	3.87	3.37	2.81
39F1363	37	17-10370	6.43	5.47	4.76	3.96
39F1364	50	17-10500	8.25	7.02	6.11	5.09

ENCAPSULATED CONTACT LINE

Contacts buried in nylon. Solder cup contacts: gold over copper plated brass, rated 7.5 amps. —55°C to +125°C.

RECEPTACLES

Stk. No.	Contacts	Type	1-9	10-24	25-99	100-249
39F2110	9	17-10090-1 (390)	2.14	1.82	1.60	1.33
39F2112	15	17-10150-1 (390)	2.94	2.51	2.30	1.88
39F2114	25	17-10250-1 (390)	4.45	3.81	3.41	2.83
39F2116	37	17-10370-1 (390)	6.21	5.31	4.93	4.04
39F2118	50	17-10500-1 (390)	8.22	7.03	6.29	5.16

PLUGS

39F2111	9	17-20090-1 (390)	1.65	1.41	1.19	.97
39F2113	15	17-20150-1 (390)	2.27	1.94	1.65	1.36
39F2115	25	17-20250-1 (390)	3.35	2.86	2.30	1.92
39F2117	37	17-20370-1 (390)	4.76	4.08	3.29	2.72
39F2119	50	17-20500-1 (390)	6.02	5.15	4.14	3.43

FIXED CONTACT SERIES

Dielectric: 2-piece glass-filled nylon. Curr. rtg. 7.5A. Oper. temp. —55° to +125°C. Wire size: to 20 AWG. Captive solder contacts.

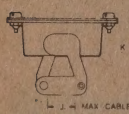
RECEPTACLE

Stk. No.	Type	1-9	10-24	25-99	100-249
40F6310	17-80090-15	1.96	1.66	1.45	1.20
40F6311	17-80150-15	2.89	2.46	2.14	1.78
40F6312	17-80250-15	4.48	3.82	3.32	2.75
40F6313	17-80370-15	5.42	4.61	4.01	3.67

PLUG

40F6314	17-90090-15	1.41	1.19	1.04	.86
40F6315	17-90150-15	1.93	1.64	1.43	1.19
40F6316	17-90250-15	2.83	2.40	2.09	1.73
40F6317	17-90370-15	3.80	3.23	2.81	2.33

17 SERIES MIN RAC ACCESSORIES



METAL CABLE HOUSING

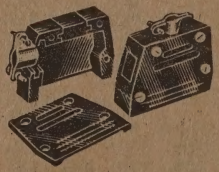
Used to adapt connector for cable to panel or cable to cable applications. Easily attached to connector by two screws.

Stk. No.	Contact	Type	1-9	10-24	25-99	100-249
39F1380	9	17-310-01	1.23	1.02	.95	.87
39F1381	15	17-311-01	1.57	1.33	1.16	.98
39F1382	25	17-312-01	1.64	1.39	1.21	1.01
39F1383	37	17-313-01	1.68	1.43	1.24	1.04
39F1384	50	17-314-01	1.71	1.46	1.27	1.07

MIN RAC LOCKING ASSEMBLIES

Spring latch except (*)screw type clip.

Stk. No.	Type	Use With Contact	1-9	10-24	25-99	100-249
39F1390	17-529	All except 50	.85	.71	.62	.52
39F1391	17-768*	All	.98	.82	.72	.60
39F1392	17-770	All	.87	.73	.64	.54



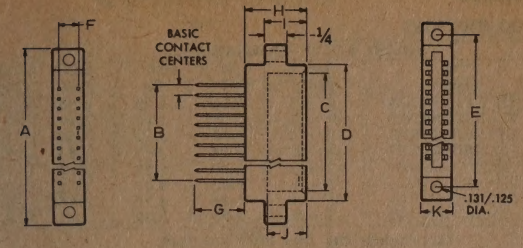
PLASTIC BACKSHELL

Protects connector and secures its cable. Two piece construction permits installing at any convenient point in assembly process, and easily removable for servicing. Interchangeable cable clamp and removable insert allows side or top cable entry location. Constructed of glass-filled nylon with hardware and clamp cadmium plated steel.

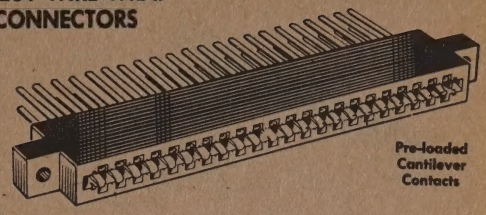
Stock No.	Shell Size	Type	1-9	10-24	25-99	100-249
39F1411	9	17-1370	1.15	.97	.85	.75
38F1412	15	17-1371	1.18	1.00	.87	.76
38F1413	25	17-1372	1.20	1.02	.89	.74
38F1414	37	17-1373	1.26	1.06	.93	.85
38F1415	50	17-1374	1.39	1.18	1.03	.88

PC Connectors

AMPHENOL® CONNECTORS FROM BUNKER RAMO



SERIES 261 WIRE-WRAP PC CONNECTORS



.100" CENTER

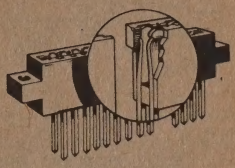
Stock No.	Type	No. Contacts	Dimensions A	B	C	D	E	F	G	H	I	J	K	EACH 1-49	50-99	100-249
39F3350	261-10015-2	15	2.474	1.400	1.720	1.874	2.156							2.93	2.46	2.06
39F3351	261-10018-2	18	2.774	1.700	2.020	2.174	2.458							3.36	2.81	2.37
39F3352	261-10022-2	22	3.174	2.100	2.420	2.574	2.856	.200	.615	.735	.494	.460	.348	3.93	3.30	2.76
39F3353	261-10030-2	30	3.974	2.900	3.220	3.374	3.656							4.91	4.12	3.45
39F3354	261-10036-2	36	4.574	3.500	3.820	3.974	4.256							5.71	4.78	4.05
39F3355	261-10043-2	43	5.274	4.200	4.520	4.674	4.956							6.65	5.55	4.66

.125" CENTER

Stock No.	Type	No. Contacts	Dimensions A	B	C	D	E	F	G	H	I	J	K	EACH 1-49	50-99	100-249
39F3356	261-12515-2	15	2.824	1.750	2.070	2.224	2.506							2.93	2.46	2.06
39F3357	261-12518-2	18	3.199	2.125	2.445	2.599	2.881							3.36	2.81	2.37
39F3358	261-12522-2	22	3.699	2.625	2.945	3.099	3.381	.250	.615	.496	.738	.465	.365	3.93	3.30	2.76
39F3359	261-12528-2	28	4.449	3.375	3.695	3.849	4.131							4.91	4.12	3.45
39F3360	261-12536-2	36	5.449	4.375	4.695	4.849	5.131							5.71	4.78	4.05
39F3361	261-12543-2	43	6.324	5.250	5.570	5.724	6.006							6.65	5.55	4.66
39F3362	261-70005	Polarizing key for above												.05	.05	.05

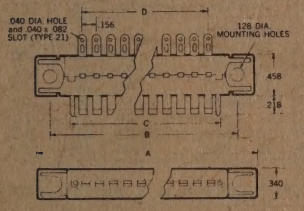
.156" CENTER

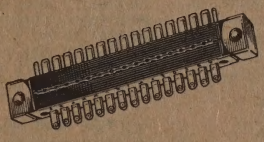
Stock No.	Type	No. Contacts	Dimensions A	B	C	D	E	F	G	H	I	J	K	EACH 1-49	50-99	100-249
38F1431	261-15615-2	15	3.258	2.184	2.504	2.658	2.940							3.77	3.17	2.66
38F1432	261-15618-2	18	3.726	2.652	2.972	3.126	3.408							4.36	3.69	3.09
38F1433	261-15622-2	22	4.350	3.276	3.596	3.750	4.032	.20	.750	.770	.512	.495	.348	5.04	4.25	3.57
38F1434	261-15628-2	28	5.286	4.212	4.532	4.686	4.968							6.20	5.22	4.41
38F1435	261-15636-2	36	6.534	5.460	5.780	5.934	6.216							7.79	6.55	5.54
38F1436	261-15643-2	43	7.626	6.552	6.872	7.026	7.308							9.18	7.72	6.44

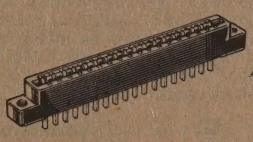


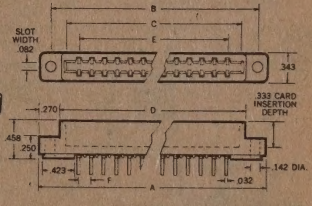
Dual readout of double-sided printed circuit boards. Pre-loaded cantilever-type contacts are assembled into dielectric with precise spacing for automatic solderless wrap terminations. Tail length is sufficient for three wire wraps plus space for bussing or PC board next to block. Contacts are confined in dielectric to determined pre-load force for fixed, definite separation eliminating possibility of shorts. Gold-plated phosphor bronze contacts rated at 5.0 amps. Voltage rating: 300 V rms at sea level. Minimum voltage breakdown: 1800 V rms. Contact resistance: 6.0 milliohms max. .025" square tail with 50001-type contacts. Insulator material: Black electrical grade phenolic. Avg. Shpg. wt. 3 oz.

133 SERIES BOARD ADAPTORS 143 SERIES RECEPTACLES









SERIES 133—MALE PLUG ADAPTERS

Double tail solder type, rated 600V RMS. 5 amp. Ht. .458".

Part Number	Number of Contacts	Dimensions A	B	C	D
133-006	6	1.817	1.531	1.082	.781
133-010	10	2.442	2.156	1.708	1.406
133-012	12	2.755	2.468	2.020	1.718
133-015	15	3.222	2.937	2.489	2.187
133-018	18	3.692	3.406	2.957	2.656
133-022	22	4.317	4.031	3.582	3.281

Stock No.	Type No.	Cont.	1-49	50-99	100-249	250-999
42F316	133-010-03	10	2.04	1.69	1.45	1.23
42F317	133-012-03	12	2.50	2.11	1.77	1.53
42F318	133-015-03	15	2.80	2.35	1.98	1.70
42F319	133-018-03	18	2.87	2.42	2.03	1.76
42F320	133-022-03	22	3.17	2.68	2.25	1.93
42F307	133-006-03	6	2.48	2.09	1.75	1.51
42F196	133-006-21	6	2.75	2.29	1.92	1.66
42F136	133-010-21	10	2.36	1.98	1.67	1.44
42F137	133-015-21	15	3.32	2.79	2.35	2.01
42F138	133-018-21	18	3.43	2.87	2.43	2.09
42F139	133-022-21	22	3.91	3.29	2.75	2.37

SERIES 143 CARD EDGE CONNECTORS

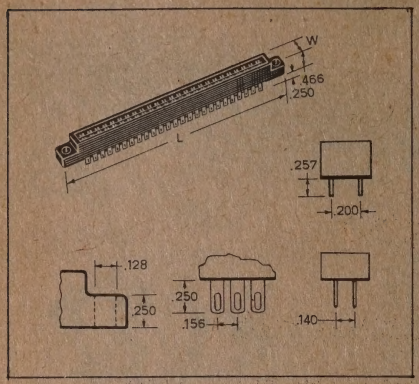
Fit .054"-.070" circuit boards. Avg. Shpg. wt. 3 oz.

Part Number	Number of Contacts	Dimensions A	B	C	D	E	F	G
143-006	6	1.779	1.531	1.097	1.239	.781	.156	.343
143-010	10	2.404	2.156	1.723	1.864	1.406	.156	.343
143-012	12	2.716	2.468	2.035	2.176	1.718	.156	.343
143-015	15	3.185	2.937	2.504	2.645	2.187	.156	.343
143-018	18	3.654	3.406	2.972	3.114	2.656	.156	.343
143-022	22	4.279	4.031	3.597	3.739	3.281	.156	.343

Stock No.	Type No.	Cont.	1-49	50-99	100-249	250-999
42F304	143-006-01	6	1.32	1.12	.93	.80
42F300	143-010-01	10	1.38	1.18	.99	.86
42F308	143-012-01	12	1.52	1.30	1.08	.93
42F301	143-015-01	15	1.75	1.47	1.23	1.07
42F302	143-018-01	18	2.09	1.76	1.48	1.26
42F303	143-022-01	22	2.49	2.10	1.76	1.52
42F309	143-006-03	6	1.32	1.12	.93	.80
42F310	143-010-03	10	1.38	1.18	.99	.86
42F311	143-012-03	12	1.52	1.30	1.08	.93
42F312	143-015-03	15	1.75	1.47	1.23	1.07
42F313	143-018-03	18	2.09	1.76	1.48	1.26
42F314	143-022-03	22	2.49	2.10	1.76	1.52
42F305	143-953	Polarizing key for above				.05

PC and IC Accessories

225 SERIES PC CONNECTORS



Connectors with short dip solder tails on .140" row spacing and dip solder tails with .200" row spacing terminations consist of the same economical materials and array of sizes (6 thru 43 positions) as the 225 Series solder eyelet connectors. **Specifications.** Operating voltage 600 VAC (RMS) at sea level; 150 VAC (RMS) at 70,000 ft. 5 amp current rating. Dielectric material is electrical grade black phenolic. Insulation resistance 5,000 megohms minimum. Copper alloy contacts with .000020" gold over copper. 30 mV maximum contact resistance at rated current. Board thickness .054" to .071".

SOLDER EYELET TERMINATION

Stk. No.	Type	No. Cont.	1-49	50-99	100-249	250-499
39F2350	225-20621-401(117)	6 or 12	1.66	1.33	1.06	.94
39F2351	225-21021-401(117)	10 or 20	2.20	1.75	1.41	1.26
39F2352	225-21521-401(117)	15 or 30	2.63	2.09	1.69	1.51
39F2353	225-21821-401(117)	18 or 36	3.04	2.43	1.95	1.75
39F2354	225-22221-401(117)	22 or 44	3.29	2.63	2.11	1.88
39F2355	225-22821-401(117)	28 or 56	5.03	4.03	3.22	2.87
39F2356	225-23621-401(117)	36 or 72	5.86	4.70	3.96	3.52
39F2357	225-24321-401(117)	43 or 86	6.74	5.39	4.53	4.05

DIP SOLDER ON .200 ROW SPACING

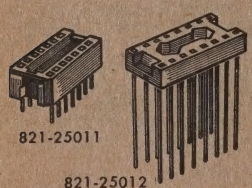
39F2390	225-20621-407(117)	6 or 12	1.66	1.33	1.06	.94
39F2391	225-21021-407(117)	10 or 20	2.20	1.75	1.41	1.26
39F2392	225-21521-407(117)	15 or 30	2.63	2.09	1.69	1.51
39F2393	225-21821-407(117)	18 or 36	3.04	2.43	1.95	1.75
39F2394	225-22221-407(117)	22 or 44	3.29	2.63	2.11	1.88
39F2395	225-22821-407(117)	28 or 56	5.03	4.03	3.22	2.87
39F2396	225-23621-407(117)	36 or 72	5.86	4.70	3.96	3.52

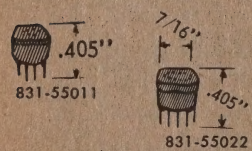
SOLDER EYELET TERMINATION

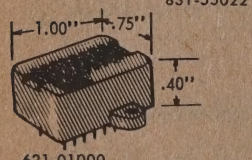
39F1482	225-20621-101	6 or 12	2.32	1.85	1.48	1.33
39F1485	225-21021-101	10 or 20	3.04	2.45	1.97	1.75
39F1488	225-21521-101	15 or 30	3.66	2.94	2.35	2.10
39F1491	225-21821-101	18 or 36	4.07	3.26	2.60	2.33
39F1494	225-22221-101	22 or 44	4.92	3.96	3.17	2.83
39F1497	225-22821-101	28 or 56	6.89	5.62	4.43	3.94
42F325	225-23621-101	36 or 72	9.01	7.22	6.07	5.42
42F326	225-24321-101	43 or 86	10.02	8.02	6.75	6.03

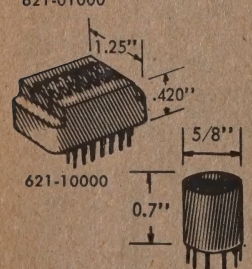
SOLDER EYELET TERMINATION MILITARY STYLE, SPEC. MIL-C-21097

Stk. No.	Type	M21097/	No. Cont.	1-49	50-99	100-249	250-499
42F329	225-20621-201	1-019	6 or 12	2.64	2.11	1.68	1.51
42F330	225-21021-201	1-055	10 or 20	3.51	2.81	2.27	2.03
42F331	225-21521-201	1-091	15 or 30	4.31	3.47	2.78	2.49
42F332	225-21821-201	1-127	18 or 36	4.84	3.89	3.15	2.80
42F333	225-22221-201	1-163	22 or 44	5.87	4.73	3.98	3.56
42F334	225-22821-201	1-199	28 or 56	8.15	6.53	5.25	4.70









AMPHENOL INTEGRATED CIRCUIT SOCKETS

Ⓐ DUAL-IN-LINE PRODUCTION

Both 821-25 and 821-20. Series are high reliability production mounting sockets for Dual-In-Line I.C. devices. For applications where it is desirable to provide easy replacement of individual DIP devices without risk of unsoldering from P.C. boards or replacing entire boards. Single piece construction dual wiping action contacts for round or flat leads. Front entry chamfered, maximum lead in. Wire wrappable and solder terminals. Snap on insulator lid for ease of contact replacement. (*) Contact material phosphor bronze. (†) Contact material beryllium copper.

Ⓑ T. O. CAN PRODUCTION

These production type sockets of nylon are constructed to hold devices in firm, long time contact, resisting dirt and environmental attacks upon their contacts. They accept TO-5 and TO-18 type 3 to 12 lead devices and are press fit or solder mounted.

Ⓒ DUAL-IN-TEST

Polysulfone body material for long term test temperature from −65°C to +150°C. Low leakage and high wear. One piece contacts of beryllium copper, nickel/gold plated, provides a gentle wiping action to insure low, uniform contact resistance. Contacts designed for minimal insertion and withdrawal forces consistent with electrical contact.

Ⓓ T. O. CAN TEST

Contacts give low, uniform resistance and do not scrape leads of device. Polarized mark provided on all sockets. Large entrances permit easy insertion. Reliable contact maintained despite severe environmental conditions. 631-150 and 631-200 designed for high density packing. 631-250 are teflon sockets for high temperature test operation. Cylindrical body for T.O. devices.

Ⓐ STANDARD PROFILE

Stock No.	Type	No. of Leads	Termination	1-99	100-499	500-999
39F3372	821-25011-144	14	solder	.67	.58	.53
39F3373	821-25011-164	16	solder	.81	.72	.66
39F3374	821-25012-144	14	wire wrap	.88	.78	.72
39F3375	821-25012-164	16	wire wrap	1.06	.92	.85

LOW PROFILE

39F3364	821-20011-144*	14	TAB	.50	.44	.40
39F3365	821-20011-164*	16	TAB	.54	.48	.44
39F3366	821-20012-144†	14	TAB	.52	.46	.42
39F3367	821-20012-164†	16	TAB	.56	.50	.48
39F3368	821-20013-144†	14	wire wrap	.89	.78	.70
39F3369	821-20013-164†	16	wire wrap	1.01	.88	.80
39F3371	821-20042-184†	18	TAB	1.08	.90	.72

Ⓑ FOR TO-5 DEVICES HAVING 3, 4, 8, AND 10 LEADS

Stock No.	Type	No. of Leads	1-99	100-499	500-999
39F3378	831-55022-34	3	.39	.35	.30
39F3379	831-55022-44	4	.43	.38	.33
39F3380	831-55022-84	8	.52	.44	.39
39F3381	831-55022-104	10	.55	.51	.46

FOR TO-18 DEVICES HAVING 3 AND 4 LEADS

39F3376	831-55011-34	3	.39	.35	.30
39F3377	831-55011-44	4	.43	.38	.33

Ⓒ DUAL-IN-LINE TEST

Stock No.	Type	No. of Leads	Mounting Flange	1-24	25-49	50-99
39F3382	621-01011-141	14	No	2.04	2.04	1.80
39F3383	621-01012-141	14	Yes	2.04	2.04	1.80
39F3384	621-01011-161	16	No	2.28	2.28	1.98
39F3385	621-01012-161	16	Yes	2.28	2.28	1.98

Ⓓ FOR HIGH DENSITY APPLICATION

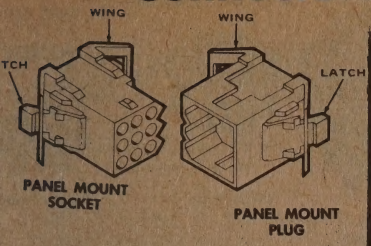
Stock No.	Type	No. of Leads	Flange	1-24	25-49	50-99
39F3400	631-15031-61	6	No	2.70	2.70	2.24
39F3401	631-15031-81	8	No	2.93	2.93	2.44
39F3403	631-15031-101	10	No	3.01	3.01	2.54
39F3402	631-20012-81	8	Yes	2.94	2.94	2.45

FOR HIGH TEMPERATURE APPLICATIONS

39F3398	631-25041-32	3	No	.88	.88	.80
39F3399	631-25041-42	4	No	1.13	1.13	.93

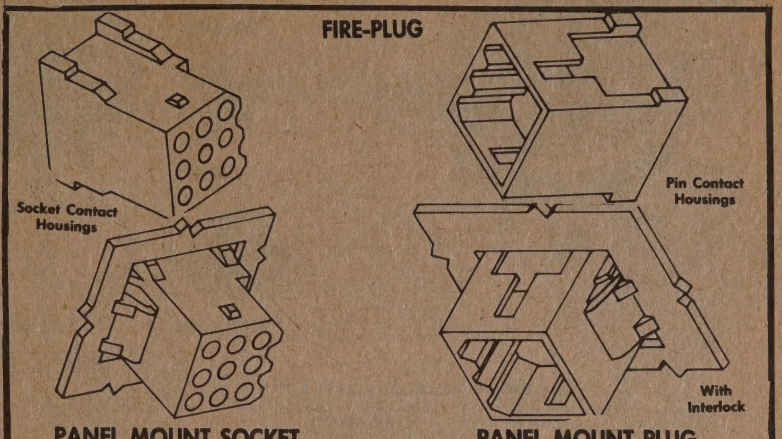
Connectors

AMPHENOL® CONNECTORS FROM BUNKER RAMO



- Flame Retardant Material
- Reliable, Low Cost
- 2-3-6-9-12-15 Contact Sizes
- Intermateable/Interchangeable

Series 32 connectors provide reliable interconnections at low cost. Intended for all applications requiring from 2 to 15 contacts, operating at 250 volts or less, and carrying up to a maximum of 12 amperes. Available for either cable-to-cable (without mounting wings) or cable-to-panel (with mounting wings) connections. Connector housings polarized to mate only one way, preventing improper connection. Contacts are easily inserted and removed from connector housings by means of an inexpensive crimp tool. Contacts snap into place and once installed, are locked in and cannot be accidently dislodged. Series 32 connectors are completely intermateable and interchangeable with competitive connectors. Panel mounted connectors fit existing panel cut-outs designed for competitive connectors. Contacts fit into competitive connector housings and competitive connectors. Three different size contacts available to handle any wire size from 14 to 30 AWG.



PANEL MOUNT SOCKET

Sockets	A	B	C	D	E	F	G	H
2	.725	.312	.420	1.060	.250	.537	.730	.248
3	.840	.312	.420	1.060	.234	.671	.730	.198
6	.600	.718	.772	1.060	.632	.434	.730	.198
9	.828	.725	.772	1.060	.621	.666	.730	.198
12	1.050	.655	.772	1.060	.633	.870	.730	.198
15	1.240	.655	.722	1.060	.632	1.167	.730	.198

PANEL MOUNT PLUG

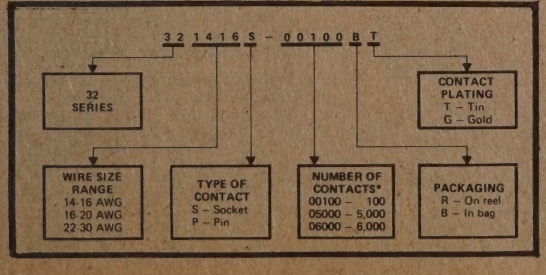
Sockets	A	B	C	D	E	F	G	H
2	.800	.375	.420	1.035	.352	.640	.705	.248
3	.933	.375	.420	1.035	.338	.773	.705	.198
6	.695	.750	.902	1.035	.734	.536	.705	.198
9	.937	.725	.802	1.035	.713	.775	.705	.198
12	1.155	.760	.819	1.035	.737	.975	.705	.198
15	1.343	.760	.822	1.035	.737	1.169	.705	.198

SPECIFICATIONS

Max. Recommended Operating Voltage: 250V. Dielectric Withstanding Voltage: 1800V. Operating Temperature Range: -55°C to 105°C. Material: UL rated 94V-0 nylon-base material (Fireplug). Max Contact Resistance: 3 milliohms. Initial Contact-Retention Force: 20 lbs. Insulation color: brick red.

Housing Type		Interlock	Wing Panel Lock	Housing Type	Flame Retardant	Stock No.	1-99	100-499	500-999	1000-2499
2 Contacts	Pin	With	With	Panel-Mt. Plug	32-02P22-11	38F758	.21	.14	.08	.06
			Without	Cable-Mt. Plug	32-02P22-21	38F759				
	Socket	With	With	Panel-Mt. Socket	32-02S22-11	38F760				
			Without	Cable Socket	32-02S22-21	38F761				
3 Contacts	Pin	With	With	Panel-Mt. Plug	32-03P22-11	38F762	.21	.14	.08	.06
			Without	Cable-Mt. Plug	32-03P22-21	38F763				
	Socket	With	With	Panel-Mt. Socket	32-03S22-11	38F764				
			Without	Cable Socket	32-03S22-21	38F765				
6 Contacts	Pin	With	With	Panel-Mt. Plug	32-06P22-11	38F766	.34	.23	.13	.09
			Without	Cable-Mt. Plug	32-06P22-21	38F767				
	Socket	With	With	Panel-Mt. Socket	32-06S22-11	38F768				
			Without	Cable Socket	32-06S22-21	38F769				
9 Contacts	Pin	With	With	Panel-Mt. Plug	32-09P22-11	38F770	.38	.25	.14	.10
			Without	Cable-Mt. Plug	32-09P22-21	38F771				
	Socket	With	With	Panel-Mt. Socket	32-09S22-11	38F772				
			Without	Cable Socket	32-09S22-21	38F773				
12 Contacts	Pin	With	With	Panel-Mt. Plug	32-12P22-11	38F774	.40	.27	.15	.11
			Without	Cable-Mt. Plug	32-12P22-21	38F775				
	Socket	Without	With	Panel-Mt. Socket	32-12S22-12	38F776				
			Without	Cable Socket	32-12S22-22	38F777				
15 Contacts	Pin	Without	With	Panel-Mt. Plug	32-15P22-12	38F778	.48	.32	.18	.13
			Without	Cable-Mt. Plug	32-15P22-22	38F779				
	Socket	Without	With	Panel-Mt. Socket	32-15S22-12	38F780				
			Without	Cable Socket	32-15S22-22	38F781				

CRIMP TOOL DATA ON PAGE 375

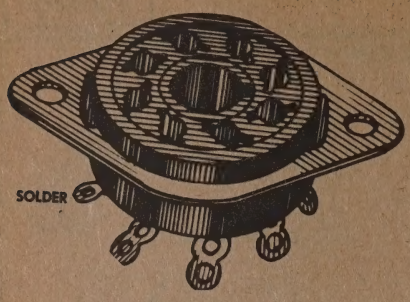


ORDERING INFORMATION-CONTACTS

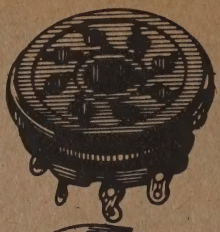
To get the specific contacts required put together the part number as per the chart to the left. Then refer to the chart below for stock no. and prices.

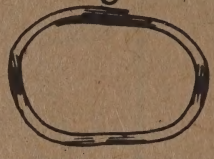
Wire Size	Type	Loose in Bag (100 per Bag)	Stock No.	1-9	10-49	50-99	100-249
14-16 ga.	Pin	32-1416P-00100BT	38F782	4.50	3.00	1.65	1.20
	Socket	32-1416S-00100BT	38F783				
16-20 ga.	Pin	32-1620P-00100BT	38F784				
	Socket	32-1620S-00100BT	38F785				
22-30 ga.	Pin	32-2230P-00100BT	38F786				
	Socket	32-2230S-00100BT	38F787				

Sockets

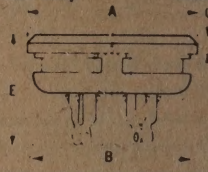


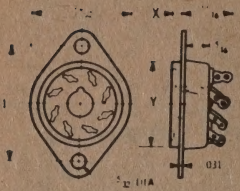
TYPE "MIP" SOCKETS





TYPE "S" SOCKETS





X=3/32 on MIP-4-5-6-7S & 7L
X=.145 on MIP-8-9-11-12
Y=17/64 on MIP-4-5-6-7S
Y=1 15/64 on MIP-7L-20
Y=1 9/64 on MIP-11-12

Sockets	A	B	C	D	E
78-S4, -S5, -S6, -S7S	1¼	1 5/32	.135	.420	Approx. 27/32
78-S8, *S9, -S11, -S12, -S16, -A7P, -A9P, -B	1¼	1 5/32	.145	.490	Approx. ⅜
78-S8L	1¼	1 5/32	3/32	23/64	9/16

Retainer ring sockets. For easy assembly to chassis or panel from 19 guage (.044") to 16 guage (.062") with tempered steel retainer ring. Black phenolic except (*) mica filled phenolic. Rotation feature permits lining up contacts. All mount in 1 11/64" to 1 7/32" hole. With retainer. Wt. 2 oz.

High dielectric bakelite body with molded in steel plate except (†) Mica-filled phenolic socket. *Requires 1 3/16" hole for mounting. All others mount in 1 5/32" hole. Shpg. wt., 2 oz.

SOLDER TYPES

Stock No.	Type	Prongs	1-49	50-99	100-249	250-999
38F840	77MIP4	4	.36	.29	.26	.20
38F841	77MIP5	5	.39	.32	.28	.22
38F842	77MIP6	6	.43	.35	.31	.24
38F843	77MIP7S	7S	.46	.38	.33	.26
38F845	77MIP8	Octal	.39	.31	.28	.22
38F846	*88-8	Octal	.45	.37	.32	.25
38F847	*88-8X	Loktal	.67	.54	.48	.37
38F848	77MIP9	9	.44	.36	.32	.25
38F849	77MIP11	11	.45	.37	.33	.25
39F1244	†77MIP11T	11	.55	.44	.39	.30
38F850	77MIP12	12	.53	.43	.38	.29
39F149	77MIP20	20	1.02	.84	.73	.57

PRINTED CIRCUIT TYPES

Stk. No.	Type	Prongs	1-49	50-99	100-249	250-999
42F825	77MIP8W-125	8	.48	.39	.34	.27
42F827	77MIP11W-125	11	.57	.47	.41	.32

WIRE WRAP TYPES

42F828	77MIP8W-500	8	.53	.44	.38	.30
42F830	77MIP11W-500	11	.67	.54	.48	.37

TYPE 147 & 59 MINIATURE SOCKETS

147 series mount in ⅝" chassis hole and have ⅞" mounting centers with ⅛" screw holes.
59 series mount in ¾" chassis hole and have 1⅛" mounting centers with .095" rivet holes. All are Bottom-Mounting Type-Fig. A except those with *, which are Top-Mounting Type-Fig. B. (Tube Shield Base included) Shpg. wt. 2 oz.

Stock No.	Type	Insul.	Pins	1-49	50-99	100-249	250-999
38F870	147-500	Bakelite	7	.58	.47	.41	.32
38F872	147-505	Mica	7	.60	.49	.43	.33
38F875	147-905*	Bakelite	7	.70	.57	.50	.39
38F873	59-409	Bakelite	9	.62	.50	.44	.34
38F874	59-410	Mica	9	.63	.52	.46	.36

MINIATURE RETAINER RING SOCKETS

For installation in compact electronic equipment. Black molded bakelite bodies. Mount in ⅝" round or "D" shaped hole with ring provided. Wt. 2 oz.

Stock No.	Type	Prongs	1-49	50-99	100-249	250-999
38F825	78-S3S	3	.21	.17	.15	.12
38F826	78-S4S	4	.31	.25	.22	.18
38F827	78-S5S	5	.33	.27	.24	.18
38F828	78-S6S	6	.33	.27	.24	.18

SOLDER TERMINALS

Stock No.	Type	Prongs	1-49	50-99	100-249	250-999
38F810	78S4	4	.38	.28	.25	.20
38F811	78S5	5	.37	.30	.27	.21
38F812	78S6	6	.41	.33	.29	.23
38F816	78S8	Octal	.35	.29	.25	.20
39F1045	78S8T*	8	.41	.33	.29	.23
38F817	78S9	9	.40	.32	.29	.22
38F821	78S11	11	.46	.37	.32	.26
39F1046	78S11T*	11	.52	.42	.37	.29

PRINTED CIRCUIT TYPES

Stock No.	Type	Prongs	1-49	50-99	100 249	250-999
42F814	78S8W-125	8	.44	.36	.31	.24
42F816	78S11W-125	11	.48	.39	.34	.27

TYPE RSS STEATITE SOCKETS

Low-Loss steatite for high frequency transmitters, amplifiers, and power supplies. Ideal for use in high temperatures. Mtg. hole, 1 3/16". Universal removable mounting plate with slotted holes. Shpg. wt. 3 oz.

Stock No.	Type	Prongs	1-49	50-99	100-249	250-999
38F860	49RSS4	4	1.44	1.17	1.03	.80
38F865	49RSS8	Octal	1.59	1.29	1.13	.88

146-817

146-103, 146-104

RELAY SOCKETS

Type 146-817. 11 contact socket with 4 molded-in threaded inserts. 600 V. RMS, 10 Amps. **Type 146-103**. 8 contact standard socket without tie point inserts top mounted. Molded in one piece of Melamine. Removable contacts. 1250 V. RMS, 5 Amps. **Type 146-104**. 8 contact socket with 4 molded-in threaded inserts for tie points. Top mounted. Molded in one piece of Melamine. Removable contacts.
Type 146-203. Same as 146-103 above except bottom mounted.
Type 146-204. Same as 146-104 above except bottom mounted.

Stock No.	Type	Wt.	1-49	50-99	100-249	250-999
38F930	146-103	8 oz.	2.17	1.87	1.61	1.19
38F931	146-104	8 oz.	2.70	2.20	1.94	1.49
38F933	146-203	8 oz.	2.17	1.87	1.61	1.19
38F934	146-204	8 oz.	2.70	2.20	1.94	1.50
39F1247	146-817	10 oz.	4.67	3.80	3.35	2.59

Connectors

AMPHENOL® CONNECTORS FROM BUNKER RAMO

MINIATURE CABLE CONNECTORS

E

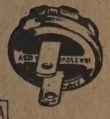
F

G

For cables up to six conductors. Bakelite elements are housed in cadmium plated brass shells. Plugs are 1 3/16" long. Chassis units mount on 1 1/4" centers. Suffix "L" in Type—long (1 3/16") "S" short (13/16").

Stk. No.	Type	Fig.	Cont.	1-49	50-99	100-249	250-499
39F080	91-MPF-3L	E	3	.68	.57	.48	.43
39F3000	91-MPF3S	E	3	.66	.56	.41	.36
39F082	91-MPM3L	E	3	.56	.47	.41	.36
39F3001	91-MPM3S	E	3	.56	.47	.41	.36
39F081	91-MPF4L	E	4	.73	.61	.52	.46
39F3002	91-MPF4S	E	4	.70	.59	.51	.45
39F083	91-MPM4L	F	4	.62	.53	.45	.40
39F084	91-MPM5L	F	5	.65	.54	.46	.41
39F3003	91-MPM4S	F	4	.62	.53	.45	.40
39F085	91-MPM6L	F	6	.64	.53	.46	.41
39F090	78-PCG3	G	3	.69	.56	.49	.38
39F091	78-PCG4	G	4	.83	.67	.59	.46
39F092	78-PCG5	G	5	.86	.71	.62	.48
39F093	78-PCG6	G	6	.88	.72	.63	.49

RECEPTACLES AND PLUGS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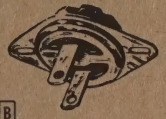

B

C

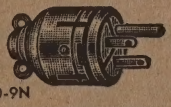
Mount on or below panels, or with cable terminals. Rates 110 volts, 15 amps or 250 volts, 10 amps. Bakelite insulation. Retainer ring types require 1 11/64" hole. Mounting plate types require 1 9/32" hole & mounting centers, slotted 1 1/2" to 1 7/8"; recessed shell types require 1 3/8" hole with mounting centers, 1 3/4". Two pole female receptacles take standard or polarized plugs. Fig. A with retainer ring. Fig. B with removable mounting plate. Fig. C with recessed shell. U.L. Approved. Av. shpg. wt. 3 oz.

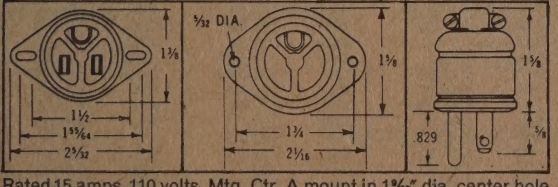
Stk. No.	Type	Poles	Descrip.	Fig.	1-49	50-99	100-249	250-499
39F100	61-F	2	Fem. univ.	A	.59	.49	.43	.38
39F101	60-F	3	Fem. Pol.	A	.67	.56	.48	.43
39F102	61-M	2	Male Std.	A	.64	.53	.45	.40
39F104	60-M	3	Male Pol.	A	.81	.68	.59	.51
39F105	61-F1	2	Fem. univ.	B	.68	.57	.51	.45
39F106	60-F1	3	Fem. Pol.	B	.78	.65	.56	.49
39F110	61-F10	2	Fem. univ.	C	.86	.72	.64	.57
39F116 Type 61-MIP-61F Molded in plate receptacle. Takes 2 pole plug.					.63	.55	.45	.40

2-POLE GROUNDING TYPE RECEPTACLES AND PLUGS

160-2N

160-4N

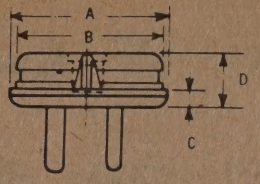

160-9N

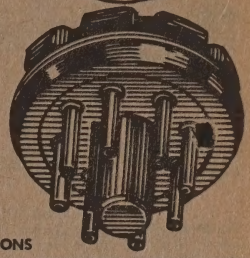


Rated 15 amps, 110 volts. Mtg. Ctr. A mount in 1 9/32" dia. center hole and two 9/32" holes on 1 1/2" to 1 55/64" centers. Mtg. Ctr. B. mount in 1 1/16" hole; two 9/32" screw holes on 1 3/4" centers. Mtg. Ctr. C. 3/16" I.D. grommet or clamp to 3/8" O.D. Mtg. Ctr. D meets MIL-M-14F req. Mount in 1 11/64" keyed hole. Wt. 3 oz.

Stk. No.	Type	Description	Mtg. Ctr.	1-49	50-99	100-249	250-499
39F1230	160-2-N	Fem. MIP	A	1.42	1.19	1.01	.89
39F1231	160-3-N	Male MIP	A	1.96	1.64	1.41	1.22
39F1232	160-4-N	Fem. Flush Mtr.	B	1.65	1.38	1.18	1.04
39F1233	160-5-N	Male Flush Mtr.	B	2.16	1.81	1.55	1.37
39F1236	†160-8-N	Fem. Shl'd	C	1.58	1.32	1.14	1.00
39F1237	†160-9-N	Male Shl'd	C	1.99	1.65	1.41	1.23
39F1238	160-10-N	Fem. Insert	D	1.32	1.11	.94	.84
39F1239	160-11-N	Male Insert	D	1.58	1.32	1.13	1.00

TYPE "CP" PLUGS





Can be assembled in any one of the plug caps or receptacle shells. Ideal for use as chassis connectors, with plug-in units. Plugs with 4, 5, 6 and 7 contacts do not have center guide post. Current rating is 5 amps except (†3) amps. (*) Mica filled phenolic. Molded-in contacts are nickel plated brass. Size: 1 3/4x1 1/16". Wt. 2 oz.

DIMENSIONS

Part No.	A	B	C	D
86-CP4, -CP5, -CP6	1 1/4	1 5/32	5/32	7/16
86-CP8, -CP9, -CP11, -CP12	1 1/4	1 5/32	.145	7/16

Stk. No.	Type	Contacts	1-49	50-99	100-249	250-999
42F030	86-CP4	4	.43	.35	.31	.24
42F031	86-CP5	5	.44	.36	.31	.24
42F032	86-CP6	6	.47	.38	.34	.26
42F034	86-CP8	8 octal	.47	.38	.34	.26
42F035	86-CP8T*	8	.48	.39	.35	.27
42F036	86-CP9	9	.48	.39	.35	.27
42F037	86-CP11	11	.49	.40	.36	.28
42F038	86-CP12†	12	.51	.41	.36	.28

CAPS AND CABLE CLAMPS

3-CC4

3-13

3-858

Sturdy caps provide protected, attractive cable terminations when assembled with retainer type plugs and sockets. May be used with all grooved connectors. Steel caps are intended only as a protective housing and are not to be used in applications requiring frequent mating and unmating of connectors. For cable to cable or cable to panel applications, use molded thermo-plastic caps which have a strain relief grip. 3-858. Avg. shpg. wt. 2 oz.

Stk. No.	Type	Description	1-49	50-99	100-249	250-999
42F017	3-13	Cap. with end grommet	.23	.20	.17	.13
39F150	3-CC4	Cable Clamp	.23	.20	.17	.13
38F1400	3-858	Thermoplastic, end outlet	.42	.35	.30	.22

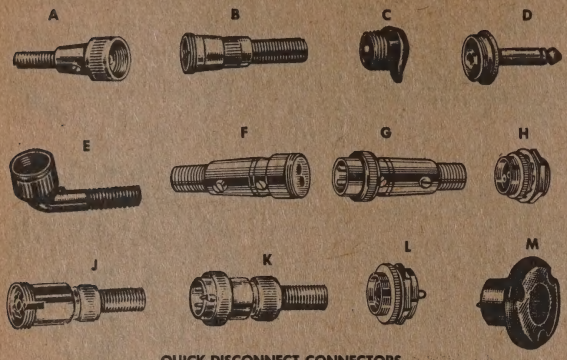
STEEL MOUNTING SHELLS

Type 23-1S extends 13/16" above or below chassis. Mounts in 1 3/4" hole. 3 notch holes for #6 screws. Type 61-61 recesses 1 3/16" only. Mounts in 1 7/16" hole. Two 9/32" screw holes on 1 3/4" center. Shpg. wt. 5 oz.

61-23

61-61

Stock No.	Type	1-49	50-99	100-249	250-499
39F1243	61-61	.25	.22	.20	.17
39F1242	61-23	.34	.28	.25	.20



QUICK-DISCONNECT CONNECTORS

Fig. M Body is high grade zinc alloy. Gold plated contacts for easy soldering. Nickel finish insures resistance to corrosion. M—Male; F—Female. Shpg. wt. 5 oz.

Stk. No.	Type	Con.	Desc.	1-49	50-99	100-249	250-499
39F151	91-853	3M	Plug	2.27	1.95	1.70	1.49
39F152	91-854	3F	Jack	3.01	2.59	2.27	1.98
39F153	91-855	3M	Recpt.	1.77	1.51	1.32	1.16
39F154	91-856	3F	Recpt.	4.18	3.59	3.13	2.75
39F155	91-857	4M	Plug	2.43	2.09	1.83	1.20
39F156	91-858	4F	Jack	3.42	2.94	2.57	2.25
39F157	91-859	4M	Recpt.	1.91	1.65	1.44	1.26
39F158	91-860	4F	Recpt.	4.50	3.87	3.37	2.95

SINGLE BUTTON CONTACT

Stk. No.	Type	Fg.	Con.	Desc.	1-49	50-99	100-249	250-499
39F000	75-MC1F	A	1	Plug	1.02	.85	.74	.69
39F001	75-MC1M	B	1	Jack	.70	.60	.52	.47
39F002	75-PC1M	C	1	Receptacle	.70	.60	.50	.45
39F003	75-MC1P	D	1	Phone Plug Adapter	.99	.82	.71	.63
39F004	75-MC1FA	E	1	90° Plug	2.15	1.89	1.75	1.66

SINGLE CONTACT

For standard audio equipment. Plugs can be converted to jacks by removing coupling ring. Mounts in .385" holes when grounded.

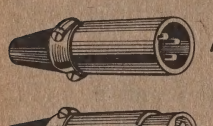
FOR USE WITH SHIELDED CABLE

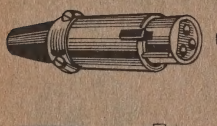
39F007	80-M	...	1M	Plug	1.11	.92	.79	.70
39F008	80-C	...	1F	Recpt.	.87	.74	.63	.56
39F009	80-MC2F	G	2F	Jack	1.24	1.04	.89	.78
39F1284	80-MC2F1	...	2F	Plug	1.24	1.04	.89	.78
39F010	80-MC2M	H	2M	Plug	1.17	.96	.84	.72
39F1285	80-MC2M1	...	2M	Jack	1.17	.96	.84	.72
39F011	80-PC2F	J	2F	Recpt.	.99	.82	.71	.61
39F1286	80-PC2M	...	2M	Recpt.	.96	.80	.68	.60

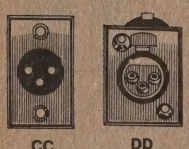
THREADED COUPLING MIKE CONN.

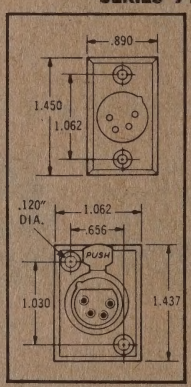
39F012	91-MC3F	K	3F	Jack	1.50	1.25	1.08	.94
39F1287	91-MC3F1	K\	3F	Plug	1.56	1.30	1.11	.97
39F013	91-MC3M	L	3M	Plug	1.47	1.22	1.05	.92
39F1288	91-MC3M1	L	3M	Jack	1.40	1.17	1.00	.89
39F014	91-PC3F	M	3F	Recpt.	1.06	.89	.76	.66
39F1289	91-PC3M	.	3M	Recpt.	.95	.80	.68	.60
39F015	91-MC4F	K	4F	Jack	1.55	1.29	1.11	.97
39F1290	91-MC4F1	.	4F	Plug	1.63	1.35	1.16	1.01
39F016	91-MC4M	L	4M	Plug	1.53	1.27	1.10	.96
39F1291	91-MC4M1	.	4M	Jack	1.47	1.24	1.05	.92
39F017	91-PC4F	M	4F	Recpt.	1.01	.85	.75	.63
39F1292	91-PC4M	.	4M	Recpt.	.97	.80	.68	.61

SERIES 91 EXCELLITE MIC CONNECTORS









Low-level circuit cable connectors. Fully interchangeable with all industry standard latch-lock type audio connectors. Thermo-plastic body. Nickel plated. 50% lighter than zinc die-cast connectors. Pushbutton latching mechanism. Mechanical cable clamp accepts cables from .250" to .313" O.D. Copper alloy contacts. Unitized inserts. Solder cup type contacts. Positive ground. Polarization key of female connector, lock-in key-way on male to prevent mismating. 20°F to 160°F temp. rating. Insulation resistance exceeds 100 megohms.

Stock No.	Type No.	Description	Fig.	Con.	1-49	50-99	100-249
39F3007	91-454	Female plug	CC	3	1.71	1.44	1.29
39F3008	91-458	Female plug	CC	4	2.16	1.80	1.61
39F3009	91-462	Female plug	CC	5	3.72	1.15	2.79
39F3004	91-453	Male Plug	AA	3	1.44	1.23	1.08
39F3005	91-457	Male plug	AA	4	1.60	1.37	1.19
39F3006	91-461	Male plug	AA	5	2.55	2.20	1.95
39F3010	91-455	Male recpt.	DD	3	1.31	1.11	.96
39F3011	91-459	Male recpt.	DD	4	1.56	1.32	1.16
39F3012	91-463	Male recpt.	DD	5	1.98	1.71	1.48
39F3013	91-456	Female recpt.	BB	3	2.38	2.03	1.77
39F3014	91-460	Female recpt.	BB	4	2.28	1.95	1.70
39F3015	91-464	Female recpt.	BB	5	3.36	2.88	2.52

AMPHENOL RF CONNECTOR CROSS INDEX

This is not a complete listing of military part numbers manufactured by Amphenol, but only a list of items which are stocked by Newark Electronics.

CW-( )/U	Amph No.
123	31-006
155	31-007
155A	31-027
159	31-017
282	31-210
M-( )	**Amph No.**
358	83-1T
359	83-1AP
359A	83-58
MX-( )/U	**Amph No.**
913	82-106
1142	82-512
1530	1050
NT-( )	**Amph No.**
49190	83-1SP
49190	83-822
49191	83-1J
49192	83-1AP
49192A	83-58
49293	83-1H
49194	83-1RTY
49194	83-1R
49195	83-1SPN
49195	83-756
49199	83-1T

NT-( )	Amph No.
491049	83-1F
PL-( )	**Amph No.**
258	83-1J
259	83-1SP
259	83-1SP-1050
259	83-822
259A	83-1SPN
259A	83-756
275	83-22F
SO-( )	**Amph No.**
239	83-1R
239	83-1RTY
239A	83-798
UG-( )/U	**Amph No.**
18B	82-86
18C	82-203
21B	82-61
21C	82-96
21D	82-202
21E	82-3202
22B	82-62
22D	82-208
22E	82-3208
23B	82-63
...	...

UG-( )/U	Amph No.
23C	82-94
23D	82-209
23E	82-3209
27A	82-64
27B	82-98
27C	82-213
28A	82-99
29A	82-65
29B	82-101
30	82-66
30C	82-201
30D	91100
57B	82-100
58	82-24
58A	82-97
59A	82-38
59B	82-804
60A	82-39
60B	80-814
88	31-002
88B	31-018
88C	31-202
88E	31-3202
89	31-005
89A	31-019
...	...

UG-( )/U	Amph No.
89B	31-205
94A	81-84
95A	82-89
102	83-22SP
103	83-22R
104	83-22AP
106	83-1H
107A	83-26
107B	82-102
111	83-750
154	82-59
177	83-765
201A	31-216
212A	82-91
254A	31-016
260	31-012
260A	31-021
260B	31-212
261	31-015
261B	31-215
261B	31-211
273	31-028
274	31-008
274A	31-208
274B	31-2208
...	...

UG-( )/U	Amph No.
290	31-003
290A	31-203
291B	31-201
306	31-009
306A	31-209
318	26700
349A	31-217
352	82-80
358	82-21SP
363	83-1F
414	47000
421	6275
422	6225
491A	31-218
492A	31-220
492D	31-3220
496	82-92
536	34000
536B	34025
560	82-805
564	82-508
565A	82-540
567A	82-535
568	82-504
569	82-505
...	...

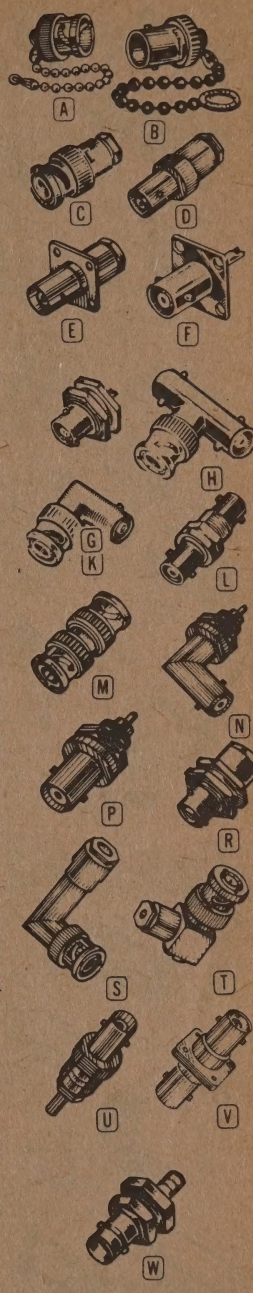
UG-( )/U	Amph No.
572	82-503
573A	82-530
625B	31-236
628A	82-532
634	82-515
643	82-514
646	83-1AP
657	31-102
703	82-511
709A	82-534
710A	82-531
909	31-206
910	31-207
912	31-238
913	31-204
914	31-219
932A	27975
1033	84975
1051	2175
1094	31-221
1094A	31-2221
1098	31-222
1185	82-312
1186	82-313
1187	82-314
1213	82-320

RF Products

AMPHENOL® CONNECTORS FROM BUNKER RAMO

TYPE BNC CONNECTORS

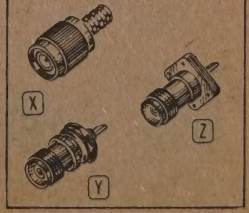
Stock No.	Type P/N	RG/U Cables	Fig	Mil Number	Description	1-24	25-99	100-499	500-999
40F6318	31-4321	59,62,140,210	W	M39012/16-0015	Plug (Crimp)	1.72	1.34	1.10	.95
39F1446	31-321	59,62,140,210	W	M23329/3-05	Plug (Crimp)	1.72	1.34	1.10	.95
39F029	68175	59,62,140,210	W	....	Plug (Crimp)	1.48	1.15	.95	.81
39F1044	31-359	59,62,140,210	W	....	Plug (Crimp)	4.56	3.56	2.92	2.51
40F6319	31-4320	58,141	W	M39012/16-0013	Plug (Crimp)	1.66	1.29	1.06	.91
39F1438	31-320	58,141	W	M23329/3-01-03	Plug (Crimp)	1.72	1.34	1.10	.95
39F1072	36775	58,141	W	....	Plug (Crimp)	1.48	1.15	.95	.81
39F1042	31-351	58,141	W	....	Plug (Crimp)	4.46	3.48	2.85	2.45
40F6320	31-4326	55,142,223	W	M39012/16-0014	Plug (Crimp)	2.00	1.56	1.28	1.10
39F1442	31-326	55,142,223	W	M23329/3-02-04	Plug (Crimp)	1.66	1.29	1.06	.91
39F1082	36875	55,142,223,400	W	....	Plug (Crimp)	1.54	1.20	.99	.85
40F6321	31-315	174,188	W	....	Plug (Crimp)	2.50	1.95	1.60	1.38
39F1454	31-323	180	W	....	Plug (Crimp)	2.16	1.68	1.38	1.19
40F6322	31-321-1000	Belden 8281	W	....	Plug (Crimp)	1.92	1.50	1.23	1.06
40F6323	31-3302	59,62,71,140,210	C	....	Plug (Clamp)	1.64	1.28	1.05	.90
39F065	31-012	59,62,71,140,210	C	....	Plug (Clamp)	1.36	1.06	.87	.75
39F1006	31-021	59,62,71,140,210	C	....	Plug (Clamp)	1.38	1.08	.88	.75
39F1027	31-212	59,62,71,140,210	C	....	Plug (Clamp)	1.26	.98	.81	.69
39F1223	31-304	59,62,71,140,210	C	....	Plug (Clamp)	2.24	1.75	1.43	1.23
40F6324	31-3301	55,58,141,142,223,400	C	....	Plug (Clamp)	1.46	1.14	.93	.80
39F063	31-002	58,141,142,400	C	....	Plug (Clamp)	1.06	.83	.68	.58
39F1003	31-018	58,141,142,400	C	....	Plug (Clamp)	1.22	.95	.78	.67
39F1018	31-202	55,58,141,142,223,400	C	....	Plug (Clamp)	1.10	.86	.70	.61
39F1220	31-301	55,58,141,142,223,400	C	....	Plug (Clamp)	2.10	1.64	1.34	1.16
39F1335	84975	122,195	C	....	Plug (Clamp)	2.36	1.84	1.51	1.30
40F6325	69475	174,179,187,188	C	....	Plug (Clamp)	2.70	2.11	1.73	1.50
39F1447	31-336	59,62,140,210	...	....	Angle Plug (Crimp)	6.10	4.76	3.90	3.35
39F1439	31-335	58,141	...	....	Angle Plug (Crimp	6.04	4.71	3.87	3.32
39F1040	31-850	59,62,71,140,210	T	....	Angle Plug (Clamp	4.90	3.82	3.14	2.69
39F1020	31-204	55,58,141,142,223,400	S	....	Angle Plug (Clamp	4.02	3.14	2.57	2.21
40F6326	31-4327	58,141	...	....	Cable Jack (Crimp)	2.28	1.78	1.46	1.25
40F6327	31-4328	59,62,140,210	...	....	Cable Jack (Crimp)	2.42	1.89	1.55	1.33
40F6328	31-4342	58,141	W	....	Bulkhead Jack (Crimp)	3.28	2.56	2.10	1.81
39F1449	31-4343	59,62,140,210	W	....	Bulkhead Jack (Crimp)	3.18	2.48	2.04	1.75
39F064	31-005	58,141,142,400	D	....	Cable Jack (Clamp)	1.70	1.33	1.09	.94
30F1021	31-205	55,58,141,142,223,400	D	....	Cable Jack (Clamp)	1.30	1.01	.83	.72
39F066	31-015	59,62,71,140,210	D	....	Cable Jack (Clamp	1.96	1.53	1.25	1.08
39F1028	31-215	59,62,71,140,210	D	....	Cable Jack (Clamp)	1.66	1.29	1.06	.91
39F1022	31-206	58,141,142,400	R	....	Bulkhead Jack (Clamp)	1.98	1.54	1.27	1.09
39F1023	31-207	59,62,71,140,210	R	....	Bulkhead Jack (Clamp)	2.00	1.56	1.28	1.10
39F070	31-001	58,141,142,400	E	....	Panel Jack (Clamp)	3.04	2.37	1.95	1.67
39F1017	31-201	58,141,142,400	E	....	Panel Jack (Clamp)	2.02	1.58	1.29	1.11
39F1026	31-211	59,62,71,140,210	E	....	Panel Jack (Clamp)	2.50	1.95	1.60	1.38
40F6329	18225	....	F	....	Panel Recpt, PC Pins	4.80	3.74	3.07	2.64
39F069	31-003	....	F	....	Panel Recpt, 3-56 Tapped Flange	1.30	1.01	.83	.72
39F1019	31-203	....	F	....	Panel Recpt, 3-56 Tapped Flange	1.10	.86	.70	.61
39F1311	4500	....	F	....	Panel Recpt, .136" Dia. Flange	1.90	1.48	1.22	1.05
38F1322	31-010	....	P	....	Bulkhead Recpt., isolated	1.56	1.22	1.00	.86
40F6330	31-3376	....	P	....	Bulkhead Recpt., Gold pltd. Cont.	1.10	.86	.70	.60
39F075	31-221	....	P	....	Bulkhead Recpt.	.84	.66	.54	.46
39F3130	31-2221	....	P	....	Bulkhead Recpt.	1.04	.81	.67	.57
39F1337	31-236	....	P	....	Bulkhead Recpt.	.90	.70	.58	.50
39F1312	5575	....	P	....	Bulkhead Recpt.	1.16	.90	.74	.64
39F073	31-102	....	P	....	Bulkhead Recpt., Pressurized	1.60	1.25	1.02	.88
39F1001	31-016	....	G	....	Bulkhead Recpt., Rear Mnt, Press.	7.46	5.82	4.77	4.10
39F1339	31-238	....	P	....	Bulkhead Recpt. Hermetic	2.48	1.93	1.59	1.36
39F1034	31-222	....	N	....	Bulkhead Recpt., Angle	4.64	3.62	2.97	2.55
39F1002	31-017	....	A	....	Male Cap, Shorting Contact	1.66	1.29	1.06	.91
39F1000	31-006	....	A	....	Male Cap	1.18	.92	.76	.65
39F1009	31-026	....	A	....	Male Cap	1.02	.80	.65	.53
39F1010	31-027	....	A	....	Male Cap	.62	.48	.40	.34
39F1025	31-210	....	B	....	Female Cap	1.04	.81	.67	.57
39F1035	31-759	...	...	....	Shield Grounding Lug	.28	.22	.18	.15
39F1031	31-218	...	M	....	Adapter (Plug-Plug)	2.84	2.22	1.82	1.56
39F1032	31-219	...	...	....	Adapter (Jack-Jack)	1.64	1.28	1.05	.90
39F071	31-009	...	K	....	Adapter (Angle) (Jack-Plug)	3.30	2.57	2.11	1.82
39F1071	31-209	...	K	....	Adapter (Angle) (Jack-Plug)	3.38	2.64	2.16	1.86
39F1331	47000	...	L	....	Adapter (Panel Mnt. Jack-Jack)	3.22	2.51	2.06	1.77
39F1033	31-220	...	V	.....	Adapter (Blkhd. Mnt. Jack-Jack)	3.32	2.59	2.12	1.83
39F068	31-008	...	H	....	Adapter-Tee (Jack-Plug-Jack)	3.62	2.82	2.32	1.99
39F1024	31-208	...	H	....	Adapter-Tee (Jack-Plug-Jack)	3.48	2.71	2.23	1.91

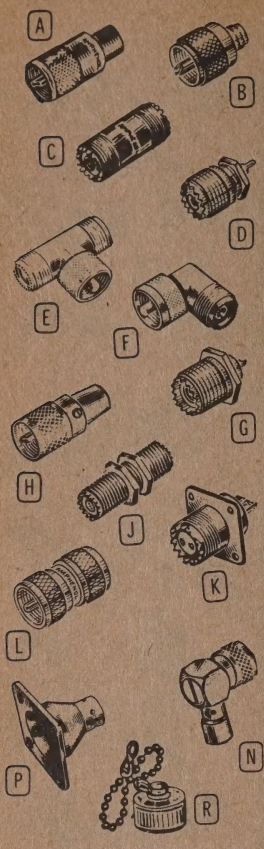


TYPE TNC CONNECTORS

Threaded coupling TNC connectors are designed for aircraft, missile and other applications where extreme vibration may occur. Small, weatherproof. Constant impedance of 50 ohms. Teflon insulation.

Stock No.	Type	Fig.	RG/U Cable	Description	1-24	25-99	100-499	500-999
40F6331	31-2373	X	55,142,223	Plug(crimp)	1.60	1.25	1.02	.88
40F6332	31-2367	X	58,141	Plug(crimp)	1.90	1.48	1.22	1.05
40F6333	31-2315	X	174,188	Plug(crimp)	2.94	2.29	1.88	1.62
40F6334	31-2300	Y	Front Mount	Panel Receptacle	2.02	1.58	1.29	1.11
40F6335	31-2301	Z	Solder cup contacts	Bulkhead Receptacle	1.94	1.51	1.24	1.07





UHF CONNECTORS

Threaded coupling UHF series are low-cost, general purpose connectors used in applications at lower frequencies where no serious mismatch is introduced. They will operate satisfactorily at frequencies up to 300 MHz and have a peak voltage rating of 500 volts.

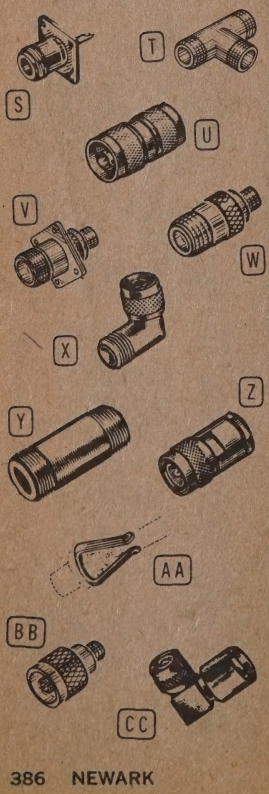
Stk. No.	Type	Mil No.	Fig.	Descrip.	RG/U Cable	1-24	25-99	100-499	500-999
39F194	83-8SP	. . .	B	Plug	8,11,149,213	1.06	.83	.68	.58
39F188	83-1SP1050	PL-259	A	Plug	8,9,11	.80	.64	.56	.54
39F189	83-58SP	. . .	B	Plug	58,141	1.04	.81	.67	.57
39F190	83-59SP	. . .	B	Plug	59,62	1.04	.81	.67	.57
39F1075	83-58FCP	. . .	H	Plug	58	.80	.64	.56	.54
39F191	83-875 1002	. . .	D	Blkd. recpt.	. . . .	2.60	2.03	1.66	1.43
39F192	83-878	. . .	G	Blkd recpt	. . . .	1.00	.78	.64	.55
39F193	83-877	. . .	L	Adapter	Plug-plug	1.78	1.39	1.14	.98

Stock No.	Type	Jan Type	Fig.	Descrip.	For RG-/U Cables	1-24	25-99	100-499	500-999
39F034	83-1T	M-358	E	Tee adapter	. . .	3.28	2.56	2.10	1.80
39F1060	83-58	M-359A	F	90° adapter	. . .	2.95*	2.42	2.03	1.75
39F035	83-1J	PL-258	C	St. adapter	. . .	1.24	.97	.79	.68
39F030	83-1SP	PL-259	H	Plug (1)	. . .	.80	.64	.56	.54
39F031	83-1SPN	PL-295A	H	Plug	8-13,63	2.16	1.68	1.38	1.19
39F047	83-22F	PL275	J	Bulk adapter	8-12	6.30	4.91	4.03	3.47
39F039	83-1R	SO-239	K	Receptacle	57,130	.74	.58	.47	.41
39F037	83-1H	UG-106/U	P	Hood	22	.96	.75	.61	.53
39F1064	83-750	UG-111/U	H	Plug	140,210	1.48	1.15	.95	.81
39F040	83-185	UG-175/U	C	Reducing adap	58,141,142	.25	.20	.17	.15
39F041	83-168	UG-176/U	C	Reducing adpt.	59,62,71,140,210	.25	.20	.17	.15
39F038	83-765	UG-177/U	P	Hood	58,141	.76	.59	.49	.42
39F032	83-776	UG-203/U	H	Plug	58,141	3.30	2.57	2.11	1.82
39F036	83-1F	UG-363/U	J	Bulk adapter	. . .	3.40	2.65	2.18	1.87
39F033	83-1AP	UG-646/U	C	90° adapter	. . .	2.10	1.64	1.34	1.16
39F042	83-1AC	. . .	R	Cap & chain	. . .	1.24	.97	.79	.68
39F1052	83-1RTY	SO-239	K	Receptacle	. . .	1.50	1.17	.96	.83
39F1061	83-59	. . .	N	90° Plug	17,18	4.60	3.59	2.94	2.53
39F1063	83-716	. . .	K	Receptacle*	. . .	6.50	5.07	4.16	3.58
39F049	83-798	SO-239A	K	Panel Receptacle	. . .	1.50	1.17	.96	.83
39F1225	83-822	PL259	H	Plug Teflon	. . .	1.20	.94	.77	.66
39F088	83-850	. . .	A	Solderless plug	11	5.46	4.26	3.49	3.00
39F089	83-851	. . .	A	Solderless plug	8-13,63	4.00	3.12	2.56	2.20

*Pressurized types **NOTES:** 1) Silver plated body

TYPE N CONNECTORS

Series N connectors are medium size, weatherproof, threaded coupling units with a frequency limit of 11 GHZ. They have a peak voltage rating of 1500 volts and are impedance matched to either 50 or 70 ohm cables.



Stk. No.	Type	Jan Type	Fig.	Description	For RG-/U Cables	1-24	25-99	100-499	500-999
39F1108	82-96	UG-21C/U	Z	Plug	8,9,10	2.70	2.11	1.73	1.49
39F019	82-61	UG-21B/U	BB	Plug	8,9,10	2.38	1.86	1.52	1.30
39F1118	82-202	UG-21D/U	Z	Plug	8,9,10	2.28	1.78	1.46	1.25
39F020	82-62	UG-22B/U*	...	Panel Jack	8,9,10	3.28	2.56	2.10	1.80
39F1122	82-208	UG-22D/U	...	Panel Jack	8,9,10	3.10	2.42	1.98	1.70
39F021	82-63	UG-23B/U	W	Jack	8,9,10	2.90	2.26	1.86	1.60
39F1106	82-94	UG-23C/U	...	Jack	8,9,10	2.92	2.28	1.87	1.60
39F1123	82-209	UG-23D/U	...	Jack	8,9,10	2.28	1.78	1.46	1.25
39F076	82-64	UG-27A/U	X	90° Adapter	. . . .	5.54	4.32	3.55	3.05
39F1109	82-98	UG-27B/U	X	90° Adapter	. . . .	5.48	4.27	3.51	3.01
39F1127	82-213	UG-27C/U	CC	90° Adapter	. . . .	4.00	3.12	2.56	2.20
39F1110	82-99	UG-28A/U	T	Tee Adapter	. . . .	5.80	4.52	3.71	3.19
39F077	82-65	UG-29A/U	U	St. Adapter	. . . .	3.36	2.62	2.15	1.85
39F1112	82-101	UG-29B/U	U	St. Adapter	. . . .	3.14	2.45	2.01	1.73
39F022	82-66	UG-30/U	X	Bulk. Adapter	. . . .	5.98	4.66	3.83	3.29
39F1117	82-201	UG-30C/U	. .	Bulk. Adapter	. . . .	5.74	4.48	3.67	3.16
39F1111	82-100	UG-57B/U	U	St. Adapter	. . . .	3.18	2.48	2.04	1.74
39F023	82-24	UG-58/U	S	Receptacle	. . . .	1.64	1.28	1.05	.90
39F028	82-97	UG-58A/U	S	Receptacle	. . . .	1.94	1.51	1.24	1.07
39F024	82-84	UG-94A/U	B	Plug (1)	11-13	3.56	2.78	2.28	1.95
39F1104	82-89*	UG-95A/U	...	Jack (1)	11-13	3.44	2.68	2.20	1.89
39F018	82-36	UG-107A/U	T	Tee Adapter	. . . .	7.74	6.04	4.95	4.26
39F078	82-102	UG-107B/U	T	Tee Adapter	. . . .	7.10	5.54	4.54	3.90
39F1128	82-811	UG-680/U	. . .	Bulk. Recpt.	. . . .	3.80	2.96	2.43	2.09
39F1114	82-106	UG-913/U	R	Cap & chain	. . . .	1.12	.87	.72	.60
39F1115	82-112*	. . . . .	S	Receptacle (1)	. . . .	3.26	2.54	2.09	1.79
39F1129	82-835	. . . . .	CC	Angle Plug	8,9,213,214,225	6.76	5.27	4.33	3.72
39F1340	91100	UG-30D/U	T	Adpg 2F Ends	. . . .	6.30	4.91	4.03	3.45
39F1323	34000	UG-536/U	...	Plug R, 55, 58	. . . .	3.86	3.01	2.47	2.12
39F1324	34025	UG-536B/U	...	Plug R, 55	. . . .	2.16	1.68	1.38	1.19
39F1074	82-340	01-0007	BB	Plug	8,213	2.50	1.95	1.60	1.37
39F195	82-332	01-0008	BB	Plug	9,214	2.52	1.97	1.61	1.39
39F196	82-4352	01-0005	...	Plug	8,9,213,214,225	2.50	1.95	1.60	1.38
39F1187	82-312	UG-1185/U	...	Plug	8,9,213,214,225	2.40	1.87	1.54	1.32
39F1324	4305	UG-536B/U	...	Plug	58,141,142	2.16	1.68	1.38	1.19
39F1188	82-313	UG-1186/U	...	Jack	8,9,213,214	2.64	2.06	1.69	1.45
39F1076	82-337	01-0008	W	Jack	8,213	2.50	1.95	1.60	1.37
39F197	82-4360	02-0006	V	Panel Jack	8,9,213,214,225	3.18	2.48	2.04	1.70
39F198	82-4364	03-0002	...	Blkd Jack	8,9,213,214	4.82	3.76	3.08	2.65
39F199	82-368	02-0002	...	Panel recpt.	. . . .	1.98	1.54	1.27	1.08
39F186	82-369	04-001	...	Blkd recpt	. . . .	4.40	3.43	2.82	2.38
39F1130	82-1275	. . .	AA	Lug	. . . .	.32	.25	.20	.18

*70 ohm impedance

TYPE C CONNECTORS

Constant 50 Ohm impedance Design matched to 50 ohm cables, can also be used with 75 ohm cable, at lower frequencies (below 300 MHz). Peak voltage rating of 1500V and low SWR up to 10 GHz. Thermal limits; -67° to 390°F (-55°C to 199°C). Pressurized; compression seal. 2-stud bay net lock. "V" groove split silicone rubber gasket and peaked braid clam. Weatherproof gaskets. Brass male contact; copper female and outer. Meets military specs of MIL-C-3989.

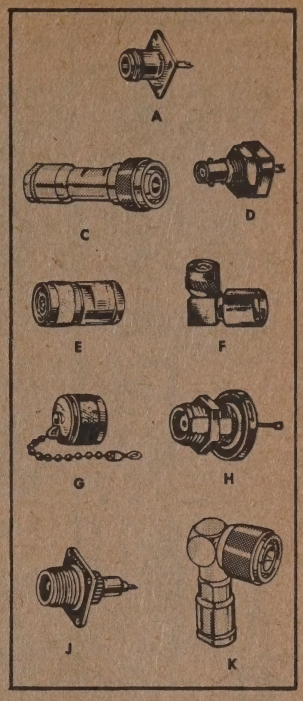
Stk. No.	Type	Jan Type	Fig.	Description	For RG/U Cable	Max. Jkt. Dia.	1-24	25-99	100-499	500-999
39F087	82-530	UG-573A/U	E	Straight Plug	8, 9	.420	3.38	2.64	2.16	1.86
39F1135	82-508	UG-564/U	....	....	....	....	3.38	2.64	2.16	1.85
39F1133	82-504	UG-568/U	A	Panel Receptacle	....	....	3.46	2.70	2.21	1.90
39F1145	82-532	UG-628A/U	E	Straight Plug	8,9A	.420	5.10	3.98	3.26	2.81
39F1140	82-514	UG-643/U	.....	Straight Adapter	....	....	3.93	3.06	2.51	2.16
39F1141	82-515	UG-634/U	D	Bulkhead Recept	....	....	4.74	3.70	3.03	2.55
39F1147	82-534	UG-709A/U	E	Straight Plug	55,58	.206	3.64	2.84	2.33	2.00
39F1144	82-531	UG-710A/U	F	Angle Plug	....	....	7.04	5.49	4.51	3.87

TYPE "HN" CONNECTORS

Constant 50 ohm impedance connectors designed for high voltage applications. Frequency range; 0-4GHz. Voltage Rating; 1,500 V peak. Pressurized; compression seal. Thermal limits; -67° to 390°F (-55° to 199°C). Synthetic and silicone rubber weatherproof. Meets military specs of MIL-C-3643. Brass male contacts; copper female and outer. Dielectric withstanding voltage; 5,000V rms. SWR; 1.3. Contacts are fixed within the connector body by front and rear contact insulators.

Have 5 KV peak rating, when used with Amphenol 307 Silicone compound. Machined brass, 4 oz.

Stk. No.	Type	Jan Type	Fig.	Description	For RG/U Cable	Max. Jkt. Dia.	1-24	25-99	100-499	500-999
39F026	82-804	UG-59B/U	C	Straight Plug	8-10	.420	6.80	5.30	4.35	3.74
39F1150	82-38	UG-59A/V	....	Straight Plug	8-10	.420	6.68	5.21	4.28	3.67
39F1158	82-92	UG-496/U	J	Panel Recept.	....	....	3.84	2.99	2.46	2.11
39F027	82-805	UG-560/U	J	Panel Recept.	....	....	6.32	4.93	4.04	3.48
39F1163	82-130	.....	G	Cap & Chain	54A	....	2.32	1.81	1.48	1.30
39F1166	82-816	.....	C	Straight Plug	8-10	.250	6.70	5.23	4.29	3.68
39F1167	82-833	.....	K	Angle Plug	....	.420	10.72	8.36	6.86	5.90
39F1169	82-843	.....	H	Bulkhead Recept.	8-10	....	9.72	7.58	6.22	5.35
39F1170	82-856	.....	K	Angle Plug	....	.420	11.32	8.83	7.24	6.22



APC-7 7MM CONNECTOR

For use with 7 mm (inner diameter of outer conductor) rigid air line and semi-rigid (ALJAK) coaxial cable. Sexless coupling permits interconnection of two APC-7's. Certified SWR test report included with each pair. MAX. SWR for mated pair: 1.039-18 GHz. $13/16$" dia. $59/64$" length. **Sold in pairs only. Priced per pair.**

Stock No.	Type No.	1-9	10-24	25-49	50-99
41F774	131-1050	113.00	90.00	77.50	71.00

APC-7 to N

APC-7 to SMA

ADAPTERS

APC-7 to N

Stk. No.	Type No.	Max SWR/Sngl Adpt	Type	Each 1-9	9-24	25-49	50-99
41F776	131-1025	1.03 @ 4 GHz	Female	73.50	58.75	50.50	46.25
41F777	131-1035	1.04 @ 9 GHz					
		1.08 @ 18 GHz	Male	69.25	55.50	47.75	43.50

APC-7 to SMA

Stk. No.	Type No.	Max SWR/Sngl Adpt	Type	Each 1-9	9-24	25-49	50-99
41F782	131-1028	1.07 @ 12.4 GHz	Female	69.25	55.50	47.75	43.50
41F783	131-1038	1.15 @ 18 GHz	Male	69.25	55.50	47.75	43.50

SUBMINAX 27 SERIES CONNECTORS

Constant impedance (50 or 75 ohm) types with voltage rating of 500 volts peak and frequency limit of 10 GHz. Two types of coupling mechanisms available-Snap On (push on) for frequent fast mating and limited space; Screw on for vibration type applications. Types do not intermate.

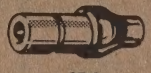
75 OHM

Stock No.	Type No.	Descrip.	RG-C/U Cables	1-24	25-99	100-499	500-999
42F219	27-19	Plug	180,195	1.58	1.23	1.01	.85
42F221	27-21	Recep.	180,195	1.50	1.17	.96	.89

50 OHM

Stock No.	Type No.	Descrip.	RG-C/U Cables	1-24	25-99	100-499	500-999
42F201	27-1	Plug	174,179	1.00	.78	.64	.55
42F202	27-2	Jack	174,179	1.12	.87	.72	.64
42F203	27-3	Recep. Blkh.	.....	1.10	.86	.70	.61
42F204	27-4	Jack Blkh.	174,179	1.82	1.42	1.16	1.00
42F207	27-7	Plug	187,188	1.10	.86	.70	.61
42F208	27-8	Jack	187,188	1.26	.98	.81	.69
42F209	27-9	Receptacle	.....	1.02	.80	.65	.56
42F210	27-10	Jack Blkh.	187,188	1.64	1.28	1.05	.90
42F212	27-12	Recep. Herm.	.....	3.68	2.87	2.36	2.02
42F226	27-26	Angle Plug	187,188	2.50	1.95	1.60	1.38
39F1217	27-28	Adap. Sub.	.....	2.36	1.84	1.51	1.30

27-1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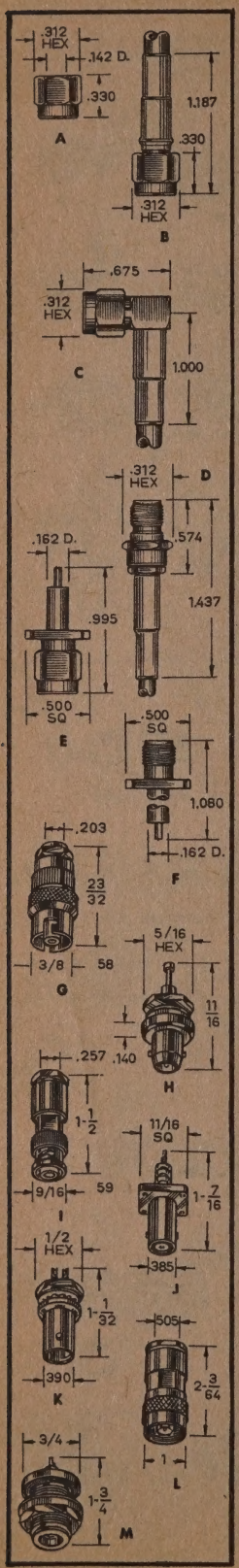


SMA SERIES

50 ohm, semi-precision, subminiature (3mm), high-frequency (0-18 Ghz) connectors with ¼-36 threaded coupling. Meet all MIL-C-39012 requirements for SMA connectors.

Stk. No.	Type	Description	Fig.	1-24	25-99	100-499	500-999
39F3324	901-9183-1	Straight Plug	A	1.82	1.50	1.23	1.08
39F3325	901-9501-3	Straight Plug	B	3.33	2.74	2.24	1.97
39F3326	901-9511-3	Straight Plug	...	4.45	3.66	2.99	2.63
39F3327	901-9601-3	Straight Plug	...	4.67	3.84	3.14	2.76
39F3328	901-9521-3	Angle Plug	C	5.95	4.90	4.00	3.52
39F3329	901-9531-3	Angle Plug	...	5.95	4.90	4.00	3.52
39F3330	901-9602-3	Straight Jack	D	4.74	3.90	3.19	2.81
39F3331	901-9204-CC	Sq. Flange Jack	E	2.75	2.26	1.85	1.63
39F3332	901-9215	Jack	...	2.77	2.28	1.86	1.64
39F3333	901-9214-CC	Plug	F	3.27	2.69	2.20	1.94

MB COAXIAL CONNECTORS

Excellent electrical and mechanical properties at low cost. Extremely small, use up to 500 mc, 500 volts, 400°F. Bayonet lock. Average weight, 4 oz.

Stock No.	Jan Type	Fig.	Description	For RG-/U Cable	Max. Jkt. Dia.	1-24	25-99	100-499	500-999
39F1326	45000	G	Plug	58	.195	2.50	1.95	1.60	1.39
39F1329	46000	H	Receptacle, nylon	....	....	1.98	1.54	1.27	1.10
39F1334	48850	G	Plug with Jacket Clamp	195	....	2.18	1.70	1.40	1.21

MHV COAXIAL CONNECTORS

Miniature high voltage connectors are small bayonet-lock connectors for use up to 50 mc., 5,000 volts, 6 amps. Similar, but do not mate with BNC Connectors. Average Shpg. wt., 4 oz.

Stk. No.	IPC Type	Jan Type	Fig.	For RG-/U Cable	Max. Jkt. Dia.	1-24	25-99	100-499	500-999
39F1321	27000	UG931/U	J	....	....	2.30	1.79	1.47	1.27
39F1322	28000	UG932/U	I	59	.242	2.60	2.03	1.66	1.43
39F1478	27975	UG932A/U	....	59,62,71	....	2.52	1.97	1.61	1.41
39F3334	29100	...	....	55,58,141,142	....	3.70	2.87	2.37	2.04
39F3335	27025	...	....	....	....	3.80	2.96	2.43	2.09

TWIN SERIES

Have a nominal impedance of 95 ohms and are weather-proof. All are polarized to preserve continuity of the individual conductors. These conductors can normally be used at frequencies up to 200 mc, and in some cases to 500 mc with caution. Maximum peak-operating voltage is 500 volts. Type 309-6275 plug for RG-U 22 cable. Average shpg. wt., 4 ounces.

Stk. No.	IPC Type	Jan Type	Fig.	Description	Max. Jkt. Dia.	1-24	25-99	100-499	500-999
39F1314	6275	UG-421/U	....	Plug	.405	6.60	5.15	4.22	3.63
39F1468	31-224	UG108A/U	I	Plug	....	2.92	2.28	1.87	1.61
39F1470	31-223	....	K	Bulkhead Receptable	....	5.40	4.21	3.46	2.97

MISCELLANEOUS CONNECTORS AND ADAPTERS

Stk. No.	Type	Jan Type	Fig.	Description	RG-/U Cables	Max. Jkt. Dia.	1-24	25-99	100-499	500-999
39F1187	82-312	UG-1185/U	....	Plug	8-10,87A,115	.425	2.40	1.87	1.54	1.32
39F1188	82-313	UG-1186/U	....	Jack	8-10,87A,115	.425	2.64	2.06	1.69	1.45
39F1190	82-320	UG-1213/U	....	Plug	8-10,87A,115	.425	6.70	5.23	4.29	3.69

BETWEEN SERIES ADAPTERS

Stk. No.	Type	MIL.	Mates With	1-24	25-99	100-499	500-999
39F1038	31-830	UG-201/U	N female and BNC male	3.68	2.87	2.36	2.02
39F1029	31-216	UG-201A/U	N female and BNC male	2.28	1.78	1.46	1.25
39F074	31-028	UG-273/U	BNC male and UHF female	1.92	1.50	1.23	1.06
39F1030	31-217	UG-349A/U	N male and BNC female	3.72	2.90	2.38	2.05
39F1135	82-508	UG-564/U	C male and N female	3.38	2.64	2.16	1.85
39F1195	82-540	UG-565A/U	C female and N male	6.00	4.68	3.84	3.30
39F1217	27-28	....	BNC female to 50 ohm Screw-on subminax male	2.36	1.84	1.51	1.30
39F1310	4400	UG-146/U	UHF female and N male	4.50	3.51	2.88	2.48
39F1307	2900	UG-255/U	BNC male and UHF female	3.10	2.42	1.98	1.72
39F1320	26700	UG-318/U	N male and UHF female	7.10	5.54	4.54	3.90

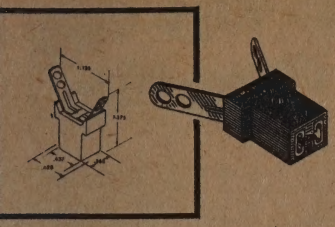
TRIAX SERIES

TRIAX connectors are used in transmission line applications where maximum RF shielding and minimum noise radiation are required. Have an impedance of 50 ohms, but can be used where impedance matching is not critical.

Stk. No.	Type	RG/U	Fig.	Description	1-24	25-99	100-499	500-999
39F3336	53150	58	L	Plug	14.72	11.49	9.43	8.10
39F3337	53175	11	L	Plug	21.92	17.10	14.03	12.06
39F3338	52975	11	....	Jack	28.62	22.32	18.32	15.74
39F3339	34475	....	M	Bulkhead Receptacle	18.60	14.51	11.90	10.23
39F3340	34450	....	M	Bulkhead Receptacle	12.00	9.36	7.68	6.60

Telephone Products AMPHENOL® CONNECTORS FROM BUNKER RAMO

TEST TELEPHONE CONNECTOR



Provides access to any pair of quick-clip contacts in a '66 type" connecting block. TAC pushed into contact pair and test equipment or head phone is attached to the TAC's exposed contacts. Grips contacts firmly to prevent annoying disconnection from line being tested. 1.375"L x 1.437"W x .365"H. Black molded plastic body.

Stock No.	Type No.	1-24	25-99	100-499
61F1714	284-1	.60	.47	.36

DOUBLE-ENDED FEED-THROUGH ADAPTERS

Used to interconnect two plug-ended or two connector-ended cables; or to reverse direction of cable from connection. Since they help alleviate problems in cabling, they are called 'goof plugs'.

Stock No.	Type No.	Kind	1-24	25-99	100-499
61F1719	283-114-01	C-C			
61F1734	283-114-02	C-P			
61F1742	283-114-03	P-P			
61F1750	283-114-04	P-P	10.80	9.71	9.45
61F1725	283-114-05	C-C			
61F1738	283-114-07	...			
61F1746	283-114-08	...			

TERMINAL STRIP ADAPTERS

Permit use of screw type terminal to interconnect with plug-ended system. Permit easy access to desired conductors. Eliminate necessity of cutting off plug or connector and reterminating entire cable. Ribbon connector and one plug with all 50 contacts interwired. Fit in standard 3-way adapter case, measuring 4¼"Lx2½"Wx2¼"H. Plastic outer case available in two colors: -1, gray; -2, beige.

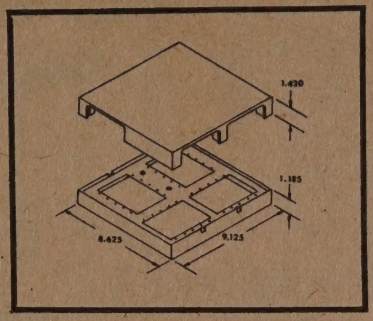
Stock No.	Type No.	Terminals	Contacts	1-24	25-99	100-499
61F1716	283-5-1	6	50,25,49,24,48,23	10.86	9.30	7.74
61F1731	283-5-2	6	50,25,49,24,48,23	10.86	9.30	7.74

25 PAIR CABLE ADAPTERS

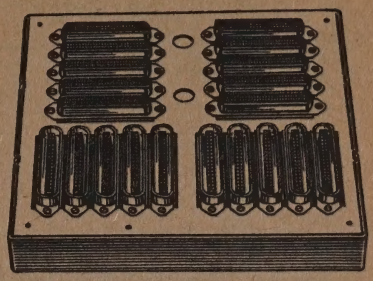
Three-way bridging adapters for 6-button telephones. Compact bridging adapter which contains three interwired 57 Series Micro-Ribbon connecting devices in durable plastic housing. Used to connect one or more 6-button type key telephones to 25 pair cables. **C-P-C:** mates with one incoming 25 pair connector-ended cable from main terminals box or another bridging adapter and extends circuit to two 6-button telephones by mating with plug-ended cable from each. **P-C-P:** interconnects one 25 pair connector-ended cable from main terminal box, one outgoing plug-ended cable to 6-button telephone and one outgoing 25 pair connector-ended cable going to another bridging adapter, thereby extending the circuit. **P-P-P:** interconnects three 25 pair connector-ended cables, one from main or another adapter and two outgoing to other bridging adapters. 4¼"L x 2½"W x 2¼"H. -1=grey color. -2=beige color.

Stock No.	Type No.	Kind	1-24	25-99	100-499
61F1753	283-105-1	C-P-C			
61F1740	283-106-1	P-C-P			
61F1748	283-107-1	C-C-C	10.69	9.61	9.35
61F1729	283-107-2	C-C-C			
61F1752	283-108-1	P-P-P			

100 PAIR CABLE ADAPTERS



Stock No.	Type No.	Kind	1-24	25-99	100-499
61F1744	283-95	CCCCC-CCCCC-PPPPP-PPPPP	96.60	86.94	84.53



• 4-Way Bridging Adapters for 30-Button Key Telephones Contains twenty Series 57 Micro-Ribbon connecting devices. Every fifth one interwired to form 4 completely interconnected sets. Access holes for 5-fingered cables provided on sides of case. Outer Case: 9¼"L x 8¾"W x 2½"H.

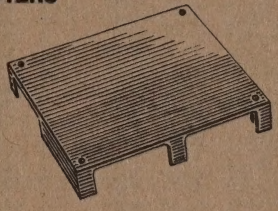
CROSS-OVER ADAPTERS

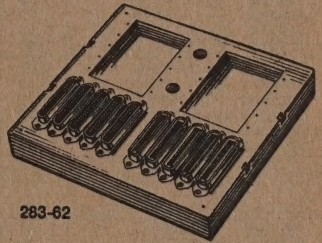
For interconnecting key telephones to cables with different 'odd count-even count' wiring patterns. Series 57 Micro-Ribbon devices interwired to convert one wiring pattern to another. Available in models having 6 interconnecting devices for 18-button key phone and 10 interconnecting devices for 30-button phones. 18-button: 7"L x 5¾"W x 2¾"H. 30-button: 8¾"L x 9¼"W x 2½"H.

62-01. Interconnects 18-button phone with old wiring pattern to 3-fingered cable with new wiring pattern. **62-02.** Interconnects 18-button phone with new wiring pattern to 3-fingered cable with old wiring pattern.

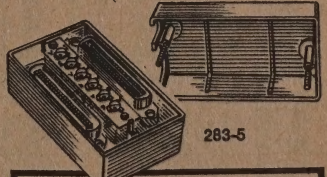
97-01. Interconnects 30-button phone with old wiring pattern to 5-fingered cable with new wiring pattern. **97-02.** Interconnects 30-button phone with new wiring pattern to 5-fingered cable having old wiring pattern.

Stock No.	Type No.	1-24	25-99	100-499
61F1721	283-62-02-1	41.97	35.98	29.99
61F1723	283-97-02-1	69.41	62.48	60.74

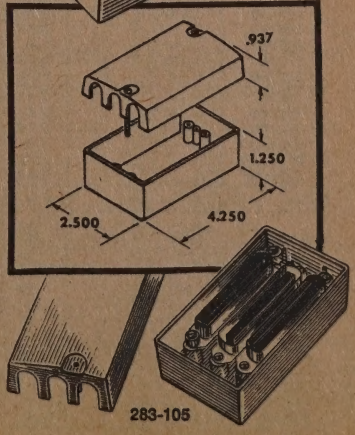




283-62



283-5



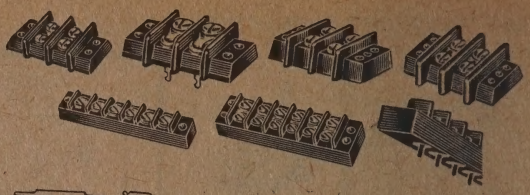
283-105

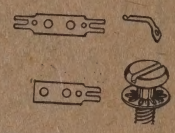
TRW "Jones" Barrier Terminal Blocks

ELECTRICAL SPECIFICATIONS

Series	Max. Volts RMS Without Marker Strip	Max. Volts RMS With Marker Strip	Max. Current In Amps	Max. Watts per Terminal	Wire Size Max. Solid
140	1100	2000	15	3750	#14
141	1100	2400	20	5000	#12
142	1600	2600	30	7500	#12
150	1700	2600	50	12,500	#10
151	1800	3400	70	17,500	#8
152	2100	3800	90	54,000	#6
164	1100	2000	15	3750	#14
171	1000	*	5	625	#18
172	1000	2000	5	625	#16
173	1000	*	5	625	#16
174	1000	*	5	625	#16

*No marker strip available.





3/4 W terminals are for solder attachment of wires on one side of terminal block, W terminals both sides, and Y terminals underneath. Standard terminal block with binder head or SEMS screws can be used for wire or special terminal attachment. U/L Recognized except 173 Series.

Dimensions	Type 140	Type 141	Type 142	Type 150	Type 171	Type 172
Dim. x W x H	⅞″ x 1 3/32″	1⅛″ x ½″	1 5/16″ x ⅝″	1 13/16″ x ¾″	1 3/32″ x 5/16″	⅝″ x 5/16″
Terminal Centers	⅜″	7/16″	9/16″	11/16″	¼″	¼″
Mounting Centers	5/16″	27/64″	½″	⅝″		¼″
Mtg. Hole Dia.	.160″	.180″/.185″	.209″	.160″	.125″	.125″
Screw Size	#5-40	#6-32	#8-32	#10-32	#4-40	#2-56

MATERIALS:
Insulator: molded phenolic
Eyelets: brass, screws: nickel plated steel.
Terminals: hot solder-dipped brass

Series 140. Accommodates up to #14 solid wire.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249
28F700	2-140	2	.32	.28	.23	.19
28F701	3-140	3	.36	.31	.27	.21
28F702	4-140	4	.48	.36	.32	.28
28F703	5-140	5	.57	.47	.37	.33
28F704	6-140	6	.66	.54	.47	.36
28F705	7-140	7	.77	.60	.53	.42
28F706	8-140	8	.87	.71	.58	.48
28F707	9-140	9	.98	.78	.62	.53
28F708	10-140	10	1.05	.86	.74	.57
28F709	11-140	11	1.13	.92	.78	.60
28F710	12-140	12	1.28	1.01	.84	.66
28F869	13-140	13	1.35	1.07	.92	.75
28F870	14-140	14	1.45	1.16	.99	.79
28F871	15-140	15	1.54	1.26	1.03	.83
28F872	16-140	16	1.63	1.32	1.09	.88
28F873	17-140	17	1.75	1.38	1.16	.96
28F874	18-140	18	1.83	1.47	1.25	.99
28F875	19-140	19	1.93	1.53	1.30	1.03
28F876	20-140	20	2.02	1.62	1.36	1.07
28F877	21-140	21	2.14	1.72	1.43	1.11
29F1000	22-140	22	2.19	1.76	1.49	1.21
29F1001	23-140	23	2.29	1.84	1.54	1.26
29F1002	24-140	24	2.45	1.95	1.63	1.31
29F1003	25-140	25	2.55	2.05	1.71	1.36

Series 140-Y. Accommodates up to #14 solid wire.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249
29F749	2-140-Y	2	.39	.32	.29	.23
29F750	3-140-Y	3	.50	.39	.33	.31
29F751	4-140-Y	4	.65	.54	.47	.35
29F752	5-140-Y	5	.80	.63	.55	.45
29F753	6-140-Y	6	.99	.79	.65	.54
29F754	7-140-Y	7	1.07	.87	.75	.57
29F755	8-140-Y	8	1.24	.99	.83	.65
29F756	9-140-Y	9	1.37	1.08	.93	.76
29F757	10-140-Y	10	1.51	1.24	1.02	.82
29F758	11-140-Y	11	1.63	1.32	1.09	.88
29F759	12-140-Y	12	1.80	1.43	1.23	.98
29F760	13-140-Y	13	1.93	1.54	1.31	1.03
29F761	14-140-Y	14	2.08	1.68	1.40	1.10
29F762	15-140-Y	15	2.23	1.79	1.49	1.21
29F763	16-140-Y	16	2.35	1.88	1.57	1.28
29F764	17-140-Y	17	2.49	1.99	1.70	1.35
29F765	18-140-Y	18	2.65	2.13	1.77	1.42
29F766	19-140-Y	19	2.76	2.23	1.85	1.49
29F767	20-140-Y	20	2.91	2.33	1.94	1.54
29F768	21-140-Y	21	3.07	2.46	2.06	1.63
29F1004	22-140-Y	22	3.19	2.56	2.16	1.74
29F1005	23-140-Y	23	3.34	2.68	2.24	1.80
29F1006	24-140-Y	24	3.52	2.84	2.35	1.88
29F1007	25-140-Y	25	3.68	2.94	2.45	1.95

Series 140-¾W. Accommodates up to #14 solid wire.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249
45F750	2-140-¾W	2	.39	.32	.29	.23
45F751	3-140-¾W	3	.50	.39	.33	.31
45F752	4-140-¾W	4	.69	.55	.48	.37
45F753	5-140-¾W	5	.84	.66	.57	.71
45F754	6-140-¾W	6	.99	.79	.65	.54
45F755	7-140-¾W	7	1.11	.92	.77	.59
45F756	8-140-¾W	8	1.30	1.03	.87	.71
45F757	9-140-¾W	9	1.43	1.13	.98	.78
45F758	10-140-¾W	10	1.57	1.28	1.05	.86
45F759	11-140-¾W	11	1.74	1.38	1.16	.92
45F760	12-140-¾W	12	1.86	1.50	1.28	1.01

Series 141. Accommodates up to #12 solid wire.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249
28F711	2-141	2	.35	.29	.25	.20
28F712	3-141	3	.48	.36	.32	.27
28F713	4-141	4	.60	.51	.42	.34
28F714	5-141	5	.77	.58	.55	.45
28F715	6-141	6	.84	.66	.57	.48
28F716	7-141	7	1.00	.79	.66	.54
28F717	8-141	8	1.09	.88	.76	.59
28F718	9-141	9	1.24	.99	.83	.65
28F719	10-141	10	1.36	1.08	.92	.87
28F720	11-141	11	1.47	1.17	1.01	.80
28F721	12-141	12	1.58	1.29	1.05	.86
28F878	13-141	13	1.74	1.37	1.13	.93
28F879	14-141	14	1.84	1.47	1.25	1.00
28F880	15-141	15	1.95	1.55	1.32	1.04
28F881	16-141	16	2.08	1.68	1.40	1.10
28F882	17-141	17	2.21	1.77	1.49	1.21
28F883	18-141	18	2.33	1.86	1.55	1.26
28F884	19-141	19	2.46	1.96	1.67	1.32
28F885	20-141	20	2.60	2.07	1.75	1.32

Seires 141-Y. Accommodates up to #12 solid wire.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249
29F769	2-141-Y	2	.50	.37	.32	.30
29F770	3-141-Y	3	.66	.54	.47	.35
29F771	4-141-Y	4	.87	.71	.58	.48
29F772	5-141-Y	5	1.04	.84	.70	.56
29F773	6-141-Y	6	1.21	.98	.82	.62
29F774	7-141-Y	7	1.42	1.11	.97	.77
29F775	8-141-Y	8	1.57	1.28	1.05	.86
29F776	9-141-Y	9	1.76	1.40	1.17	.96
29F777	10-141-Y	10	1.94	1.54	1.31	1.04
29F778	11-141-Y	11	2.14	1.72	1.43	1.11
29F779	12-141-Y	12	2.30	1.84	1.53	1.25
29F780	13-141-Y	13	2.49	1.99	1.70	1.35
29F781	14-141-Y	14	2.69	2.17	1.81	1.44
29F782	15-141-Y	15	2.86	2.29	1.92	1.53
29F783	16-141-Y	16	3.07	2.46	2.06	1.63
29F784	17-141-Y	17	3.25	2.61	2.19	1.76
29F785	18-141-Y	18	3.44	2.75	2.30	1.84
29F786	19-141-Y	19	3.66	2.92	2.43	1.94
29F787	20-141-Y	20	3.82	3.07	2.56	2.06

Series 141-¾W. Accommodates up to #12 solid wire.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249
28F850	2-141-¾W	2	.50	.37	.32	.30
45F761	3-141-¾W	3	.69	.55	.48	.36
45F762	4-141-¾W	4	.89	.74	.59	.50
45F763	5-141-¾W	5	1.08	.87	.75	.58
45F764	6-141-¾W	6	1.28	1.01	.84	.66
45F765	7-141-¾W	7	1.47	1.15	1.00	.80
45F766	8-141-¾W	8	1.68	1.33	1.10	.91
45F767	9-141-¾W	9	1.84	1.47	1.25	1.00
45F768	10-141-¾W	10	2.06	1.63	1.37	1.09
45F769	11-141-¾W	11	2.23	1.80	1.50	1.21
45F770	12-141-¾W	12	2.42	1.93	1.62	1.31
45F771	13-141-¾W	13	2.61	2.08	1.76	1.40
45F772	14-141-¾W	14	2.82	2.26	1.86	1.50
45F773	15-141-¾W	15	2.98	2.38	1.99	1.58
45F774	16-141-¾W	16	3.07	2.46	2.27	1.72
45F775	17-141-¾W	17	3.35	2.70	2.26	1.81
45F776	18-141-¾W	18	3.57	2.85	2.38	1.92
45F777	19-141-¾W	19	3.75	3.00	2.52	2.02
45F778	20-141-¾W	20	3.94	3.18	2.65	2.13

Cinch Barrier Terminal Blocks

TRW

Series 142. Accommodates up to #10 solid wire.

Stock No.	Type No.	Cont.	1-24	25-49	50-99	100-249
28F722	2-142	2	.42	.33	.29	.23
28F723	3-142	3	.56	.45	.36	.31
28F724	4-142	4	.75	.58	.51	.39
28F725	5-142	5	.88	.71	.58	.50
28F726	6-142	6	1.03	.83	.71	.56
28F727	7-142	7	1.21	.97	.80	.62
28F728	8-142	8	1.35	1.07	.91	.74
28F729	9-142	9	1.49	1.21	1.00	.80
28F730	10-142	10	1.67	1.33	1.09	.88
28F731	11-142	11	1.81	1.44	1.23	.97
28F732	12-142	12	1.95	1.55	1.32	1.03
28F886	13-142	13	2.13	1.71	1.42	1.11
28F887	14-142	14	2.27	1.82	1.52	1.24
28F888	15-142	15	2.43	1.94	1.62	1.31
28F889	16-142	16	2.60	2.07	1.75	1.38
28F890	17-142	17	2.73	2.20	1.83	1.47

Series 142-Y. Accommodates up to #10 solid wire.

Stock No.	Type No.	Cont.	1-24	25-49	50-99	100-249
29F788	2-142-Y	2	.57	.48	.37	.33
29F789	3-142-Y	3	.79	.62	.54	.40
29F790	4-142-Y	4	1.04	.84	.71	.56
29F791	5-142-Y	5	1.28	1.01	.86	.69
29F792	6-142-Y	6	1.51	1.23	1.01	.82
29F793	7-142-Y	7	1.75	1.38	1.16	.96
29F794	8-142-Y	8	1.95	1.55	1.32	1.03
29F795	9-142-Y	9	2.19	1.76	1.45	1.16
29F796	10-142-Y	10	2.43	1.94	1.62	1.31
29F797	11-142-Y	11	2.65	2.14	1.79	1.42
29F798	12-142-Y	12	2.87	2.30	1.93	1.53

Series 164. Accommodates up to #14 solid wire.

Stock No.	Type No.	Contacts	1-24	25-49	50-99	100-249
28F840	2-164	2	.35	.29	.25	.20
28F841	3-164	3	.45	.34	.30	.25
28F842	4-164	4	.56	.47	.37	.31
28F843	5-164	5	.66	.55	.48	.36
28F844	6-164	6	.80	.61	.54	.45
28F845	7-164	7	.91	.74	.59	.51
28F846	8-164	8	1.01	.82	.69	.55
28F847	9-164	9	1.07	.89	.75	.58
28F848	10-164	10	1.25	1.00	.83	.65
28F849	11-164	11	1.35	1.07	.91	.74
28F891	12-164	12	1.45	1.16	.99	.79
28F892	13-164	13	1.55	1.28	1.04	.84
28F893	14-164	14	1.71	1.36	1.11	.92
28F894	15-164	15	1.82	1.44	1.23	.98
28F895	16-164	16	1.93	1.53	1.30	1.03
28F896	17-164	17	2.02	1.62	1.36	1.07
28F897	18-164	18	2.16	1.74	1.44	1.13
28F898	19-164	19	2.26	1.81	1.51	1.23
28F899	20-164	20	2.37	1.91	1.58	1.29
28F900	21-164	21	2.48	1.99	1.68	1.33

Series 150. Accommodates up to #10 solid wire.

Stock No.	Type	Cont.	1-24	25-49	50-99	100-249
29F731	2-150	2	1.05	.86	.74	.57
29F732	3-150	3	1.49	1.21	1.00	.80
29F733	4-150	4	1.92	1.53	1.30	1.02
29F734	5-150	5	2.35	1.86	1.55	1.28
29F735	6-150	6	2.76	2.23	1.85	1.49
29F736	7-150	7	3.21	2.56	2.16	1.72
29F737	8-150	8	3.64	2.91	2.43	1.94
29F739	10-150	10	4.50	3.60	3.00	2.40

Series 171. Accommodates up to 2 each #18 solid wire.

Stock No.	Type	Cont.	1-24	25-49	50-99	100-249
28F901	2-171	2	.36	.31	.27	.20
28F902	3-171	3	.48	.36	.32	.27
28F903	4-171	4	.56	.47	.37	.31
28F904	5-171	5	.65	.54	.47	.35
28F905	6-171	6	.77	.59	.52	.42
28F906	7-171	7	.84	.66	.56	.47
28F907	8-171	8	.92	.76	.60	.51

Series 172. Accommodates up to #16 solid wire.

Stock No.	Type	Cont.	1-24	25-49	50-99	100-249
28F909	2-172	2	.66	.54	.47	.36
28F910	3-172	3	.84	.66	.57	.48
28F911	4-172	4	1.02	.83	.69	.55
28F912	5-172	5	1.21	.97	.80	.62
28F913	6-172	6	1.37	1.08	.93	.76
28F914	7-172	7	1.54	1.26	1.03	.83
28F915	8-172	8	1.74	1.37	1.13	.93
28F916	9-172	9	1.88	1.51	1.29	1.02
28F917	10-172	10	2.07	1.68	1.38	1.09
28F919	12-172	12	2.42	1.93	1.62	1.31
28F921	14-172	14	2.76	2.21	1.84	1.49

540, 541, 542 SERIES

Bottoms are closed so that insulating strips are not required. Knockouts are molded into the base so that Y terminals can be accommodated. A top-mounted marker strip can be furnished.

Series	540	541	542
Size W x H	1⅛	1⅜	1⅝
Terminal Centers	⅜	7/16	9/16
Mounting Centers	5/16	27/64	½
Mtg. Hole Dia.	.160	.180	.209
Screw Size	5-40	6-32	8-32

Series 540. Creepage distance: ½". 2300Vrms/15A.

Stk. No.	Type	Terms.	1-24	25-49	50-99	100-249
28F1000	2-540	2	.74	.57	.51	.39
28F1001	3-540	3	.99	.79	.65	.54
28F1002	4-540	4	1.21	.97	.80	.63
28F1003	5-540	5	1.26	1.00	.84	.66
28F1004	6-540	6	1.70	1.35	1.13	.92
28F1005	7-540	7	1.54	1.29	1.05	.86
28F1006	8-540	8	1.77	1.42	1.21	.97
28F1008	10-540	10	2.13	1.71	1.42	1.11
28F1009	11-540	11	2.29	1.83	1.53	1.25
28F1010	12-540	12	2.46	1.96	1.67	1.32
28F1011	13-540	13	2.65	2.13	1.77	1.42
28F1012	14-540	14	2.82	2.26	1.88	1.51
28F1013	15-540	15	2.98	2.38	1.99	1.58
28F1014	16-540	16	3.17	2.54	2.13	1.71
28F1016	18-540	18	3.51	2.82	2.35	1.86
28F1018	20-540	20	3.85	3.09	2.60	2.07

Series 541. Creepage distance: ⅜". 2800Vrms/20A.

28F1020	2-541	2	.88	.74	.59	.50
28F1021	3-541	3	1.05	.86	.73	.57
28F1022	4-541	4	1.26	1.00	.84	.66
28F1023	5-541	5	1.42	1.11	.97	.77
28F1024	6-541	6	1.70	1.35	1.13	.92
28F1025	7-541	7	1.81	1.44	1.23	.98
28F1026	8-541	8	1.96	1.57	1.32	1.04
28F1028	10-541	10	2.31	1.85	1.54	1.26
28F1029	11-541	11	2.48	1.99	1.68	1.33
28F1030	12-541	12	2.72	2.18	1.81	1.44
28F1031	13-541	13	2.86	2.29	1.92	1.53
28F1032	14-541	14	3.06	2.43	2.04	1.63
28F1033	15-541	15	3.23	2.60	2.17	1.74
28F1034	16-541	16	3.39	2.71	2.27	1.82
28F1036	18-541	18	3.75	3.00	2.52	2.02
28F1038	20-541	20	4.12	3.29	2.75	2.21

Series 542. Creepage distance: ¾". 4000Vrms/30A.

28F1039	2-542	2	.97	.77	.62	.53
28F1040	3-542	3	1.17	.97	.80	.61
28F1041	4-542	4	1.42	1.11	.97	.77
28F1042	5-542	5	1.63	1.32	1.09	.88
28F1043	6-542	6	1.86	1.50	1.28	1.01
28F1044	7-542	7	2.13	1.71	1.42	1.11
28F1045	8-542	8	2.35	1.86	1.55	1.28
28F1046	9-542	9	2.58	2.06	1.74	1.38
28F1047	10-542	10	2.82	2.26	1.86	1.50
28F1048	11-542	11	3.06	2.43	2.04	1.63
28F1049	12-542	12	3.27	2.62	2.19	1.76

Printed Circuit Barrier Terminal Blocks. Terminal blocks have molded-in terminals that cannot break loose when terminal screw (#5/40 Binder Head) is tightened. Designed for flow solder termination to the pc board conductor paths.

FOR ⅛" P.C. BOARDS

Stock No.	Type	No. of Terminals	1-24	25-49	50-99	100-249
29F1389	2-176-3	2	1.04	.83	.70	.57
29F1390	3-176-3	3	1.19	.96	.79	.63
29F1391	4-176-3	4	1.33	1.07	.91	.73
29F1392	5-176-3	5	1.45	1.16	.98	.78
29F1393	6-176-3	6	1.60	1.29	1.08	.87
29F1394	7-176-3	7	1.73	1.38	1.15	.93
29F1395	8-176-3	8	1.86	1.50	1.26	1.01
29F1396	9-176-3	9	2.03	1.62	1.36	1.09
29F1397	10-176-3	10	2.19	1.76	1.47	1.17

FOR 1/16" P.C. BOARDS

Stock No.	Type	No. of Terminals	1-24	25-49	50-99	100-249
29F1380	2-176-2	2	1.04	.83	.70	.57
29F1381	3-176-2	3	1.19	.96	.79	.63
29F1382	4-176-2	4	1.33	1.07	.91	.73
29F1383	5-176-2	5	1.45	1.16	.98	.78
29F1384	6-176-2	6	1.60	1.29	1.08	.87
29F1385	7-176-2	7	1.73	1.38	1.15	.93
29F1386	8-176-2	8	1.86	1.50	1.26	1.01
29F1387	9-176-2	9	2.03	1.62	1.36	1.09
29F1388	10-176-2	10	2.19	1.76	1.47	1.17

See Pages 392, 393 For Marker Strips And Accessories.

TRW Cinch Marker Strips & Fanning Strips

Strips are of 1/32" black phenolic and have same mounting holes as barrier blocks. Shpg. wt., 2 oz.

MARKER STRIPS FOR SERIES 140

Stock No.	Type	Cont.	1-24	25-49	50-99	100-249
29F804	MS- 2-140	2	.18	.14	.12	.11
29F805	MS- 3-140	3				
29F806	MS- 4-140	4				
29F807	MS- 5-140	5				
29F808	MS- 6-140	6				
29F809	MS- 7-140	7	.21	.17	.14	.12
29F810	MS- 8-140	8				
29F811	MS- 9-140	9				
29F812	MS-10-140	10	.23	.18	.15	.14
29F813	MS-11-140	11				
29F814	MS-12-140	12				
29F815	MS-13-140	13	.26	.21	.18	.15
29F816	MS-14-140	14				
29F817	MS-15-140	15				
29F818	MS-16-140	16	.29	.23	.19	.17
29F819	MS-17-140	17				
29F820	MS-18-140	18				
29F821	MS-19-140	19	.31	.26	.22	.18
29F822	MS-20-140	20				
29F823	MS-21-140	21				

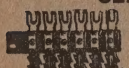
MARKER STRIPS FOR SERIES 141

Stock No.	Type	Cont.	1-24	25-49	50-99	100-249
29F824	MS- 2-141	2	.18	.14	.12	.11
29F825	MS- 3-141	3				
29F826	MS- 4-141	4				
29F827	MS- 5-141	5	.21	.17	.14	.12
29F828	MS- 6-141	6				
29F829	MS- 7-141	7				
29F830	MS- 8-141	8	.23	.18	.15	.14
29F831	MS- 9-141	9				
29F832	MS-10-141	10				
29F833	MS-11-141	11	.26	.21	.18	.15
29F834	MS-12-141	12	.26	.21	.18	.15
29F835	MS-13-141	13	.29	.23	.19	.17
29F836	MS-14-141	14	.29	.23	.19	.17
29F837	MS-15-141	15	.31	.26	.22	.18
29F838	MS-16-141	16	.31	.26	.22	.18
29F839	MS-17-141	17	.35	.27	.23	.19
29F840	MS-18-141	18	.35	.27	.23	.19
29F842	MS-20-141	20	.36	.30	.24	.21

MARKER STRIPS FOR SERIES 150

45F881	MS- 2-150	2	.23	.18	.15	.14
45F882	MS- 3-150	3	.23	.18	.15	.14
45F883	MS- 4-150	4	.26	.21	.18	.15
45F884	MS- 5-150	5	.26	.21	.18	.15
45F885	MS- 6-150	6	.26	.21	.18	.15
45F886	MS- 7-150	7	.29	.23	.19	.17
45F887	MS- 8-150	8	.29	.23	.19	.17
45F888	MS- 9-150	9	.31	.26	.22	.18
45F889	MS-10-150	10	.35	.27	.23	.19

SERIES 160 FANNING STRIPS



Fits 140 Series Barrier strips. Brass, cadmium plated .032" terminals are mounted on 3/32" phenolic. 1/2" wide and on 3/8" centers. Wt., 3 oz. Mounting hole on left.

Stock No.	Type	Cont.	1-24	25-49	50-99	100-249
28F750	2-160-L	2	.43	.36	.31	.27
28F751	3-160-L	3	.53	.43	.37	.31
28F752	4-160-L	4	.65	.53	.44	.37
28F753	5-160-L	5	.75	.63	.53	.41
28F754	6-160-L	6	.87	.70	.59	.44
28F755	7-160-L	7	.99	.80	.65	.53
28F756	8-160-L	8	1.07	.87	.72	.60
28F757	9-160-L	9	1.25	.99	.85	.65
28F758	10-160-L	10	1.37	1.12	.93	.72
28F759	11-160-L	11	1.52	1.18	1.02	.81
28F760	12-160-L	12	1.68	1.32	1.14	.92
29F1250	20-160-L	20	2.57	2.05	1.73	1.37

Mounting hole on right.

28F800	2-160-R	2	.43	.36	.31	.27
28F801	3-160-R	3	.53	.43	.37	.31
28F802	4-160-R	4	.65	.53	.44	.37
28F803	5-160-R	5	.75	.63	.53	.41
28F804	6-160-R	6	.87	.70	.59	.44
28F805	7-160-R	7	.99	.80	.65	.53
28F806	8-160-R	8	1.07	.87	.72	.60
28F807	9-160-R	9	1.25	.99	.85	.65
28F808	10-160-R	10	1.37	1.12	.93	.72
28F809	11-160-R	11	1.52	1.18	1.02	.81
28F810	12-160-R	12	1.68	1.32	1.14	.92
29F1270	20-160-R	20	2.57	2.05	1.73	1.37

MARKER STRIPS FOR SERIES 140-Y

Stock No.	Type	Cont.	1-24	25-49	50-99	100-249
29F1251	MS- 2-140-Y	2	.21	.17	.14	.12
29F1252	MS- 3-140-Y	3				
29F1253	MS- 4-140-Y	4				
29F1254	MS- 5-140-Y	5	.23	.18	.15	.14
29F1255	MS- 6-140-Y	6				
29F1256	MS- 7-140-Y	7				
29F1257	MS- 8-140-Y	8				
29F1258	MS- 9-140-Y	9				
29F1259	MS-10-140-Y	10	.26	.21	.18	.15
29F1260	MS-11-140-Y	11				
29F1261	MS-12-140-Y	12				
29F1262	MS-13-140-Y	13	.29	.23	.19	.17
29F1263	MS-14-140-Y	14				
29F1264	MS-15-140-Y	15				
29F1265	MS-16-140-Y	16	.31	.26	.22	.18
29F1266	MS-17-140-Y	17				
29F1267	MS-18-140-Y	18				
29F1268	MS-19-140-Y	19	.35	.27	.23	.19
29F1269	MS-20-140-Y	20				

MARKER STRIPS FOR SERIES 142

29F843	MS- 2-142	2	.18	.14	.12	.11
29F844	MS- 3-142	3	.18	.14	.12	.11
29F845	MS- 4-142	4	.21	.17	.14	.12
29F846	MS- 5-142	5	.21	.17	.14	.12
29F847	MS- 6-142	6	.21	.17	.14	.12
29F848	MS- 7-142	7	.23	.18	.15	.14
29F849	MS- 8-142	8	.23	.18	.15	.14
29F850	MS- 9-142	9	.26	.21	.18	.15
29F851	MS-10-142	10	.29	.23	.19	.17
29F852	MS-11-142	11	.29	.23	.19	.17
29F853	MS-12-142	12	.31	.26	.22	.18
29F854	MS-13-142	13	.31	.26	.22	.18
29F855	MS-14-142	14	.35	.27	.23	.19
29F856	MS-15-142	15	.35	.27	.23	.19
29F857	MS-16-142	16	.39	.31	.27	.22
29F858	MS-17-142	17	.43	.34	.29	.23

MARKER STRIPS FOR SERIES 540

45F890	MSX- 2-540	2	.23	.18	.15	.14
45F891	MSX- 3-540	3				
45F892	MSX- 4-540	4				
45F893	MSX- 5-540	5				
45F894	MSX- 6-540	6				
45F895	MSX- 7-540	7				
45F896	MSX- 8-540	8				
45F897	MSX- 9-540	9				
45F898	MSX-10-540	10				
45F899	MSX-11-540	11	.26	.21	.18	.15
45F900	MSX-12-540	12				
45F901	MSX-14-540	14				
45F902	MSX-16-540	16				
45F903	MSX-18-540	18	.29	.23	.19	.17

SERIES 161 FANNING STRIPS

Series 161. Fit Series 141 Barrier Strips. Brass, cadmium plated .032" terminals are mounted on 3/32" phenolic, 1/2" wide and on 7/16" ctrs. Ave. Shpg. wt. 3 oz. Mounted holes on left.

Stock No.	Type	Cont.	1-24	25-49	50-99	100-249
28F761	2-161-L	2	.46	.40	.33	.28
28F762	3-161-L	3	.60	.46	.40	.33
28F763	4-161-L	4	.65	.53	.44	.37
28F764	5-161-L	5	.80	.64	.57	.43
28F765	6-161-L	6	.92	.72	.63	.46
28F766	7-161-L	7	1.03	.85	.71	.57
28F767	8-161-L	8	1.14	.92	.75	.64
28F768	9-161-L	9	1.25	.99	.85	.65
28F769	10-161-L	10	1.39	1.14	.94	.75
28F770	11-161-L	11	1.58	1.29	1.07	.87
28F771	12-161-L	12	1.73	1.38	1.17	.93

SERIES 162 FANNING STRIPS

Stock No.	Type	Cont.	1-24	25-49	50-99	100-249
28F772	2-162-L	2	.53	.43	.37	.31
28F773	3-162-L	3	.63	.52	.41	.36
28F774	4-162-L	4	.75	.63	.53	.41
28F775	5-162-L	5	.87	.70	.59	.44
28F776	6-162-L	6	.99	.87	.72	.60
28F777	7-162-L	7	1.01	.87	.72	.60
28F778	8-162-L	8	1.25	.99	.85	.65
28F779	9-162-L	9	1.31	1.04	.87	.71
28F780	10-162-L	10	1.48	1.17	.99	.80
28F781	11-162-L	11	1.61	1.30	1.12	.90
28F782	12-162-L	12	1.82	1.48	1.25	.99

Jumpers & Terminal Strips & Lugs

TRW

JUMPERS FOR BARRIER BLOCKS

140J-1

95-B
141J-1

141-J

142J-1

142J-2

540-J
541-J
542-J

Stk. No.	Type	For Use With	1-24	25-49	50-99	100-249
28F833	140J-1	140	.18	.16	.14	.11
28F790	141-J	141	.18	.16	.14	.11
45F779	141J-1	141	.21	.18	.16	.14
28F789	95B	142	.34	.26	.22	.21
28F742	142J-1	142/542	.21	.18	.16	.14
28F743	142J-2	142/542	.18	.16	.14	.11
28F744	540J	540	.57	.52	.43	.37
28F745	541J	541	.71	.55	.46	.40
28F746	542J	542	.75	.59	.52	.41

QUICK-CLAMP TERMINALS

Simplifies engaging of wires to barrier blocks. Set includes two mating clamps and one screw.

Stk. No.	Type	For Use With	1-24	25-49	50-99	100-249
28F740	QC-1	141/541	.24	.18	.17	.16
28F741	QC-2	142/542	.24	.18	.17	.16

SOLDER TERMINALS FOR BARRIER BLOCKS

Stk. No.	Type	For Use With	1-24	25-49	50-99	100-249
28F791	¾ W-140	140/164	.20	.18	.17	.15
28F797	W-140	140/164	.20	.18	.17	.15
28F794	Y-140	140/164	.23	.20	.18	.17
28F792	¾ W-141	141	.20	.18	.17	.15
28F798	W-141	141	.20	.18	.17	.15
28F795	Y-141	141	.23	.20	.18	.17
28F793	¾ W-142	142	.23	.20	.18	.17
28F799	W-142	142	.23	.20	.18	.17
28F796	Y-142	142	.23	.20	.18	.17
45F780	W-150	150	.36	.31	.25	.23
45F781	W-151	151	.51	.41	.35	.31
45F782	W-152	152	.92	.73	.60	.47

CABLE CLAMPS

Stk. No.	Type	Inner Dia.	1-24	25-49	50-99	100-249
45F783	CC-161-4	¼"	.50	.40	.32	.30
28F784	CC-161-6	⅜"	.60	.50	.42	.32
45F784	CC-161-8	½"	.74	.58	.50	.42
45F785	CC-161-10	⅝"	.81	.65	.58	.48
45F786	CC-161-12	¾"	.93	.75	.64	.50
45F787	CC-161-14	⅞"	.98	.81	.69	.57

LUG TYPE TERMINAL STRIPS

Electro-tinned steel lugs on ⅜" centers with .140 mtg. holes. Polyester strips 1/16" thick and ⅜" wide. Shpg. wt., 1 oz.

Stk. No.	Type No.	Description	Mtg. Ctr.	1-24	25-49	50-99	100-249
28F650	51	1 Lug	....	.15	.13	.11	.08
29F567	51A	2 Lugs; 1 Gnd.	....	.15	.13	.11	.08
29F568	51B	1 Lug	....	.15	.13	.11	.08
29F569	51C	2 Lugs; 1 Gnd.	....	.15	.13	.11	.08
29F570	51F	1 Lug	....	.18	.16	.14	.11
28F651	52	2 Lugs	....	.17	.15	.12	.08
29F754	52A	3 Lugs; 1 Gnd.	....	.18	.15	.12	.10
29F575	52B	2 Lugs	....	.17	.15	.12	.09
29F576	52C	3 Lugs; 1 Gnd.	....	.18	.15	.12	.10
28F652	53	3 Lugs	1½"	.18	.16	.14	.11
29F582	53E	3 Lugs	....	.16	.14	.13	.10
29F583	53F	4 Lugs; 1 Gnd.	....	.16	.14	.13	.10
28F653	54	4 Lugs	1⅜"	.21	.18	.16	.12
29F585	54A	6 Lugs; 2 Gnd.	1⅞"	.21	.18	.17	.13
29F586	54B	4 Lugs	....	.18	.16	.14	.11
29F587	54C	5 Lugs; 1 Gnd.	....	.19	.16	.14	.11
28F654	55	5 Lugs	2¼"	.22	.19	.17	.13
29F588	55A	7 Lugs; 2 Gnd.	2¼"	.22	.19	.17	.13
29F590	55C	7 Lugs; 2 Gnd.	1½"	.22	.19	.17	.13
28F655	56	6 Lugs	2⅝"	.22	.19	.18	.14
29F591	56A	8 Lugs; 2 Gnd.	2⅝"	.22	.20	.18	.14
29F593	56C	8 Lugs; 2 Gnd.	1⅞"	.22	.20	.18	.14

SCREW TYPE TERMINAL STRIPS

Ideal for breadboard layouts. Cadmium-plated brass term. .136" dia. mtg. holes. 1-6 lug strips 1/16" polyester, 7-10 lug strips, 3/32" bakelite. Screws are captive to prevent removal. Terminals spaced on 7/16" centers.

Stk. No.	Type	Term.	Mtg. Ctr.	1-24	25-49	50-99	100-249
29F551	17-1	1	⅞"	.18	.15	.14	.12
29F552	17-2	2	1 5/16"	.19	.18	.15	.14
29F553	17-3	3	1¾"	.23	.19	.18	.15
29F554	17-4	4	2 3/16"	.31	.25	.21	.19
29F555	17-5	5	2⅝"	.36	.28	.24	.22
29F556	17-6	6	3½"	.43	.36	.30	.26
29F557	17-7	7	3½"	.53	.41	.36	.30
29F558	17-8	8	3 5/16"	.58	.48	.40	.33
29F559	17-9	9	4⅜"	.72	.54	.45	.37
29F560	17-10	10	4 13/16"	.85	.64	.55	.45

JONES SERIES 2000 TERMINALS

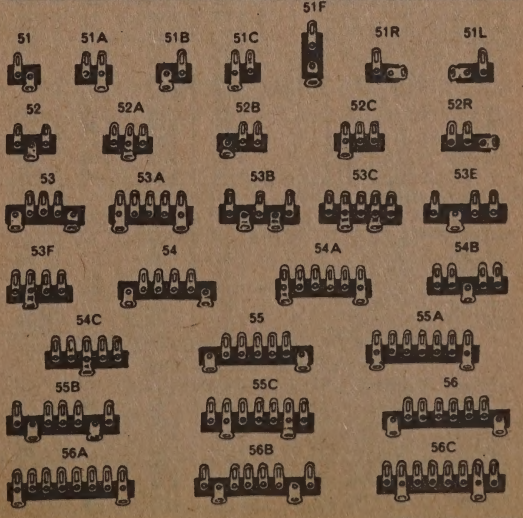
Polyester insulation with cadmium steel brackets. Terminals are made of .019" tinned brass on 5/16" centers. Wt., 3 oz.

Stk. No.	Type	Term.	1-24	25-49	50-99	100-249
28F680	2002	2	.19	.18	.17	.14
28F681	2003	3	.21	.19	.18	.17
28F682	2004	4	.22	.21	.19	.18
28F683	2005	5	.22	.21	.19	.18
28F684	2006	6	.25	.22	.20	.19
28F685	2007	7	.25	.22	.20	.19
28F686	2008	8	.29	.24	.21	.20
28F687	2009	9	.32	.25	.22	.21
28F688	2010	10	.32	.25	.22	.21
28F689	2011	11	.35	.27	.25	.22
28F690	2012	12	.35	.27	.25	.22
28F691	2013	13	.38	.33	.27	.24

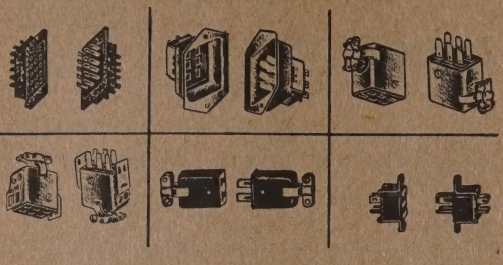
SERIES 170 TERMINAL BLOCKS

.032" brass tin plated Solder Term. Black molded phenolic. Size: ⅝" W. x ¼" H. Mtg. on ⅜" ctrs.

Stk. No.	Type	Contact	1-24	25-49	50-99	100-249
29F740	2-170	2	.43	.37	.33	.29
29F741	3-170	3	.60	.47	.39	.35
29F742	4-170	4	.69	.57	.43	.37
29F743	5-170	5	.76	.63	.53	.40
29F744	6-170	6	.86	.68	.59	.46
29F745	7-170	7	.97	.76	.65	.53
29F746	8-170	8	.99	.81	.68	.58
29F747	9-170	9	1.16	.95	.76	.63
29F748	10-170	10	1.27	.99	.84	.69



TRW Cinch Plugs & Sockets — Series 300



Small size, good separation between contacts, for medium-duty applications. Molded phenolic insulator, cadmium-plated phosphor bronze contacts, for cap or panel mounting. Polarized so only common sizes will mate. "Knife-switch" type socket contacts engage both sides of flat plug contacts. 730Vrms/10A. Contact resistance, .016 ohms.

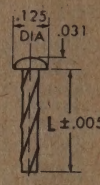
AUXILIARY LOCKS

Type 63. Spring lock for use with 400 Series panel mounted connectors.
45F788. NET ..... .68

Type 63A. Spring lock for use with 300 Series 15-33 contact panel-mount connectors.
45F789. NET ..... .55

Type 93. Extension-cable lock for use with 400 Series.
45F790. NET ..... .54

REPLACEMENT DRIVE PINS FOR 300 SERIES CAP-TYPE PLUGS AND SOCKETS



Stk. No.	Type	Contacts	Dim. L± .005	1-24	25-49	50-99	100-249
29F1195	302-R	2	.687	.17	.15	.13	.11
29F1196	303-R	3	.468	.17	.15	.13	.11
29F1197	304-R	4,6,8,10*	.718	.17	.15	.13	.11
29F1198	312-R	12	.953	.17	.15	.13	.11
29F1199	333-R	15-33*	1.125	.17	.15	.13	.11

*10-contact size and 15 thru 33-contact sizes require 2 pins per unit; all other sizes require only 1.

PLUGS WITH ANGLE BRACKETS

Stock No.	Type No.	Cont.	1-24	25-49	50-99	100-249
39F200	P-302-AB	2	.45	.34	.31	.27
39F201	P-303-AB	3	.50	.37	.33	.29
39F202	P-304-AB	4	.54	.45	.36	.31
39F203	P-306-AB	6	.66	.54	.47	.35
39F204	P-308-AB	8	.77	.60	.52	.44
39F205	P-310-AB	10	.86	.67	.58	.48
39F206	P-312-AB	12	.97	.78	.62	.52
39F207	P-315-AB	15	1.29	1.02	.86	.67
39F208	P-318-AB	18	1.53	1.24	1.02	.83
39F209	P-321-AB	21	1.91	1.53	1.29	1.02
39F210	P-324-AB	24	2.30	1.84	1.54	1.25
39F211	P-327-AB	27	2.70	2.18	1.81	1.44
39F212	P-330-AB	30	3.10	2.47	2.06	1.67
39F213	P-333-AB	33	3.47	2.77	2.31	1.84

SOCKETS WITH ANGLE BRACKETS

Stock No.	Type No.	Cont.	1-24	25-49	50-99	100-249
39F220	S-302-AB	2	.47	.36	.32	.28
39F221	S-303-AB	3	.52	.44	.34	.30
39F222	S-304-AB	4	.56	.47	.37	.32
39F223	S-306-AB	6	.73	.56	.50	.37
39F224	S-308-AB	8	.86	.68	.58	.48
39F225	S-310-AB	10	1.00	.80	.67	.54
39F226	S-312-AB	12	1.18	.93	.80	.62
39F227	S-315-AB	15	1.49	1.20	1.00	.80
39F228	S-318-AB	18	1.72	1.36	1.12	.92
39F229	S-321-AB	21	2.09	1.71	1.39	1.10
39F230	S-324-AB	24	2.48	1.98	1.70	1.33
39F231	S-327-AB	27	2.88	2.30	1.93	1.54
39F232	S-330-AB	30	3.30	2.65	2.21	1.78
39F233	S-333-AB	33	3.69	2.94	2.46	1.96

PLUGS WITH CABLE CLAMP IN TOP

Stock No.	Type No.	Cont.	1-24	25-49	50-99	100-249
39F280	P-302-CCT	2	.87	.69	.58	.48
39F281	P-303-CCT	3	.97	.78	.62	.52
39F282	P-304-CCT	4	1.01	.81	.67	.54
39F283	P-306-CCT	6	1.12	.92	.78	.60
39F284	P-308-CCT	8	1.25	1.00	.84	.66
39F285	P-310-CCT	10	1.36	1.08	.92	.76
39F286	P-312-CCT	12	1.46	1.18	1.00	.80
39F287	P-315-CCT	15	1.95	1.56	1.33	1.04
39F288	P-318-CCT	18	2.28	1.82	1.53	1.24
39F289	P-321-CCT	21	2.71	2.19	1.82	1.45
39F290	P-324-CCT	24	3.19	2.55	2.15	1.73
39F291	P-327-CCT	27	3.65	2.90	2.43	1.95
39F292	P-330-CCT	30	4.10	3.27	2.73	2.20
39F293	P-333-CCT	33	4.54	3.63	3.03	2.43

SOCKETS WITH CABLE CLAMP IN TOP

Stock No.	Type No.	Cont.	1-24	25-49	50-99	100-249
39F300	S-302-CCT	2	.89	.74	.60	.50
39F301	S-303-CCT	3	.99	.79	.63	.53
39F302	S-304-CCT	4	1.03	.84	.69	.55
39F303	S-306-CCT	6	1.20	.97	.80	.62
39F304	S-308-CCT	8	1.34	1.05	.89	.74
39F305	S-310-CCT	10	1.51	1.22	1.01	.81
39F306	S-312-CCT	12	1.72	1.36	1.11	.91
39F307	S-315-CCT	15	2.18	1.76	1.45	1.14
39F308	S-318-CCT	18	2.46	1.96	1.64	1.33
39F309	S-321-CCT	21	2.90	2.33	1.95	1.55
39F310	S-324-CCT	24	3.36	2.70	2.25	1.80
39F311	S-327-CCT	27	3.81	3.05	2.56	2.04
39F312	S-330-CCT	30	4.30	3.45	2.88	2.30
39F313	S-333-CCT	33	4.74	3.80	3.19	2.55

PLUGS — CABLE CLAMP IN TOP WITH LATCHES

29F859	P-302-CCT-L	2	1.07	.87	.74	.58
29F860	P-303-CCT-L	3	1.14	.93	.79	.61
29F861	P-304-CCT-L	4	1.24	.99	.83	.63
29F862	P-306-CCT-L	6	1.36	1.08	.91	.74
29F863	P-308-CCT-L	8	1.44	1.14	.99	.79
29F864	P-310-CCT-L	10	1.56	1.28	1.05	.86
29F865	P-312-CCT-L	12	1.67	1.35	1.11	.91
29F1028	P-315-CCT-L	15	2.18	1.76	1.45	1.14
29F1029	P-318-CCT-L	18	2.48	1.98	1.70	1.34
29F1030	P-321-CCT-L	21	2.91	2.34	1.96	1.56
29F1031	P-324-CCT-L	24	3.39	2.71	2.28	1.82
29F1032	P-327-CCT-L‡	27	3.84	3.09	2.57	2.06
29F1033	P-330-CCT-L‡	30	4.30	3.45	2.88	2.30
29F1034	P-333-CCT-L‡	33	4.74	3.80	3.19	2.55

(‡) Locks are centered on each side, not on each end as shown.

SOCKETS—CABLE CLAMP IN TOP WITH KEEPERS

29F866	S-302-CCT-K	2	1.09	.89	.77	.59
29F867	S-303-CCT-K	3	1.20	.97	.80	.62
29F868	S-304-CCT-K	4	1.26	1.01	.84	.66
29F869	S-306-CCT-K	6	1.39	1.10	.93	.77
29F870	S-308-CCT-K	8	1.54	1.25	1.03	.84
29F871	S-310-CCT-K	10	1.73	1.37	1.12	.92
29F872	S-312-CCT-K	12	1.91	1.53	1.29	1.02
29F1035	S-315-CCT-K	15	2.37	1.91	1.58	1.29
29F1036	S-318-CCT-K	18	2.68	2.15	1.79	1.43
29F1037	S-321-CCT-K	21	3.12	2.49	2.09	1.70
29F1038	S-324-CCT-K	24	3.57	2.87	2.38	1.91
29F1039	S-327-CCT-K‡	27	4.03	3.22	2.70	2.18
29F1040	S-330-CCT-K‡	30	4.53	3.63	3.02	2.40
29F1041	S-333-CCT-K‡	33	4.96	3.96	3.31	2.66

(‡) Keepers are centered on each side, not on each end as shown.

PLUGS WITH CABLE CLAMP IN END

29F1008	P-306-CCE	6	1.20	.98	.81	.62
29F1009	P-308-CCE	8	1.30	1.03	.87	.69
29F1010	P-310-CCE	10	1.41	1.11	.97	.78
29F1011	P-312-CCE	12	1.53	1.24	1.02	.83
29F1012	P-315-CCE	15	1.99	1.59	1.35	1.07
29F1013	P-318-CCE	18	2.33	1.85	1.55	1.26

SOCKET WITH CABLE CLAMP IN END

29F1019	S-306-CCE	6	1.25	1.00	.86	.66
29F1020	S-308-CCE	8	1.38	1.09	.93	.77
29F1021	S-310-CCE	10	1.55	1.26	1.05	.84
29F1022	S-312-CCE	12	1.76	1.39	1.18	.93
29F1023	S-315-CCE	15	2.22	1.79	1.49	1.20
29F1024	S-318-CCE	18	2.49	1.99	1.71	1.35

PLUGS WITH DEEP BRACKETS FOR RECESSED MOUNTING

28F1094	P-304-DB	4	1.10	.89	.76	.59
28F1095	P-306-DB	6	1.25	.99	.83	.66
28F1096	P-308-DB	8	1.33	1.07	.89	.73
28F1097	P-312-DB	12	1.52	1.24	1.02	.81
28F1098	P-315-DB	15	1.84	1.49	1.26	1.00
28F1099	P-318-DB	18	2.21	1.78	1.49	1.21
28F1100	P-321-DB	21	2.65	2.14	1.78	1.41
28F1101	P-324-DB	24	3.10	2.48	2.08	1.67

SOCKETS WITH DEEP BRACKETS FOR RECESSED MOUNTINGS

29F875	S-304-DB	4	1.11	.91	.78	.60
29F876	S-306-DB	6	1.29	1.02	.87	.67
29F877	S-308-DB	8	1.41	1.11	.97	.78
29F878	S-312-DB	12	1.76	1.38	1.18	.93
29F879	S-315-DB	15	2.06	1.67	1.38	1.09
29F880	S-318-DB	18	2.38	1.91	1.58	1.30
29F881	S-321-DB	21	2.85	2.28	1.88	1.52
29F882	S-324-DB	24	3.28	2.64	2.21	1.78

Cinch Jones Plugs & Sockets

TRW

Series 300

P-315-EB

S-315-EB

P-304-RP

S-304-RP

PLUGS WITH RECESSED PLATE

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249
39F260	P-302-RP	2	.81	.63	.55	.46
39F261	P-303-RP	3	.86	.67	.58	.48
39F262	P-304-RP	4	.91	.74	.60	.51
39F263	P-306-RP	6	1.04	.84	.66	.55
39F264	P-308-RP	8	1.20	.97	.80	.62
39F265	P-310-RP	10	1.37	1.05	.89	.74
39F266	P-312-RP	12	1.49	1.20	1.00	.80

SOCKETS WITH RECESSED PLATE

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249
39F270	S-302-RP	2	.86	.67	.56	.47
39F271	S-303-RP	3	.88	.73	.59	.48
39F272	S-304-RP	4	.93	.77	.62	.52
39F273	S-306-RP	6	1.07	.87	.74	.58
39F274	S-308-RP	8	1.29	1.02	.87	.69
39F275	S-310-RP	10	1.49	1.20	1.00	.80
39F276	S-312-RP	12	1.72	1.36	1.12	.92

PLUGS WITH END BRACKETS

29F1064	P-315-EB	15	1.33	1.04	.88	.73
29F1065	P-318-EB	18	1.56	1.28	1.04	.84
29F1066	P-321-EB	21	1.95	1.55	1.32	1.04
29F1067	P-324-EB	24	2.34	1.87	1.56	1.28
29F1068	P-327-EB	27	2.73	2.20	1.83	1.46
29F1069	P-330-EB	30	3.13	2.49	2.09	1.71
29F1070	P-333-EB	33	3.50	2.81	2.34	1.87

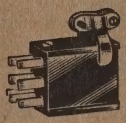
SOCKETS WITH END BRACKETS

29F1071	S-315-EB	15	1.52	1.24	1.01	.81
29F1072	S-318-EB	18	2.43	1.39	1.18	.93
29F1073	S-321-EB	21	2.15	1.73	1.43	1.12
29F1074	S-324-EB	24	2.51	2.01	1.72	1.36
29F1075	S-327-EB	27	2.91	2.34	1.95	1.56
29F1076	S-330-EB	30	3.34	2.68	2.23	1.80
29F1077	S-333-EB	33	3.73	2.97	2.48	1.98

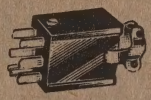
Series 400

P-406-AB

S-406-AB


P-406-CCE

S-406-CCE


P-406-CCT

S-406-CCT

Rated for duty beyond the range of 300 Series: 1200Vrms at 15 amps. Contact resistance: .001 ohm avg. Polarized and suitable for either cap or panel mounting. Double bellows type socket contacts of cadmium-plated phosphor bronze engage both sides of flat plug contacts. Plug prongs are cadmium-plated brass ¼" wide, 1/16" thick.

PLUGS WITH ANGLE BRACKETS

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249
39F320	P-402-AB	2	1.04	.84	.70	.56
39F321	P-404-AB	4	1.29	1.03	.86	.67
39F322	P-406-AB	6	1.51	1.20	1.02	.81
39F323	P-408-AB	8	1.74	1.38	1.14	.92
39F324	P-410-AB	10	1.95	1.56	1.33	1.05
39F325	P-412-AB	12	2.19	1.76	1.45	1.16

SOCKETS WITH ANGLE BRACKETS

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249
39F330	S-402-AB	2	1.22	.98	.81	.63
39F331	S-404-AB	4	1.56	1.25	1.04	.84
39F332	S-406-AB	6	1.91	1.53	1.30	1.03
39F333	S-408-AB	8	2.25	1.80	1.51	1.21
39F334	S-410-AB	10	2.58	2.07	1.74	1.38
39F335	S-412-AB	12	2.93	2.34	1.96	1.57

PLUGS WITH CABLE CLAMP ON TOP

39F340	P-402-CCT	2	1.73	1.38	1.14	.92
39F341	P-404-CCT	4	1.96	1.57	1.33	1.05
39F342	P-406-CCT	6	2.25	1.80	1.52	1.22
39F343	P-408-CCT	8	2.49	1.98	1.67	1.35
39F344	P-410-CCT	10	2.87	2.29	1.93	1.54
39F345	P-412-CCT	12	3.12	2.50	2.08	1.70

SOCKETS WITH CABLE CLAMP ON TOP

39F346	S-402-CCT	2	1.95	1.56	1.32	1.04
39F347	S-404-CCT	4	2.31	1.85	1.56	1.25
39F348	S-406-CCT	6	2.70	2.18	1.80	1.44
39F349	S-408-CCT	8	3.05	2.47	2.06	1.63
39F350	S-410-CCT	10	3.45	2.76	2.31	1.88
39F351	S-412-CCT	12	3.84	3.05	2.56	2.06

PLUGS WITH CABLE CLAMP IN END

29F1060	P-402-CCE	2	1.78	1.43	1.20	.97
29F1061	P-404-CCE	4	2.01	1.60	1.36	1.08
29F1078	P-406-CCE	6	2.30	1.84	1.54	1.25
29F1079	P-408-CCE	8	2.56	2.04	1.72	1.37
29F1080	P-410-CCE	10	2.91	2.33	1.96	1.57
29F1081	P-412-CCE	12	3.19	2.55	2.14	1.72

SOCKETS WITH DEEP BRACKETS FOR RECESSED MOUNTING

29F1048	S-402-DB	2	1.56	1.25	1.04	.84
29F1049	S-404-DB	4	1.91	1.53	1.30	1.03
29F1050	S-406-DB	6	2.37	1.91	1.59	1.30
29F1051	S-408-DB	8	2.77	2.23	1.85	1.49
29F1052	S-410-DB	10	3.20	2.55	2.14	1.73
29F1053	S-412-DB	12	3.61	2.88	2.40	1.94

PLUGS WITH DEEP BRACKETS FOR RECESSED MOUNTING

29F514	P-402-DB	2	1.38	1.10	.92	.76
29F515	P-404-DB	4	1.70	1.35	1.11	.89
29F516	P-406-DB	6	1.96	1.57	1.33	1.05
29F517	P-408-DB	8	2.25	1.80	1.52	1.22
29F518	P-410-DB	10	2.55	2.03	1.72	1.37
29F519	P-412-DB	12	2.85	2.28	1.91	1.52

SOCKETS WITH SHALLOW BRACKETS FOR FLUSH MOUNTING

39F380	S-402-SB	2	1.51	1.20	1.02	.81
39F381	S-404-SB	4	1.91	1.53	1.30	1.03
39F382	S-406-SB	6	2.31	1.87	1.56	1.25
39F383	S-408-SB	8	2.72	2.20	1.83	1.45
39F384	S-410-SB	10	2.49	2.09	2.09	1.71
39F385	S-412-SB	12	3.54	2.85	2.37	1.91

PLUGS WITH SHALLOW BRACKETS FOR FLUSH MOUNTING

29F1054	P-402-SB	2	1.34	1.07	.89	.70
29F1055	P-404-SB	4	1.60	1.32	1.08	.87
29F1056	P-406-SB	6	1.91	1.53	1.30	1.03
29F1057	P-408-SB	8	2.21	1.77	1.46	1.17
29F1058	P-410-SB	10	2.49	1.98	1.70	1.35
29F1059	P-412-SB	12	2.77	2.21	1.85	1.49

SOCKETS WITH CABLE CLAMP IN END

29F1088	S-402-CCE	2	1.99	1.59	1.35	1.08
29F1089	S-404-CCE	4	2.37	1.91	1.59	1.29
29F1090	S-406-CCE	6	2.76	2.21	1.84	1.49
29F1091	S-408-CCE	8	3.13	2.50	2.09	1.70
29F1092	S-410-CCE	10	3.50	2.81	2.34	1.88
29F1093	S-412-CCE	12	3.88	3.10	2.60	2.08

TRW "Jones" Plugs & Sockets

2400 SERIES

P-2406-SB

S-2406-SB

P-2406-DB

S-2406-DB

Designed for excellent electrical and mechanical performance. Rated 1700 Volts, 10 Amps. Fully interchangeable with corresponding units of the 400 Series.

PLUG WITH CABLE CLAMP ON TOP

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249
29F523	P-2402-CCT	2	1.81	1.45	1.22	.98
29F524	P-2404-CCT	4	2.06	1.63	1.38	1.10
29F525	P-2406-CCT	6	2.30	1.84	1.54	1.25
29F526	P-2408-CCT	8	2.55	2.04	1.73	1.37
29F527	P-2410-CCT	10	2.81	2.25	1.87	1.51
29F528	P-2412-CCT	12	2.93	2.35	1.97	1.57

SOCKET WITH CABLE CLAMP ON TOP

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249
29F529	S-2402-CCT	2	1.97	1.56	1.34	1.05
29F530	S-2404-CCT	4	2.19	1.76	1.45	1.16
29F531	S-2406-CCT	6	2.45	1.95	1.61	1.33
29F532	S-2408-CCT	8	2.70	2.18	1.80	1.44
29F533	S-2410-CCT	10	2.96	2.35	1.97	1.58
29F534	S-2412-CCT	12	3.21	2.57	2.15	1.73

PLUGS WITH CABLE CLAMPS IN END

29F1112	P-2402-CCE	2	1.85	1.51	1.26	1.01
29F1113	P-2404-CCE	4	2.12	1.71	1.41	1.12
29F1114	P-2406-CCE	6	2.35	1.88	1.58	1.29
29F1115	P-2408-CCE	8	2.60	2.08	1.76	1.39
29F1116	P-2410-CCE	10	2.86	2.30	1.93	1.53
29F1117	P-2412-CCE	12	3.11	2.49	2.07	1.64

SOCKETS WITH CABLE CLAMPS IN END

29F1124	S-2402-CCE	2	2.03	1.61	1.36	1.08
29F1125	S-2404-CCE	4	2.23	1.79	1.51	1.20
29F1126	S-2406-CCE	6	2.49	1.98	1.70	1.35
29F1127	S-2408-CCE	8	2.75	2.21	1.84	1.46
29F1128	S-2410-CCE	10	3.01	2.40	2.01	1.60
29F1129	S-2412-CCE	12	3.27	2.62	2.20	1.76

PLUGS WITH DEEP BRACKETS FOR RECESSED MOUNTING

29F1094	P-2402-DB	2	1.43	1.12	.97	.78
29F1095	P-2404-DB	4	1.64	1.29	1.10	.89
29F1096	P-2406-DB	6	1.91	1.52	1.29	1.03
29F1097	P-2408-DB	8	2.14	1.73	1.43	1.12
29F1098	P-2410-DB	10	2.37	1.91	1.58	1.29
29F1099	P-2412-DB	12	2.60	2.08	1.76	1.39

SOCKETS WITH DEEP BRACKETS FOR RECESSED MOUNTING

29F900	S-2402-DB	2	1.53	1.24	1.03	.83
29F901	S-2404-DB	4	1.78	1.43	1.20	.97
29F902	S-2406-DB	6	2.03	1.61	1.36	1.08
29F903	S-2408-DB	8	2.28	1.81	1.53	1.24
29F904	S-2410-DB	10	2.51	2.01	1.70	1.36
29F905	S-2412-DB	12	2.76	2.22	1.85	1.49

PLUGS WITH SHALLOW BRACKETS FOR FLUSH MOUNTING

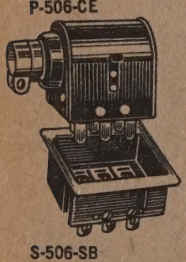
29F1106	P-2402-SB	2	1.33	1.05	.88	.70
29F1107	P-2404-SB	4	1.56	1.25	1.04	.84
29F1108	P-2406-SB	6	1.79	1.43	1.20	.98
29F1109	P-2408-SB	8	2.03	1.63	1.36	1.08
29F1110	P-2410-SB	10	2.26	1.81	1.52	1.22
29F1111	P-2412-SB	12	2.52	1.99	1.70	1.35

SOCKETS WITH SHALLOW BRACKET FOR FLUSH MOUNTING

29F535	S-2402-SB	2	1.43	1.12	.97	.78
29F536	S-2404-SB	4	1.67	1.35	1.11	.89
29F537	S-2406-SB	6	1.93	1.54	1.30	1.03
29F538	S-2408-SB	8	2.18	1.74	1.45	1.16
29F539	S-2410-SB	10	2.43	1.94	1.60	1.32
29F540	S-2412-SB	12	2.68	2.14	1.79	1.43

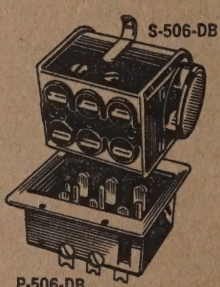
500 SERIES

Type CE for Cable Clamp in End


P-506-CE

S-506-SB

Type DB With Deep Bracket for Recessed Mounting


S-506-DB

P-506-DB

Type SB With Shallow Bracket for Flush Mounting

S-506-CE

P-506-SB

Features three types, Type DB with deep brackets for recessed mounting; Type CE for cable clamp in end; Type SB with shallow bracket for flush mounting. Rated voltage: 3Kv, max. Rated current: 25 amperes per contact. Power capacity: 5Kw, max. Contacts: Male, Cadmium-plated brass; Female, cadmium-plated phosphor. Caps and brackets: Parkerized steel.

SHALLOW BRACKET FOR FLUSH MOUNTING

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249
45F857	P-502-SB	2	12.75	10.24	8.01	6.90
45F858	P-504-SB	4	14.63	11.69	9.49	8.38
45F859	P-506-SB	6	16.37	13.10	10.88	9.78
45F860	P-508-SB	8	17.87	14.32	12.09	10.94
45F880	P-510-SB	10	19.38	15.51	13.31	12.18
45F861	P-512-SB	12	20.45	16.44	14.22	13.10
45F862	S-502-SB	2	12.73	10.24	8.01	6.90
45F863	S-504-SB	4	14.63	11.69	9.49	8.38
45F864	S-506-SB	6	16.37	13.10	10.88	9.78
45F865	S-508-SB	8	17.87	14.32	12.09	10.94
45F866	S-510-SB	10	19.38	15.51	13.31	12.18
45F867	S-512-SB	12	20.45	16.44	14.22	13.10

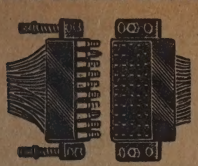
DEEP BRACKET FOR RECESSED MOUNTING

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249
45F845	S-502-DB	2	12.73	10.24	8.01	6.90
45F846	S-504-DB	4	14.63	11.69	9.49	8.38
45F847	S-506-DB	6	16.37	13.10	10.88	9.78
45F848	S-508-DB	8	17.87	14.32	12.09	10.94
45F849	S-510-DB	10	19.38	15.51	13.31	12.18
45F850	S-512-DB	12	20.45	16.44	14.22	13.10
45F851	P-502-DB	2	12.75	10.24	8.01	6.90
45F852	P-504-DB	4	14.63	11.69	9.49	8.38
45F853	P-506-DB	6	16.37	13.10	10.88	9.78
45F854	P-508-DB	8	17.87	14.32	12.09	10.94
45F855	P-510-DB	10	19.38	15.51	13.31	12.18
45F856	P-512-DB	12	20.45	16.44	14.22	13.10

CABLE CLAMP IN END

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249
45F868	S-502-CE	2	15.08	12.08	9.85	8.75
45F869	S-504-CE	4	17.42	13.92	11.69	10.60
45F870	S-506-CE	6	19.04	15.23	13.02	11.89
45F871	S-508-CE	8	20.07	15.95	13.75	12.60
45F872	S-510-CE	10	21.81	17.47	15.23	14.13
45F873	S-512-CE	12	23.21	18.58	15.99	15.23
45F874	P-502-CE	2	15.08	12.08	9.85	8.75
45F875	P-504-CE	4	17.42	13.92	11.69	10.60
45F876	P-506-CE	6	19.04	15.23	13.01	11.89
45F877	P-508-CE	8	19.97	15.95	13.75	12.60
45F878	P-510-CE	10	21.81	17.47	15.23	14.13
45F879	P-512-CE	12	23.21	18.58	16.36	15.23

MINI-JONES CRIMP-ON, SNAP-IN CONNECTORS



Light duty, multiple contact connector. Casting and bulk pins or contacts. No insertion tool required. Rack and panel, cable-to-cable, or cable-to-chassis mounting. Contact density of 25 contacts per sq. in. Accepts following stranded wire sizes: one AWG 18, 20, 22, 24; also two AWG 22, 24. Voltage Rating: 830 VRMS, 1230 VDC. Current Rating: 4.0 Amps. Contact Res: .0065 Max. Low Level Contact Res: current flow at 0.1 microV, no variation of contact Res. at 6.5 and 16.25 ma. Insulation Res: 1000 megohms. Contacts: Phosphor and Bronze. Polarizing pins and lock nuts: brass. Locking screw: steel. Locking spring: music wire. MJP-2/MJS-2 provide for MJ-SL screw locks.

Stock No.	Type No.	Pins or Contacts Supplied	1-24	25-49	50-99	100-249
28F1124	MJP-39	39	5.12	4.09	3.41	2.72
28F1127	MJP-68	68	6.97	5.56	4.65	3.72
28F1129	MJP-2-29	29	6.05	4.83	4.04	3.23
28F1130	MJP-2-39	39	6.71	5.37	4.46	3.58
28F1131	MJP-2-48	48	7.23	5.79	4.83	3.87
28F1133	MJP-2-68	68	8.56	6.85	5.72	4.59
28F1136	MJS-39	39	4.31	3.45	2.88	2.30
28F1139	MJS-68	68	5.55	4.45	3.72	2.99
28F1140	MJS-2-19	19	4.97	3.96	3.32	2.66
28F1141	MJS-2-29	29	5.43	4.34	3.62	2.90
28F1142	MJS-2-39	39	5.89	4.71	3.93	3.17
28F1143	MJS-2-48	48	6.23	4.99	4.16	3.33
28F1145	MJS-2-68	68	7.14	5.76	4.80	3.82

SCREW LOCK AND SPRING

Type MJ-SL. Spring-loaded stud-lock which fits MJP-2/MJS-2 series plugs and sockets interchangeably to complete lock.

Stock No.	Type	1-24	25-49	50-99	100-249
23F1146	MJ-SL	1.37	1.07	.92	.72

CRIMPING TOOL

Type CT-5B. Manually operated tool for crimping wire to "Mini-Jones" plug or receptacle contacts. Cycle controlled.
28F1149. NET.....168.10

PIN REMOVAL TOOL

CT-5A. Nylon hand tool with separate tips for removing contacts from "Mini-Jones" plug or receptacle.
28F1150. NET.....1.42

HINGE CONNECTORS

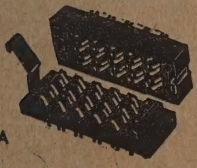


Fig. A

Fig. B

Maximum number of contacts in minimum of space. Easily engaged and disengaged. Locking device insures positive contact. Type 37 plugs and sockets are black Bakelite type CFG. All 1⅛" wide.

SOCKETS WITH LOCKS—FIG. A

Stk. No.	Type No.	1-24	25-49	50-99	100-249
29F907	37F30L	5.71	4.54	3.82	3.06
29F908	37F40L	6.58	5.26	4.37	3.51
29F909	37F50L	7.43	5.94	4.95	3.99
29F910	37F60L	8.28	6.62	5.54	4.43
29F912	37F80L	10.01	7.98	6.66	5.37
29F914	37F100L	11.73	9.40	7.84	6.27

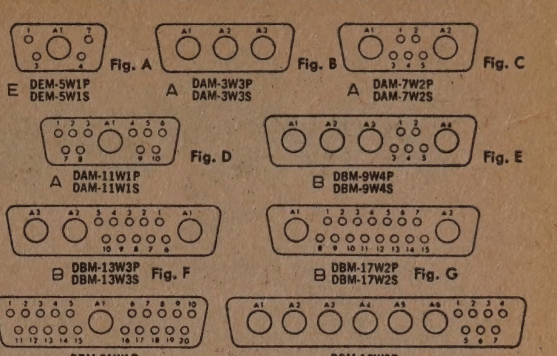
PLUGS W/O LOCKS Mates With Sockets Above

Stk. No.	Type No.	1-24	25-49	50-99	100-249
29F934	37M30	5.19	4.15	3.47	2.79
29F935	37M40	6.08	4.87	4.04	3.25
29F936	37M50	6.93	5.55	4.62	3.70
29F937	37M60	7.81	6.24	5.19	4.15
29F939	37M80	9.54	7.63	6.34	5.10
29F941	37M100	11.22	9.00	7.52	6.00

Fig. B—CAPS TO FIT HINGE CONNECTORS LISTED ABOVE

Stk. No.	Type	For Types	Hole Size	1-24	25-49	50-99	100-249
29F944	37C40	M/F40	13/16x1"	6.87	5.47	4.56	3.67
29F945	37C50	M/F50	13/16x1"	6.93	5.55	4.62	3.70
29F946	37C60	M/F60	13/16x1½"	7.00	5.60	4.68	3.73
29F948	37C80	M/F80	13/16x1½"	7.13	5.72	4.75	3.83
29F950	37C100	M/F100	13/16x1½"	7.30	5.82	4.88	3.89

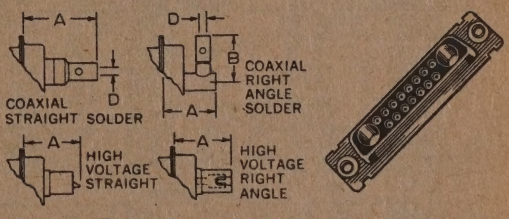
SUBMINIATURE CONNECTORS



Combination layouts are supplied with unfilled coaxial and/or HV contact cavities. Coaxial and HV contacts must be ordered separately, and may be used interchangeably in any of the layouts listed. HV contacts accommodate wire sizes up to 20. Coaxial contacts (with crimp or solder type terminations) and HV contacts are snap-in and removable. Solder type coaxial and HV contacts have captivated center contacts.

Stk. No.	Type	Fig.	1-9	10-49	50-99	100-249
45F791	DEM-5W1P	A	2.54	2.27	1.91	1.52
45F792	DEM-5W1S	A	2.92	2.62	2.19	1.75
45F793	DAM-3W3P	B	1.96	1.76	1.47	1.18
45F794	DAM-3W3S	B	1.96	1.76	1.47	1.18
29F2670	DAM-7W2P	C	2.78	2.53	2.11	1.68
29F2671	DAM-7W2S	C	3.26	2.96	2.46	1.96
45F795	DAM-11W1P	D	3.66	3.30	2.74	2.21
45F796	DAM-11W1S	D	4.59	4.14	3.46	2.75
45F797	DBM-9W4P	E	3.03	2.71	2.26	1.81
45F798	DBM-9W4S	E	3.49	3.14	2.63	2.10
29F2672	DBM-13W3P	F	3.89	3.50	2.93	2.32
29F2673	DBM-13W3S	F	4.81	4.34	3.61	2.91
45F799	DBM-17W2P	G	4.76	4.28	3.55	2.84
45F800	DBM-17W2S	G	6.14	5.53	4.61	3.70
45F801	DBM-21W1P	H	5.62	5.05	4.23	3.36
45F802	DBM-21W1S	H	7.47	6.73	5.62	4.49
45F803	DCM-13W6P	K	3.64	3.28	2.74	2.19
45F804	DCM-13W6S	K	4.30	3.87	3.22	2.58

CONTACTS FOR COMBINATION LAYOUT CONNECTORS



HIGH VOLTAGE CONTACTS

Stk. No.	Type	Style	Wire Size	1-9	10-49	50-99	100-249
45F805	DM-53745-0000	Straight Plug	#20	1.33	1.23	1.12	1.02
45F806	DM-53744-0000	Straight Receptacle	#20	1.50	1.37	1.24	1.13
45F807	DM-53745-5000	Rt. Angle Plug	#20	2.10	1.93	1.81	1.63
45F808	DM-53744-5000	Rt. Angle Receptacle	#20	1.88	1.70	1.55	1.40

COAXIAL STRAIGHT SOLDER CONTACTS

Stk. No.	Type	Style	RG Cables	1-9	10-49	50-99
45F809	DM-53740-5008	Plug	196/U	2.12	1.95	1.76
29F2650	DM-53740-5001	Plug	187/188/U	2.10	1.93	1.81
45F810	DM-53740-5002	Plug	195/U	2.17	1.98	1.81
45F811	DM-53740-5000	Plug (Short Type)	196/U	2.12	1.95	1.76
29F2651	DM-53742-5001	Receptacle	187/188/U	2.12	1.95	1.76
45F812	DM-53742-5002	Receptacle	195/U	2.27	2.10	1.91
29F2674	DM-53742-5004	Receptacle	58/U	3.11	2.80	2.57
45F813	DM-53742-5000	Recept. (Short Type)	196/U	2.23	2.02	1.85

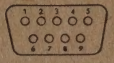
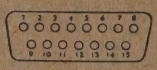
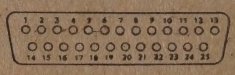
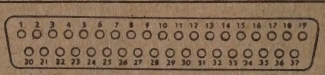
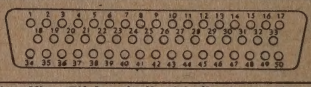
COAXIAL RIGHT ANGLE SOLDER CONTACTS

Stk. No.	Type	Style	RG Cables	1-9	10-49	50-99	100-249
45F814	DM-53741-5000	Plug	196/U	2.36	2.16	1.96	1.76
57F3202	DM-53741-5001	Plug	187/188/U	2.54	2.33	2.12	1.91
45F815	DM-53743-5000	Receptacle	196/U	2.82	2.59	2.36	2.12
45F816	DM-53743-5001	Receptacle	187/188/U	2.77	2.55	2.32	2.08

TRW Cinch Subminiature Connectors

DATA

Voltage rating: 1250 VAC test, 1700 flashover. Current rating: 5 amperes. Insulation resistance: greater than 5,000 megohms. Contact voltage drop: (#20 contacts) 2.67 millivolts max. amp. Shells: Steel cadmium-plated. Insulators: See insulator type below. Pin contacts: D*C cadmium copper with gold over nickel at contacting area, gold flash overall. Stamped: gold over nickel. Machined: copper alloy with gold over nickel. D* and D*M-Brass gold-plated over silver; D*MA-Leaded copper, gold-plated over silver; Dataphone-Brass, gold-plated over copper. Socket contacts: D*-Phosphor bronze, gold-plated over silver; D*M-Brass gold-plated over silver; D*MA-Leaded copper, gold-plated over silver; copper alloy, gold plate over silver plate with stainless steel sleeves. Dataphone-Phosphor bronze, gold-plated over copper.

BASIC LAYOUT CONNECTORS (#20 contacts only)	LAYOUT	SHELL SIZE
	9 Contact Plug Socket	E
	15 Contact Plug Socket	A
	25 Contact Plug Socket	B
	37 Contact Plug Socket	C
	50 Contact Plug Socket	D

Add suffix "F" for shell with float mounts, as DEF, DEMF, etc.

TYPE	DESCRIPTION	COMMON NAME	INSULATOR TYPE	CONTACT TERMINATION
D*C	D connectors for commercial applications where economy is an important factor. Rear-release crimp snap-in contacts, that are readily inserted and removed.	Burgun-D	Two-piece glass filled nylon (per Fed. Spec. L-P-395B)	Crimp snap-in inserted and removed with small hand tool
D*MA	D connectors for the most critical applications. Monobloc insulators and "Little Caesar" contact assemblies Military version meets MIL-C-24308.	Mark III ROYAL D	Monobloc diallyl, phthalate, GD-1-30F	Crimp insert by hand, remove with small tool
D*M	D connectors with monobloc insulator for more critical application requirements.	Golden D, Mark I	Monobloc, diallyl phthalate, SDG-F	Solder pot or right angle P.C. Plug only
		Golden D, Mark I Combination	Monobloc, diallyl phthalate, SDG-F	Solder pot with coaxial and/or HV
D*	Original D connectors with two-piece insulators.	Original D	Two-piece, nylon	Solder pot
		Original D	Two-piece, nylon	.025"Sq.,0.375"longwire-wrap
DATA PHONE	Same as D*	—	Diallyl phthalate, GDI-30	Solder pot

Manufactured under license agreement with ITT Cannon Electric, Inc.

*Insert No. of contacts.

ORIGINAL "D"

SOLDER POT

Stock No.	Type	No. of Contacts	1-9	10-49	50-99	100-249
43F200	DE-9P	9	1.49	1.34	1.14	.89
43F201	DE-9S	9	2.15	1.92	1.60	1.27
43F202	DA-15P	15	2.11	1.90	1.59	1.26
43F203	DA-15S	15	3.10	2.80	2.33	1.87
43F205	DB-25P	25	3.05	2.84	2.33	1.82
43F206	DB-25S	25	4.77	4.29	3.57	2.86
43F208	DC-37P	37	4.14	3.73	3.09	2.49
43F209	DC-37S	37	6.75	6.08	5.07	4.05
43F210	DD-50P	50	5.40	4.85	4.03	3.25
43F211	DD-50S	50	8.91	8.01	6.69	5.32

WIRE WRAP

29F1350	DE-9P-F179	9	2.42	1.96	1.71	1.50
29F1362	DE-9S-F179	9	4.39	3.50	2.92	2.33
29F1351	DA-15P-F179	15	3.14	2.49	2.20	1.96
29F1363	DA-15S-F179	15	6.02	4.79	3.99	3.19
29F1352	DB-25P-F179	25	4.93	3.93	3.41	2.84
29F1364	DB-25S-F179	25	6.99	5.62	4.92	4.39
29F1353	DC-37P-F179	37	6.72	5.32	4.72	4.07
29F1365	DC-37S-F179	37	9.31	7.46	7.11	6.74
29F1354	DD-50P-F179	50	7.98	6.36	5.60	5.04
29F1366	DD-50S-F179	50	12.27	9.80	9.32	8.78

P.C. CONTACTS

45F817	DE-9PV	9	2.26	1.92	1.68	1.47
45F818	DE-9SV	9	3.17	2.69	2.39	2.03
29F2661	DA-15PV	15	3.14	2.83	2.55	2.24
29F2660	DA-15SV	15	4.53	4.08	3.61	3.14
45F819	DB-25PV	25	7.02	6.33	5.28	4.23
45F820	DB-25SV	25	10.06	9.05	7.58	6.05
45F821	DC-37PV	37	7.17	6.08	5.48	4.85
45F822	DC-37SV	37	10.89	9.23	8.23	7.22
45F823	DD-50PV	50	9.49	8.04	7.24	6.42
45F824	DD-50SV	50	14.48	12.28	10.91	9.58

DATAPHONE

43F249	DA-19603-403	15	3.36	3.15	2.84	2.54
43F246	DA-19603-404	15	7.29	6.69	6.13	5.47
43F250	DB-19604-432	25	4.64	4.34	3.89	3.44
43F247	DB-19604-433	25	11.88	10.87	9.88	8.91

For Detailed Test Data And Technical Information Ask For Cinch Catalog C-46.

GOLDEN "D", MARK I

SOLDER POT

Stock No.	Type	No. of Contacts	1-9	10-49	50-99	100-249
43F233	DEM-9P	9	2.96	2.66	2.22	1.77
43F234	DEM-9S	9	4.07	3.66	3.06	2.46
43F235	DAM-15P	15	4.25	3.83	3.18	2.55
43F236	DAM-15S	15	6.04	5.43	4.53	3.61
43F238	DBM-25P	25	6.27	5.63	4.72	3.76
43F239	DBM-25S	25	9.29	8.35	6.98	5.56
43F241	DCM-37P	37	8.74	7.86	6.55	6.55
43F242	DCM-37S	37	13.26	11.92	9.92	7.93
43F243	DDM-50P	50	11.31	10.20	8.49	6.81
43F244	DDM-50S	50	17.34	15.60	13.03	10.42

RIGHT ANGLE

29F1360	DEM-9PA	9	8.68	8.53	7.77	6.99
29F1361	DAM-15PA	15	12.32	11.20	9.33	8.49
29F1372	DBM-25PA	25	18.44	16.77	15.24	13.71
29F1373	DCM-37PA	37	20.30	18.43	17.23	15.98

ROYAL "D", MARK III

CRIMP/REMOVABLE CONTACTS

45F825	DEMA-9P	9	7.20	6.48	5.41	4.31
45F826	DEMA-9S	9	7.42	6.68	5.55	4.46
45F827	DAMA-15P	15	9.17	8.25	6.86	5.51
45F828	DAMA-15S	15	10.32	9.29	7.73	6.20
45F829	DBMA-25P	25	12.31	11.09	9.24	7.39
45F830	DBMA-25S	25	15.01	13.50	11.26	9.00
45F831	DCMA-37P	37	16.08	14.47	12.05	9.66
45F832	DCMA-37S	37	20.58	18.53	15.45	12.35
45F833	DDMA-50P	50	20.11	18.09	15.07	12.05
45F834	DDMA-50S	50	26.58	23.90	19.93	15.95

CRIMP/REMOVABLE CONTACTS, MIL VERSION

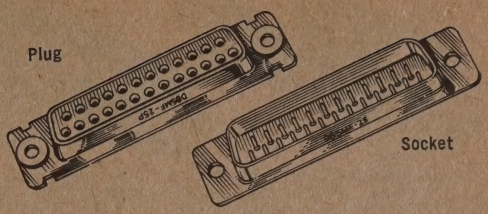
Stock No.	Type	Desc.	No. of Contacts	1-9	10-49	50-99
45F844	M24308/4-1	Plug	9	7.54	6.73	5.66
45F995	M24308/2-1	Socket	9	7.88	6.90	5.78
45F996	M24308/4-2	Plug	15	9.58	8.57	7.20
45F997	M24308/2-2	Socket	15	10.86	9.67	8.11
45F998	M24308/4-3	Plug	25	12.84	11.54	9.69
45F999	M24308/2-3	Socket	25	15.69	14.13	11.88
45F1001	M24308/4-4	Plug	37	17.05	15.22	12.80
45F1002	M24308/2-4	Socket	37	21.84	19.45	16.36
45F1003	M24308/4-5	Plug	50	21.24	19.01	15.98
45F1004	M24308/2-5	Socket	50	27.99	25.15	21.18

Cinch D-Subminiature Connectors

TRW

BURGUN-D

Utilize Monobloc insulators, have rear release contact assembly where contacts are inserted by hand and extracted at the rear of the connector with a simple plastic tool. For commercial applications where economy is an important factor.



CONNECTOR WITH MACHINED CONTACTS

Stk. No.	Type	No of Cont.	1-9	10-49	50-99	100-249
57F3218	DEC-9P	9	1.56	1.39	1.11	.88
57F3219	DEC-9S	9	2.12	1.91	1.51	1.23
57F3220	DAC-15P	15	2.09	1.87	1.49	1.20
57F3221	DAC-15S	15	3.00	2.69	2.13	1.71
57F3222	DBC-25P	25	2.94	2.62	2.10	1.67
57F3223	DBC-25S	25	4.36	3.90	3.14	2.54
57F3224	DCC-37P	37	4.05	3.62	2.93	2.36
57F3225	DCC-37S	37	6.23	5.60	4.56	3.64
57F3226	DDC-50P	50	5.08	4.57	3.68	2.96
57F3227	DDC-50S	50	7.94	7.11	5.81	4.67

MACHINED CONTACTS

Stk. No.	Type	Description	100-4999	5000-24,999
45F974	030-1952-000	Pin	.06	.05
45F975	030-1953-000	Socket	.10	.08

TOOLS

TYPE CET-20-11. Mark III Commercial Extraction Tool.
45F976. NET ..... .26

TYPE CIET-20-HDB Burgun-D Insertion-Extraction Tool.
45F977. NET 1.24

TYPE BT-20-HC. Burgun-D loose stamped contacts Hand Crimp Tool.
45F978. NET 143.00

TYPE CIET-20-HD. Military Insertion-Extraction Tool.
45F979. NET 1.73

CONNECTORS LESS CONTACTS

Stk. No.	Type	No. of Cont.	1-9	10-49	50-99	100-249
57F3208	DEC-9PFO	9	.85	.76	.61	.51
57F3209	DEC-9SFO	9	.85	.76	.61	.51
57F3210	DAC-15PFO	15	.93	.83	.67	.54
57F3211	DAC-15SFO	15	.93	.83	.67	.54
57F3212	DBC-25PFO	25	1.03	.89	.78	.59
57F3213	DBC-25SFO	25	.96	.84	.71	.55
57F3214	DCC-37PFO	37	1.24	1.08	.89	.72
57F3215	DCC-37SFO	37	1.19	1.04	.88	.69
57F3216	DDC-50PFO	50	1.33	1.19	.94	.76
57F3217	DDC-50SFO	50	1.21	1.07	.92	.71

STAMPED CONTACTS

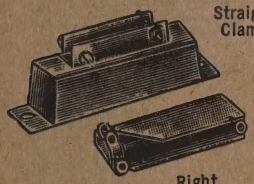
SOLD IN MULTIPLES OF 100 PIECES ONLY

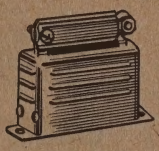
Stk. No.	Type	Desc.	100-4900	4900-24,900
45F980	030-1960-005	Pin	.06	.05
45F981	030-1957-005	Socket	.07	.05

ON REELS

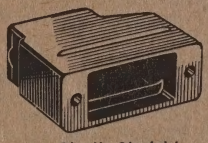
Right Hand Feed		Left Hand Feed			100-	5000-
Stk. No.	Type	Stk. No.	Type	Desc.	4999	24,999
45F982	BCR-1960-20P	45F984	D110238-034	Pin	.06	.04
45F983	BCR-1957-20S	45F985	D110238-035	Socket	.06	.04

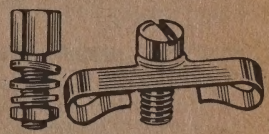
D-SUBMINIATURE ACCESSORIES




Dataphone Hood

Deep Straight Clamp


Plastic Straight Clamp


Male Female

STRAIGHT CLAMP

2 Cable Locking Screws required except (*) 3

Stk. No.	Type	Shell Size	1-9	10-49	50-99
43F212	DA-19678-1	15	1.29	1.18	.99
43F213	DB-19678-2	25	1.54	1.39	1.17
43F214	DC-19678-3*	37	1.84	1.66	1.39
43F215	DD-19678-4*	50	2.01	1.86	1.50

Shell	Right Angle Clamp			10-	Straight Clamp			10-
Size	Stk. No.	Type	1-9	49	Stk. No.	Type	1-9	49
9	43F220	DE-19977-5	2.17	1.95	45F986	DE-24657	2.42	2.23
15	43F216	DA-19977-1	1.70	1.52	29F2662	DA-24658	2.39	2.21
25	43F217	DB-19977-2	1.87	1.68	45F987	DB-24659	1.92	1.75
37	43F218	DC-19977-3	1.97	1.77	45F988	DC-24660	2.00	1.82
50	43F219	DD-19977-4	2.15	1.92	45F989	DD-24661	2.25	2.12

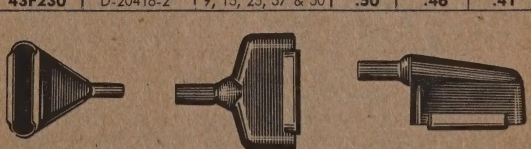
Shell	Dataphone Hoods			10-	Plastic Straight			10-
Size	Stk. No.	Type	1-9	49	Stk. No.	Type	1-9	49
9	.....				45F990	DE-51218-1	1.37	1.16
15	43F252	DA-51225-1	1.70	1.52	45F991	DA-51210-1	1.37	1.16
25	43F253	DB-51226-1	1.88	1.58	29F2663	DB-51212-1	1.36	1.15

SCREW LOCK ASSEMBLIES

Male except (*) Female

Stk. No.	Type	Shell Size	1-9	10-49	50-99
43F231	D-20419	9, 15, 25 & 37	.32	.29	.25
45F992	D-20419-16	9, 15, 25 & 37	.49	.42	.36
43F232	D-20420	50	.47	.44	.36
45F993	D-20420-12	9, 15, 25, 37 & 50	.66	.56	.47
43F230	D-20418-2*	9, 15, 25, 37 & 50	.50	.46	.41

FIT-BOOTS — For D-Subminiature Connectors — Shrinks Tight Over Connector Shells. Designed specifically for subminiature rectangular connectors manufactured by Cinch. Replaces metal molds and plotting forms used on molded harnesses. Provide a strain relief, a convenient handle, and seal out contaminants. Molded of a heat shrinkable, modified polyolefin compound with excellent physical and electrical properties. Any heat gun may be used to shrink boots.

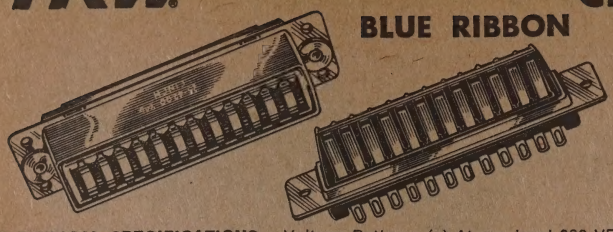


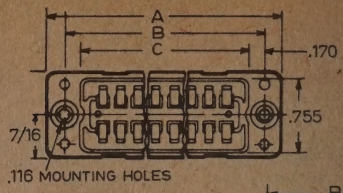
Top Entry A			End Entry B			Side Entry C		
Stk. No.	Alpha No.	Fits Cinch	Stk. No.	Alpha No.	Fits Cinch	Stk. No.	Alpha No.	Fits Cinch
37F1094	FIT-BOOT-1	DE-9	37F1099	FIT-BOOT-6	DE-9	37F1104	FIT-BOOT-11	DE-9
37F1095	FIT-BOOT-2	DA-15	37F1100	FIT-BOOT-7	DA-15	37F1105	FIT-BOOT-12	DA-15
37F1096	FIT-BOOT-3	DB-25	37F1101	FIT-BOOT-8	DB-25	37F1106	FIT-BOOT-13	DB-25
37F1097	FIT-BOOT-4	DC-37	37F1102	FIT-BOOT-9	DC-37	37F1109	FIT-BOOT-14	DC-37
37F1098	FIT-BOOT-5	DD-50	37F1103	FIT-BOOT-10	DD-50	37F1110	FIT-BOOT-15	DD-50

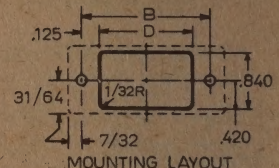
TRW

Cinch-Ribbon Connectors

BLUE RIBBON







ELECTRICAL SPECIFICATIONS — Voltage Ratings: (a) At sea level 800 VDC, (b) At 70,000 feet 300 VDC. Contact Current Rating: 5 Amperes. Contact Resistance: .003 Ohms maximum. Insulation Resistance (As Received): 100,000 Megohms minimum.

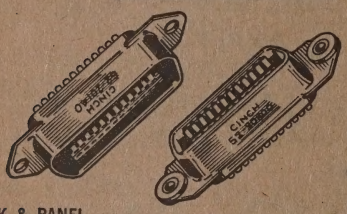
MECHANICAL SPECIFICATIONS — Contacts: Plug, Copper, ASTM-B-152, Type ETP, Socket, Phosphor bronze, ASTM-B-103, MIL-B-892, Grade A. Finish: .00002 Gold per MIL-G-45204, Type II over copper flash. Mounting Plate: Passivated stainless steel. Temperature Range: —67°C to 130°C.

Stk. No.	Type	No. of Contacts	1-9	10-49	50-99	100-249
45F936	26-4100-8P	8	1.30	1.11	.90	.81
45F937	26-4100-16P	16	2.45	2.06	1.68	1.52
45F938	26-4100-24P	24	2.97	2.49	2.02	1.81
45F939	26-4100-32P	32	3.45	2.90	2.34	2.13
45F940	26-4200-8S	8	2.16	1.81	1.49	1.32
45F941	26-4200-16S	16	3.14	2.65	2.15	1.93
45F942	26-4200-24S	24	3.71	3.12	2.53	2.27
45F943	26-4200-32S	32	4.42	3.72	3.02	2.71

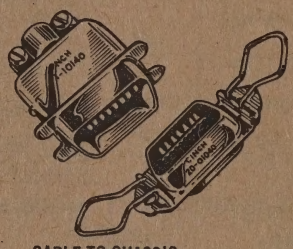
DIMENSIONS

Type	Dimensions A	B	C	D (Min.)
26-4100-8P	1 23/32	1.375	1 1/32	1.120
26-4100-16P	2 15/32	2.125	1 25/32	1.868
26-4100-24P	3 7/32	2.875	2 17/32	2.620
26-4100-32P	3 31/32	3.625	3 9/32	3.370
26-4200-8S	1 23/32	1.375	1 1/32	1.120
26-4200-16S	2 15/32	2.125	1 25/32	1.868
26-4200-24S	3 7/32	2.875	2 17/32	2.620
26-4200-32S	3 31/32	3.625	3 9/32	3.370

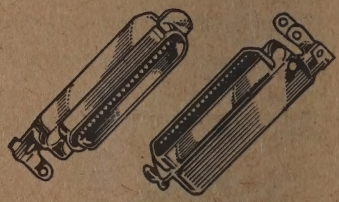
CINCH-RIBBON



RACK & PANEL



CABLE-TO-CHASSIS



DIMENSIONAL DATA

ELECTRICAL SPECIFICATIONS

Voltage Ratings: (a) At Sea Level 500 VRMS, 700 VDC, (b) At 70,000 feet 125 VRMS, 200 VDC. Contact Current Rating: 5 Amperes. Contact Resistance: .003 Ohms Average. Insulation Resistance (As Received). 5000 Megohms Min.

MECHANICAL SPECIFICATIONS

Contacts: Cadmium bronze, ASTM-B-105. Finish: .00002 Gold per MIL-G-45204, Type II, over copper flash. Housings: Brass alloy with .0002 to .0004 zinc. Plus clear chromate. Temperature Range: —55°C to 105°C.

High Barrier Connectors contain additional insulation material between opposite rows of contacts. Supplied assembled with polyethylene dust covers.

SIZE CHART

P.C.	Solder	Cable to Chassis	Dimensions A	B	C
57-10140-4	57-10140	57-40140	1.417	1.750	.910
57-20140-8	57-20140	57-30140	1.417	1.750	.910
57-10240-3	57-10240	57-40240	1.842	2.175	1.335
57-20240-8	57-20240	57-30240	1.842	2.175	1.335
57-10360-13	57-10360	57-40360	2.352	2.685	1.845
57-20360-9	57-20360	57-30360	2.352	2.685	1.845
57-10500-27	57-10500	57-40500	2.947	3.270	2.440
57-20500-31	57-20500	57-30500	2.947	3.270	2.440

RACK AND PANEL PRINTED CIRCUIT CONTACTS

Stk. No.	Type	Description/ No. of Contacts	1-9	10-49	50-99
45F944	57-20140-8	Recept/14	2.90	2.44	1.98
45F945	57-10140-4	Plug/14	2.53	2.13	1.73
45F946	57-20240-8	Recept/24	3.47	2.92	2.38
45F947	57-10240-3	Plug/24	3.42	2.88	2.33
45F948	57-20360-9	Recept/36	4.18	3.51	2.85
45F949	57-10360-13	Plug/36	4.09	3.44	2.79
45F950	57-20500-31	Recept/50	5.53	4.64	3.78
45F951	57-10500-27	Plug/50	5.48	4.60	3.74

RACK & PANEL SOLDER CONTACTS

Stk. No.	Type	Description/ No. of Contacts	1-9	10-49	50-99
45F960	57-20140	Recept/14	2.31	1.95	1.56
45F961	57-10140	Plug/14	2.25	1.89	1.53
45F962	57-20240	Recept/24	3.08	2.59	2.12
45F963	57-10240	Plug/24	3.01	2.54	2.19
45F964	57-20360	Recept/36	3.53	2.97	2.41
45F965	57-10360	Plug/36	3.45	2.91	2.36
45F966	57-20500	Recept/50	4.59	3.88	3.15
45F967	57-10500	Plug/50	4.55	3.84	3.10

CABLE TO CHASSIS SOLDER CONTACTS

Stk. No.	Type	Description/ No. of Contacts	1-9	10-49	50-99
45F952	57-40140	Recept/14	3.88	2.40	1.95
45F953	57-30140	Plug/14	4.33	3.74	2.95
45F954	57-40240	Recept/24	3.38	2.84	2.31
45F955	57-30240	Plug/24	4.76	3.99	3.23
45F956	57-40360	Recept/36	3.66	3.08	2.49
45F957	57-30360	Plug/36	5.81	4.90	3.96
45F958	57-40500	Recept/50	4.78	4.02	3.25
45F959	57-30500	Plug/50	6.37	5.36	4.36

HIGH BARRIER

Stk. No.	Type	No. of Contacts	1-9	10-49	50-99
45F968	57-10500-6	Plug	4.60	3.89	3.16
45F969	57-10500-7	Plug	5.17	4.38	3.54
45F970	57-20500-6	Recept	4.80	4.06	3.31
45F971	57-20500-7	Recept	5.43	4.61	3.73

— 6 is Rack and Panel: — 7 is Cable to Cable

DUST CAPS

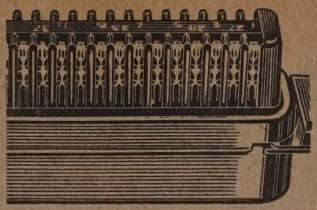
Fits 50 contact size Ribbon Connectors

Stk. No.	Type	Description	1-9	10-49	50-99	100-249
45F972	57-1008	For Plug	.19	.16	.13	.11
45F973	57-1022	For Socket	.19	.16	.13	.11

Cinch Solderless Ribbon Connectors

TRW

Has all the quality features of the solder type Cinch Ribbon Connectors, are intermateable and utilize all the same hardware. Can be terminated with automatic, semi-automatic, or field hand tools. Each contact provides four gas-tight connections for both solid and stranded wire. Termination speeds far exceed soldering techniques. Built-in strain relief in each contact prevents any inadvertent removal of wires; contacts can be reused without physical damage or electrical degradation.



RACK & PANEL—RECEPTACLE

Stk. No.	Type	Cont.	Wire	Stk. No	Type	Cont.	Wire	1-9	10-49	50-99	100-249
43F156	77-22140	14	Solid	43F164	77-20140	14	Stranded	2.31	1.95	1.56	1.44
43F157	77-22240	24	Solid	43F165	77-20240	24	Stranded	3.08	2.59	2.12	1.89
43F158	77-22360	36	Solid	43F166	77-20360	36	Stranded	3.53	2.97	2.41	2.18
43F159	77-22500	50	Solid	43F167	77-20500	50	Stranded	4.59	3.88	3.15	2.82

RACK & PANEL—PLUG

43F160	77-12140	14	Solid	43F168	77-10140	14	Stranded	2.25	1.89	1.53	1.41
43F161	77-12240	24	Solid	43F169	77-10240	24	Stranded	3.01	2.54	2.19	1.85
43F162	77-12360	36	Solid	43F170	77-10360	36	Stranded	3.45	2.91	2.36	2.12
43F163	77-12500	50	Solid	43F171	77-10500	50	Stranded	4.55	3.84	3.10	2.77

CABLE TO CHASSIS—RECEPTACLE

43F172	77-42140	14	Solid	43F176	77-40140	14	Stranded	3.08	2.40	1.95	1.75
43F173	77-42240	24	Solid	43F177	77-40240	24	Stranded	3.38	2.84	2.31	2.08
43F174	77-42360	36	Solid	43F178	77-40360	36	Stranded	3.66	3.08	2.49	2.23
43F175	77-42500	50	Solid	43F179	77-40500	50	Stranded	4.78	4.02	3.25	2.92

CABLE-TO-CHASSIS—PLUG

43F180	77-32140	14	Solid	43F184	77-30140	14	Stranded	4.33	3.74	2.95	2.65
43F181	77-32240	24	Solid	43F185	77-30240	24	Stranded	4.76	3.99	3.23	2.91
43F182	77-32360	36	Solid	43F186	77-30360	36	Stranded	5.81	4.90	3.96	3.54
43F183	77-32500	50	Solid	43F187	77-30500	50	Stranded	6.37	5.36	4.36	3.90

CABLE-TO-CABLE—RECEPTACLE

43F188	77-82500	50	Solid	43F190	77-80500	50	Stranded	4.46	3.75	3.05	2.72
43F189	77-82500-1*	50	Solid	43F191	77-80500-1*	50	Stranded	4.46	3.75	3.05	2.72

CABLE-TO-CABLE—PLUG

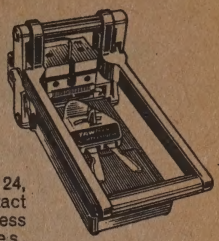
43F192	77-72500	50	Solid	43F194	77-70500	50	Stranded	4.46	3.75	3.05	2.72
43F193	77-72500-1*	50	Solid	43F195	77-70500-1*	50	Stranded	4.46	3.75	3.05	2.72

*Shallow Hood.

Type SRT-358. Plier Repair Tool. This hand tool will terminate solderless ribbon connectors regardless of manufacturer.
43F196. NET.....15.00

TOOLS

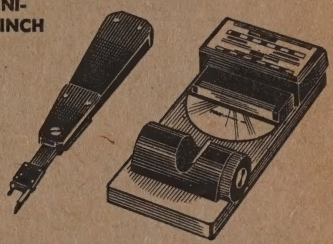
CERTI-CLINCH



Terminates 14, 24, 36, and 50 contact connectors in less than 4 minutes. Readily portable and requires no set-up time. Semi-automatic. Contact Newark for specific details to terminate other manufacturers solderless connectors using this basic tool.

Stk. No.	Type	Description	
43F197	SCT-334	Solid Wire Only	375.00
43F198	SCTU-359	Solid & Stranded	475.00

MINI-CLINCH



TYPE MCK-309. Lightweight, belt-mounted unit that enables a serviceman in the field to terminate a 50-contact connector in less than 5 minutes. It can be used to terminate connectors at 90° to 180°. Wires are automatically cut as they are inserted into the terminals.

Stk. No.	Type	Description	
43F199	MCK-309	Mini-Clinch	150.00

PRECISION PRINTED CIRCUIT EDGE CONNECTORS FOR 1/16" BOARDS

.050 CONTACT CENTERS

TYKON EDGE CONNECTORS

High density (.050" centers) edge connectors for .062" printed circuit boards. Applications include diode on insulating substrates, memory planes and almost any type of modular plug-in unit. Furnished with conventional wiring tails suitable for welding or soldering.

ELECTRICAL SPECIFICATIONS

Voltage Ratings: a) At sea level (adj. terminals) 500 Volts RMS, 730 Volts DC, b) At sea level (to ground) 1160 Volts AC RMS, 1660 Volts DC, c) At an altitude of 60,000 ft. (adj. terminals) 165 Volts AC RMS, 230 Volts DC, d) At an altitude of 60,000 ft. (to ground) 300 Volts AC RMS, 400 Volts DC. **Current Rating:** .050 amps. **Contact Resistance:** At 20 Millivolts .040 ohms maximum, .020 ohms average. **Millivolt Drop:** At 0.50 amps 20 millivolts maximum. **Insulation Resistance** (As received): 5000 megohms minimum.

Stock No.	Type No.	Description	1-24	25-49	50-99	100-249
29F980	50-12A-40	6 dbl. row contacts	4.29	3.42	2.85	2.28
29F981	50-20A-40	10 dbl. row contacts	5.28	4.22	3.52	2.82
29F982	50-30A-40	15 dbl. row contacts	6.53	5.24	4.36	3.48
29F983	50-40A-40	20 dbl. row contacts	7.54	6.21	5.18	4.14
29F984	50-50A-40	25 dbl. row contacts	9.01	7.21	6.00	4.82
29F985	50-MC	Mounting Clip	.30	.22	.19	.18
29F986	50-PK	Polarizing Key	.24	.19	.18	.17

.100 CONTACT CENTERS

P.C. CONNECTORS

Molded of diallyl phthalate type SDG-F. Barriers accept polarization keys. Terminals on .100 centers. Handle 1/16" thick single or double sided boards. Gold plated. 3 amps. 600 VDC.

UL RECOGNIZED SOLDER

Stock No.	Type No.	No. of Contacts	1-24	25-49	50-99	100-249
29F1323	50-30C-10	15/30	3.87	3.09	2.59	2.05
29F1324	50-44C-10	22/44	4.57	3.64	3.04	2.43
29F1325	50-72C-10	36/72	5.94	4.76	3.97	3.18
29F1326	50-80C-10	40/80	6.28	5.02	4.18	3.33
29F1327	50-86C-10	43/86	6.67	5.32	4.44	3.54

DIP SOLDER

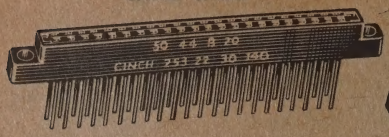
29F1328	50-30C-20	15/30	3.87	3.09	2.59	2.05
29F1329	50-44C-20	22/44	4.57	3.64	3.04	2.43
29F1330	50-72C-20	36/72	5.94	4.76	3.97	3.18
29F1331	50-80C-20	40/80	6.28	5.02	4.18	3.33
29F1332	50-86C-20	43/86	6.67	5.32	4.44	3.54

WIRE WRAP

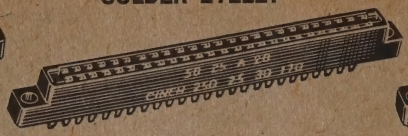
29F1333	50-30C-30	15/30	3.93	3.16	2.65	2.13
29F1334	50-44C-30	22/44	4.62	3.70	3.09	2.49
29F1335	50-72C-30	36/72	6.00	4.81	4.02	3.24
29F1336	50-80C-30	40/80	6.33	5.08	4.23	3.41
29F1337	50-86C-30	43/86	6.72	5.38	4.50	3.61

TRW Cinch Printed Circuit Edge Connectors

WIRE WRAP



SOLDER EYELET



DIP SOLDER

PRECISION MILITARY AND COMMERCIAL PRINTED CIRCUIT BOARD EDGE CONNECTORS—FEATURING .156 LEAD SPACING, 1/16" BOARDS

Designed for minimum printed circuit card wear, low insertion force, and positive contact with the printed circuit board. Insulation is glass-filled diallyl phthalate, Type 3DG-F per MIL-M-14. Contacts are phosphor bronze with a minimum of 30 microinches gold plate. Available with solder tab, dip solder, or wire wrap terminations. All utilize bifurcated contacts permitting two flexing surfaces instead of one for positive contact. Bifurcated contacts are especially recommended for added contact reliability where vibration or printed circuit board irregularities would otherwise cause trouble. U/L Recognized

ELECTRICAL SPECIFICATIONS — Voltage Rating (AC RMS, adj. terminals): 830 (Sea Level); 300 (3.4 Hg, 50,000 feet); 200 (1.3 Hg, 70,000 feet). Current: 5.0 Amps. Contact Resistance: .005 Ohms at Rated Current. Insulation Resistance: 5000 Megohms.

ENVIRONMENTAL SPECIFICATIONS—Per MIL-C-21097 and MIL-STD-202. Shock: 3 blows of 50G. Temperature Cycling: 5 continuous cycles, Test Condition B; Beryllium copper, —65°C to 125°C; Phosphor bronze, —65°C to 105°C. Salt Spray: 48 hrs., Condition B. Vibration: Condition B. Humidity: Condition B.

SINGLE READOUT WITH .128 MOUNTING HOLE

SOLDER EYELET

Stock No.	Type	Con. Pos.	1-24	25-49	50-99
29F952	50- 6A-20	6	1.53	1.22	1.04
29F953	50-10A-20	10	2.04	1.65	1.36
29F954	50-12A-20	12	2.32	1.94	1.54
29F955	50-15A-20	15	2.71	2.16	1.81
29F956	50-18A-20	18	3.09	2.47	2.05
29F957	50-22A-20	22	3.62	2.90	2.41
29F978	50-25A-20	25	4.33	3.45	2.88

5/32" DIP SOLDER

Stock No.	Type	Con. Pos.	1-24	25-49	50-99
28F1151	50- 6B-10	6	1.53	1.22	1.06
28F1152	50-10B-10	10	2.04	1.65	1.36
28F1153	50-15B-10	15	2.71	2.16	1.81
28F1154	50-18B-10	18	3.09	2.47	2.05
28F1155	50-22B-10	22	3.62	2.90	2.41
28F1156	50-25B-10	25	4.33	3.45	2.88

15/64" EXTENDED DIP

Stock No.	Type	Con. Pos.	1-24	25-49	50-99
29F1420	50- 6S-10	6	1.53	1.22	1.06
29F1421	50-10S-10	10	2.04	1.65	1.36
29F1422	50-12S-10	12	2.32	1.94	1.54
29F1423	50-15S-10	15	2.71	2.16	1.81
29F1424	50-18S-10	18	3.09	2.47	2.05
29F1425	50-22S-10	22	3.62	2.90	2.41
29F1426	50-25S-10	25	4.33	3.45	2.88

DOUBLE READOUT WITH .128 MOUNTING HOLE & .200 SPACING BETWEEN ROWS

SOLDER EYELET

Stock No.	Type	Con. Pos.	1-24	25-49	50-99
29F958	50-12A-30	6	1.53	1.22	1.04
29F959	50-20A-30	10	2.04	1.65	1.36
29F960	50-24A-30	12	2.32	1.94	1.54
29F961	50-30A-30	15	2.71	2.16	1.81
29F962	50-36A-30	18	3.09	2.47	2.05
29F963	50-44A-30	22	3.62	2.90	2.41
29F979	50-50A-30	25	4.31	3.45	2.88

5/32" DIP SOLDER

Stock No.	Type	Con. Pos.	1-24	25-49	50-99
29F964	50-12B-10	6	1.53	1.22	1.04
29F965	50-20B-10	10	2.04	1.65	1.36
29F966	50-24B-10	12	2.32	1.94	1.54
29F967	50-30B-10	15	2.71	2.16	1.81
29F968	50-36B-10	18	3.09	2.47	2.05
29F969	50-44B-10	22	3.62	2.90	2.41
45F915	50-50B-10	25	4.31	3.45	2.88

15/64" EXTENDED DIP

Stock No.	Type	Con. Pos.	1-24	25-49	50-99
29F1427	50-12S-20	6	1.53	1.22	1.04
29F1428	50-20S-20	10	2.04	1.65	1.36
29F1429	50-24S-20	12	2.32	1.94	1.54
29F1430	50-30S-20	15	2.71	2.16	1.81
29F1431	50-36S-20	18	3.09	2.47	2.05
29F1432	50-44S-20	22	3.62	2.90	2.41
29F1433	50-50S-20	25	5.07	4.06	3.40

DIP SOLDER WITH .140" BETWEEN ROWS

PLAIN MOUNTING HOLES

Stock No.	Type	Contact Positions	Contacts	1-24	25-49	50-99	100-249
29F1338	50-12S-30-2	6	12	1.53	1.22	1.04	.82
29F1339	50-20S-30-2	10	20	2.04	1.65	1.36	1.11
29F1340	50-24S-30-2	12	24	2.32	1.94	1.54	1.23
29F1341	50-30S-30-2	15	30	2.71	2.16	1.81	1.46
29F1342	50-36S-30-2	18	36	3.09	2.47	2.05	1.65
29F1343	50-44S-30-2	22	44	3.62	2.90	2.41	1.92
29F1344	50-50S-30-2	25	50	4.31	3.45	2.88	2.31

WITHOUT MOUNTING EARS

Stock No.	Type	Contact Positions	Contacts	1-24	25-49	50-99	100-249
29F1345	50-12S-30-1	6	12	1.53	1.22	1.04	.82
29F1346	50-20S-30-1	10	20	2.04	1.65	1.36	1.11
29F1300	50-24S-30-1	12	24	2.32	1.94	1.54	1.23
29F1301	50-30S-30-1	15	30	2.71	2.16	1.81	1.46
29F1302	50-36S-30-1	18	36	3.09	2.47	2.05	1.65
29F1303	50-44S-30-1	22	44	3.62	2.90	2.41	1.92
29F1304	50-50S-30-1	25	50	4.31	3.45	2.88	2.31

MILITARY TYPE PER MIL-C-21097 WITH SOLDER EYELET CONTACTS SINGLE READOUT

PLAIN MOUNTING HOLE

Stk. No.	Type	Military No.	Each
28F1112	50- 6A-20M	M21097/1-101	1.96
28F1113	50-10A-20M	M21097/1-037	2.75
28F1114	50-15A-20M	M21097/1-073	3.71
28F1115	50-18A-20M	M21097/1-009	4.33
28F1116	50-22A-20M	M21097/1-145	5.10

MOLDED-IN BUSHINGS

Stk. No.	Type	Military No.	Each
45F916	50- 6A-20MB	M21097/1-004	4.37
45F917	50-10A-20MB	M21097/1-040	5.07
45F918	50-15A-20MB	M21097/1-076	5.97
45F919	50-18A-20MB	M21097/1-112	6.48
45F920	50-22A-20MB	M21097/1-148	7.19

FLOATING BUSHINGS

Stk. No.	Type	Military No.	Each
45F921	50- 6A-20MFB	M21097/1-007	2.59
45F922	50-10A-20MFB	M21097/1-043	3.36
45F923	50-15A-20MFB	M21097/1-079	4.35
45F924	50-18A-20MFB	M21097/1-115	4.94
45F925	50-22A-20MFB	M21097/1-151	5.70

DOUBLE READOUT .200 SPACING BETWEEN ROWS

PLAIN MOUNTING HOLE

Stk. No.	Type	Military No.	Each
28F1117	50-12A-30M	M21097/1-019	1.96
28F1118	50-20A-30M	M21097/1-055	2.75
28F1119	50-30A-30M	M21097/1-091	3.71
28F1120	50-36A-30M	M21097/1-127	4.33
28F1121	50-44A-30M	M21097/1-163	5.10

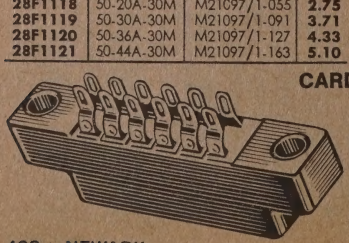
MOLDED-IN BUSHING

Stk. No.	Type	Military No.	Each
45F926	50-12A-30MB	M21097/1-022	4.37
45F927	50-20A-30MB	M21097/1-058	2.99
45F928	50-30A-30MB	M21097/1-094	5.97
45F929	50-36A-30MB	M21097/1-130	6.48
45F930	50-44A-30MB	M21097/1-166	7.19

FLOATING BUSHINGS

Stk. No.	Type	Military No.	Each
45F931	50-12A-30MFB	M21097/1-025	2.59
45F932	50-20A-30MFB	M21097/1-061	3.36
45F933	50-30A-30MFB	M21097/1-097	4.35
45F934	50-36A-30MFB	M21097/1-133	4.94
45F935	50-44A-30MFB	M21097/1-169	5.70

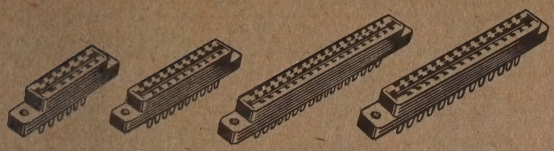
CARD EXTENDER WITH .050" BETWEEN ROWS



Stock No.	Type	Contact Positions	1-24	25-49	50-99	100-249
29F1413	50-12S-30	6	1.94	1.56	1.27	1.06
29F1414	50-20S-30	10	2.30	1.90	1.61	1.48
29F1415	50-24S-30	12	2.70	2.16	1.80	1.46
29F1416	50-30S-30	15	3.36	2.70	2.25	1.79
29F1417	50-36S-30	18	3.72	3.01	2.52	2.03
29F1418	50-44S-30	22	4.40	3.53	2.97	2.38
29F1419	50-50S-30	25	5.18	4.16	3.50	2.82

Cinch Printed Circuit Edge Connectors — Series 90 Econo-Line

TRW



.156 CONTACT CENTERS FOR 1/16" BOARDS DIP SOLDER

Single Readout

Stk. No.	Type	Contact Positions	1-24	25-49	50-99	100-249
57F3240	50- 6EE-10	6	1.15	1.04	.94	.73
57F3241	50-10EE-10	10	1.62	1.46	1.20	1.04
57F3242	50-12EE-10	12	1.88	1.62	1.38	1.17
57F3243	50-15EE-10	15	2.08	1.96	1.72	1.41
57F3244	50-18EE-10	18	2.34	2.19	1.93	1.54
57F3245	50-22EE-10	22	2.55	2.50	2.08	1.67
57F3246	50-25EE-10	25	3.44	2.75	2.29	1.84

Double Readout (.200 Row Spacing)

52F3247	50-12EE-40	6	1.15	1.04	.94	.73
52F3248	50-20EE-40	10	1.62	1.46	1.20	1.04
52F3249	50-24EE-40	12	1.88	1.62	1.38	1.17
52F3250	50-30EE-40	15	2.08	1.96	1.72	1.41
52F3251	50-36EE-40	18	2.34	2.19	1.93	1.54
52F3252	50-44EE-40	22	2.55	2.50	2.08	1.67
52F3253	50-50EE-40	25	3.44	2.75	2.29	1.84

SOLDER EYELET

Single Readout

Stk. No.	Type	Contact Positions	1-24	25-49	50-99	100-249
57F3261	50- 6EE-20	6	1.15	1.04	.94	.73
57F3262	50-10EE-20	10	1.62	1.46	1.20	1.04
57F3263	50-12EE-20	12	1.88	1.62	1.38	1.17
57F3264	50-15EE-20	15	2.08	1.96	1.72	1.41
57F3265	50-18EE-20	18	2.34	2.19	1.93	1.54
57F3266	50-22EE-20	22	2.55	2.50	2.08	1.67
57F3267	50-25EE-20	25	3.44	2.75	2.29	1.84

Double Readout (.200 Row Spacing)

57F3268	50-12EE-30	6	1.15	1.04	.94	.73
57F3269	50-20EE-30	10	1.62	1.46	1.20	1.04
57F3270	50-24EE-30	12	1.88	1.62	1.38	1.17
57F3271	50-30EE-30	15	2.08	1.96	1.72	1.41
57F3272	50-36EE-30	18	2.34	2.19	1.93	1.54
57F3273	50-44EE-30	22	2.55	2.50	2.08	1.67
57F3274	50-50EE-30	25	3.44	2.75	2.29	1.84

.045" SQUARE TAIL CONTACTS ON .156" CENTERS FOR 1/16" BOARDS

Features and Specifications: Combines contact reliability of a flexing bifurcated contact with stability of a rigid .045" square tail. Tail section contains inner core of copper with outer cover of flexible contact material formed into .045" square shape.

Termination: .045" square tails for automatic and/or semi-automatic wire wrapping.

Mounting Style: Plain .128" diameter holes for standard mounting.

Stock No.	Type	Description	1-24	25-49	50-99	100-249
45F904	50-30W-10	15-Position Connector	6.13	4.90	4.09	3.27
45F905	50-44W-10	22-Position Connector	8.32	6.67	5.43	4.45
28F1158	50-PK-2	Polarizing Key	.08	.07	.07	.05

EDGE CONNECTOR ACCESSORIES

Card Guide
TYPE 50-GP-1
29F1398. NET ..... .39

POLARIZING KEYS

Stock No.	Type	Description	1-24	25-49	50-99	100-249
29F986	50-PK	Tykon	.24	.19	.18	.17
28F1157	50-PK-1	In-Contact Type .156 ctr.	.10	.08	.07	.06
28F1158	50-PK-2	Between-Contact Type .156 ctr.	.08	.07	.07	.05
57F3275	50-PK-3	.100 Ctr. Series	.10	.08	.07	.05
45F906	50-PK-2M	Between-Contact Mil Type	.08	.07	.07	.05

NOTE: Polarizing Keys Are Not Furnished With Connectors And Must Be Ordered Separately.

Most of the performance features of TRW/Cinch Connectors standard printed circuit edge connectors are found in this low-cost version for commercial applications. Except for the reduced amount of gold-plating, Series 90 Econo-Line connectors meet all the latest requirements of MIL-C-21097, Std. 202. Series 90 Incorporates high tensile brass, Alcoloy™ 688, in its bifurcated bellow contacts. The contact area is selectively plated with 20 microinches of gold over 30 microinches of nickel that provides a non-migrating base. A green, glass-filled thermoplastic polyester replaces the more expensive diallyl phthalate used in the standard connector insulator.

PERFORMANCE DATA

MECHANICAL — Contact Insertion Force: 16 oz. max. per contact position. Individual Separation Force: 1 oz. min. using .054-in. thick blade. Durability: 100 cycles with steel blade .070-in. thick. Contact resistance and individual contact separation force requirements met after test.

ELECTRICAL — Voltage Rating (AC RMS, adjacent terminals): 830V (sea level); 300V (3.4" Hg, 50,000 feet); 450V (1.3" Hg, 70,000 feet). Test Voltage (AC RMS, adjacent terminals): 1870V (sea level); 675V (3.4" Hg, 50,000 feet); 450V (1.3" Hg, 70,000 feet). Current Rating: 5 Amperes. (Based upon all contacts carrying specified current and a temperature rise of 30°C above ambient.) Contact Resistance (at rated current): .005 ohms. Insulation Resistance: 5000 Megohms.

DIP SOLDER TAILS

Double Readout, .140 Row Spacing

Stock No.	Type	Contact Positions	1-24	25-49	50-99	100-249
57F3254	50-12EE-140	6	1.15	1.04	.94	.73
57F3255	50-20EE-140	10	1.62	1.46	1.20	1.04
57F3256	50-24EE-140	12	1.88	1.62	1.38	1.17
57F3257	50-30EE-140	15	2.08	1.96	1.72	1.41
57F3258	50-36EE-140	18	2.34	2.19	1.93	1.54
57F3259	50-44EE-140	22	2.55	2.50	2.08	1.67
57F3260	50-50EE-140	25	3.44	2.75	2.29	1.84

WIRE WRAP PC CONNECTORS

Bifurcated cantilever contact construction. Accepts 1/16" thick single or double sided boards. Withdrawal shorting protection. 3 amps. 900 VAC RMS, 1200 VDC.

.031 x .062, .156 CENTERS

.550" TAIL LENGTH

Stock No.	Type No.	No. of Contacts	1-24	25-49	50-99	100-249
29F1305	50-20E10-1	10/20	3.35	2.68	2.24	1.79
29F1308	50-30E10-1	15/30	3.50	2.80	2.34	1.88
29F1311	50-36E10-1	18/36	3.90	3.11	2.62	2.10
29F1314	50-44E10-1	22/44	4.67	3.76	3.11	2.49
29F1317	50-50E10-1	25/50	4.88	3.90	3.27	2.62
29F1320	50-60E10-1	30/60	5.36	4.28	3.57	2.86

.755" TAIL LENGTH

29F1306	50-20F10-1	10/20	3.35	2.68	2.24	1.79
29F1309	50-30F10-1	15/30	3.50	2.80	2.34	1.88
39F1312	50-36F10-1	18/36	3.90	3.11	2.62	2.10
29F1315	50-44F10-1	22/44	4.67	3.76	3.11	2.49
29F1318	50-50F10-1	25/50	4.88	3.90	3.27	2.62
29F1321	50-60F10-1	30/60	5.36	4.28	3.57	2.86

1.051" TAIL LENGTH

29F1307	50-20G10-1	10/20	3.35	2.68	2.24	1.79
29F1310	50-30G10-1	15/30	3.50	2.80	2.34	1.88
29F1313	50-36G10-1	18/36	3.90	3.11	2.62	2.10
29F1316	50-44G10-1	22/44	4.67	3.76	3.11	2.49
29F1319	50-50G10-1	25/50	4.84	3.90	3.27	2.62
29F1322	50-60G10-1	30/60	5.36	4.28	3.57	2.86

For More Technical Data Ask For Cinch Catalog C-24

TRW Cinch IC and Transistor Sockets

TO-5, OR TO-18*, LOW PROFILE TRANSISTOR SOCKETS

Mount directly to PC board with snug fit to prevent bleeding of solder and flux to opposite board surface. Chamfered socket holes minimize lead bending during insertion. Contact ends are formed and water-tight, so that solder and fluxes cannot enter the barrelled contact to obstruct lead entry.

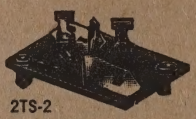
*Directly accept TO-5; accept TO-18 with full length or formed leads

Materials Insulator: 20% glass-filled nylon. Contacts: beryllium copper with electro tin plate. **Electrical Specifications:** Voltage Ratings: at sea level (adj. terminals) 1500 AC RMS, 2000 VDC; at 50,000 feet (adj. terminals) — 500 AC RMS, 700 VDC. Current Rating: 2.5 amperes. Contact Resistance: 0.005 ohms. Insulation Resistance: 100,000 megohms.

Stk. No.	Type	Color	1-24	25-49	50-99	100-249
45F907	3-LPS-B	Black	.27	.21	.18	.15
45F908	3-LPS-N	Natural				
45F909	3-LPS-G	Green				

TRANSISTOR SOCKET

2TS-1



2TS-2

2TS-4

Laminated. Vacuum wax impregnated. Mount. holes; .136″ dia. 2TS-2: same as 2TS-1 exc. integral eyelets for chassis mount.

Stk. No.	Type	Description	1-24	25-49	50-99	100-249
38F684	2TS-1	6-20 Threaded Mtg. Holes	.17	.14	.13	.11
38F685	2TS-2	Unthreaded	.17	.14	.13	.11
38F687	2TS-4	. . .	.22	.18	.15	.14

TO-5 AND TO-18 SEMICONDUCTOR SOCKETS

- LOW PROFILE .250″
- DIP SOLDER TERMINATIONS

1 amp. 750 VAC. 1020 VAC for SDG material. Contact Material: Beryllium copper except Type No. 3&4, phosphor bronze. Contact Plating: chromate .0003″ cadmium, Type No. 3&4; .003″ tin over .0001″ copper, 6&8 MSS; .00003″ gold over copper, ICS. Insulator Material: Mica filled phenolic except 6-MSS-1, Flourocarbon resin; ICS, Diallyl phthalate. (SDG).

Stock No.	Type No.	Socket Size	Contacts	1-24	25-49	50-99	100-249
29F1406	3-MSS	TO-5	3	.25	.21	.17	.14
29F1407	4-MSS	TO-5	4	.52	.42	.35	.28
29F1408	6-MSS	TO-5	6	.71	.57	.48	.38
29F1409	6-MSS-1	TO-5	6	1.49	1.19	1.00	.80
29F1410	8-MSS	TO-5	8	.86	.69	.57	.46
29F541	6-ICS	TO-5	6	.73	.59	.51	.44
29F542	8-ICS	TO-5	8	.88	.71	.60	.49
29F521	10-ICS	TO-5	10	.98	.77	.66	.54
29F1411	3-MSS-2	TO-18	3	.36	.29	.24	.20
29F1412	4-MSS-2	TO-18	4	.49	.40	.33	.27

8SM

2H3

MICA-FILLED SUB-MINIATURE SOCKETS

Molded mica-filled low-loss Phenolic; silver-plated beryllium contacts. Mounting ring included.

Stk. No.	Type	Prongs	1-24	25-49	50-99	100-249
38F639	2H3	3	.46	.40	.35	.28
38F629	8SM	8	1.02	.84	.70	.58

POWER TRANSISTOR INSULATOR WAFERS

Hard anodized aluminum. High dielectric resistance.

Stk. No.	Type	Description	Each
29F654	2W1	For Mot 2N-179, 2N-176, 2N-554	1.05

110-250 VOLT 2 PRONG SOCKET

15 amps 110V, 10 amps 250V high dielectric black bakelite. $^{25}/_{64}$X$^{25}/_{32}$″ hole. .144 diam. mtg. holes on 1⅛″ centers. Shpg. wt. 4 oz.

Stock No.	Type	Mfr. No.	1-24	25-49	50-99	100-249
39F394	2R2	54A12844	.31	.26	.24	.21

NOTE: For Detailed Test Data And Technical Information Ask For Cinch Catalog C-2.

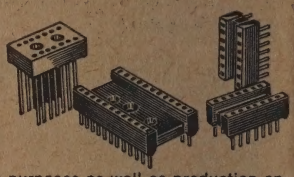
LOW PROFILE SOCKETS WITH PC BOARD TERMINALS

Low profile DIP sockets are extremely economical. Unique design permits substantial reduction in assembly costs. Produced in 8, 14, 16, and 24 contact sizes as standard items.

Stock No.	Type	No. of Contacts	1-24	25-49	50-99
57F3232	8E-DIP	8	.24	.20	.16
57F3233	14E-DIP	14	.32	.26	.21
57F3234	16E-DIP	16	.33	.27	.22
57F3235	24E-DIP	24	.47	.38	.31
57F3236	8E-DIP-4	8	.33	.26	.22
57F3237	14E-DIP-4	14	.47	.38	.31
57F3238	16E-DIP-4	16	.51	.41	.34
57F3239	24E-DIP-4	24	.74	.59	.49

*Gold Plated Contacts

INTEGRATED CIRCUIT SOCKETS



- DIP SOCKETS
- 1 AMP RATING
- LOW CAPACITANCE

Ideal for testing and prototype purposes as well as production applications. Protect leads and hermetic seals. Positive electrical contact. Low contact resistance. Resistive to corrosive atmosphere and extremes in temperature and humidity. Withstanding Voltage: 1800 VRMS, dip solder tails; 1000 VAC RMS, wire wrap tails. Temp. Range: -65°C to 150°C. Insulations: 1-GP Black Phenolic. 2-Diallyl Phthalate. 3-Black Glass Nylon. 4-White Glass Nylon. Lead Plating: 5-Electro Tin. 6-Gold.

SOLDER TERMINALS .017″ x .033″ x .170″ Long

Stock No.	Type No.	Contacts	Plating	1-24	25-49	50-99	100-249
29F545	14-DIP	14	1,5	1.02	.82	.68	.55
29F546	14-DIP-1	14	2,6	1.35	1.06	.89	.71
29F547	16-DIP	16	1,5	1.13	.91	.76	.61
29F548	16-DIP-1	16	2,6	1.46	1.17	.98	.78
29F650	24-DIP	24	1,5	1.69	1.36	.92	.88
29F651	24-DIP-1	24	2,6	2.00	1.60	1.35	1.09

SOLDER TERMINALS .017″ x .017″ x .110″ Long

29F1400	14-N-DIP	14	1,5	1.02	.82	.68	.55
29F1401	14-N-DIP-1	14	2,6	1.35	1.06	.89	.71
29F1402	16-N-DIP	16	1,5	1.13	.91	.76	.61
29F1403	16-N-DIP-1	16	2,6	1.46	1.17	.98	.78
29F1404	24-N-DIP	24	1,5	1.69	1.36	1.14	.92
29F1405	24-N-DIP-1	24	2,6	2.00	1.60	1.35	1.09

WIRE WRAP TERMINALS

28F1159	14-W-DIP	14	3,5	1.01	.82	.69	.55
28F1160	14-W-DIP-1	14	4,5	1.01	.82	.69	.55
28F1161	14-W-DIP-2	14	3,6	1.32	1.04	.88	.70
28F1162	14-W-DIP-3	14	4,6	1.32	1.04	.88	.70
28F1163	16-W-DIP	16	3,5	1.24	.99	.83	.67
28F1164	16-W-DIP-1	16	4,5	1.24	.99	.83	.67
28F1165	16-W-DIP-2	16	3,6	1.53	1.24	1.03	.83
28F1166	16-W-DIP-3	16	4,6	1.53	1.24	1.03	.83

PRINTED CIRCUIT TEST JACK

Designed for permanent, soldered assembly to printed circuit boards. Gold over silverplated contacts. Contacts provide low resistance for insertions of .080 Dia. probes. Nylon bodies. 5 amps max. 3000 volts peak for test voltage.

Stk. No.	Type	Color	1-24	25-49	50-99	100-249
99F1725	119437-A	White	.35	.31	.28	.26
99F1726	119437-B	Red				
99F1727	119437-C	Black				
99F1728	119437-D	Brown				
99F1729	119437-E	Green				
99F1730	119437-F	Orange				
99F1731	119437-G	Blue				
99F1732	119437-H	Yellow				
99F1733	119437-J	Grey				
99F1734	119437-K	Purple				
99F1735	119437-L	Natural				

VIDICON SOCKETS

Type 8VT 8 contact socket for RCA Vidicon Tube Nos. 6198 and 7038. Casting material is mica. Contacts are silver-plated phosphor bronze. JETEC No. E8-11.

Stk. No.	Type	1-24	25-49	50-99	100-249
29F999	8VT	3.64	2.89	2.44	1.96

Cinch Relay and Special Purpose Sockets TRW

ROUND RELAY

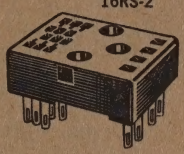
Beryllium copper, silver-plated contacts with hot tinned tails. Steel saddle. 1 15/16" mtg. centers. Casting of mica insulation.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249
29F710	14RS	14	1.21	.99	.84	.65
29F988	20RS-1	20	3.04	2.45	2.03	1.64

RECTANGULAR RELAY SOCKETS

Molded of high dielectric black phenolic. Mate with Automatic Electric EIN and C.P. Clare "J" type relays.

16RS-2



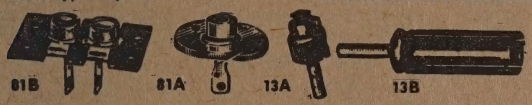
Stock No.	Type	No. of Contacts	1-24	25-49	50-99
45F910	16RS-2	16	1.42	1.15	.95
45F911	16RS-3	16	1.72	1.38	1.16
45F912	28RS	28	2.14	1.71	1.42
45F913	28RS-1	28	2.62	2.08	1.75
45F914	8RS	8	.73	.59	.51

CRYSTAL SOCKETS

Molded from high dielectric black bakelite or mica-filled low loss phenolic. 2 silver-plated beryllium copper contacts on 3 1/64" centers. .120" dia. recessed mounting hole. Socket body is 25/32" long, 5/16" thick, and 35/64" high. For use with FT243 type crystal.

2KB 2KM

Stock No.	Type	1-24	25-49	50-99
29F705	2KB	.29	.24	.21
29F706	2KM	.31	.26	.24



81B 81A 13A 13B

PHONO JACKS AND PLUGS

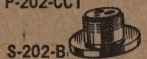
81A. Single prong phono jack, 1 1/16" mounting centers. **81B.** Two phono jacks. 1/16" bakelite panel. 1 3/16" mtg. centers. Spaced on 7/16" centers. Panel Size: 1½"x1". **13A.** Plug for 81A and 81B jacks. Shpg. wt. 3 oz. **13B.** Motorola antenna plug for 81C, 81F jack. Shpg. wt. 4 oz.

Stock No.	Type	1-24	25-49	50-99	100-499
39F797	81A	.24	.19	.17	.16
39F795	81B	.31	.26	.22	.19
39F796	13A	.14	.12	.11	.09
39F396	13B	.25	.21	.18	.15

AUDIO CONNECTORS

Metal parts are brass with bright nickel finish. Insulation is molded phenolic. Phosphor bronze "knife switch" type socket contacts engage both sides of flat brass plug contacts. Formed fibre linings in caps. Knurled nut has ¾"-27 thread. P-202-CCT makes ideal microphone cable connector.

P-202-CCT



S-202-B

Stock No.	Type	Description	1-24	25-49	50-99
29F507	P-202-CCT	Plug with Cable Clamps	1.54	1.22	1.04
29F513	S-202-B	Socket with Mounting Base	1.85	1.51	1.25

MOLDED CONNECTOR PLUGS AND SOCKETS

8PB 11RB 11PB

Stock No.	Type	Mfr. No.	Contacts	1-24	25-49	50-99	100-249
29F701	8PB	54B16021	8 plugs	.40	.33	.29	.25
29F702	11PB	54B13795	11 plugs	.52	.37	.33	.29
29F703	11RB	54A13783	11 sockets	.48	.38	.32	.27

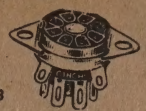
MILITARY TYPE TUBE SOCKETS

Max. Volt: 500 VAC RMS. Current: 1 A. Oper. Temp: 100°C. Chassis Opening: ⅝" dia., 7-pin, ¾" 9-pin. Insl. Res: 1000 megs min. Withstand Volt: 2000 VAC min. Mica Filled Phenolic Mil-M-14F, Type MFE; Steatite Ceramic Mil-1-10, Grade 14. Contacts: Phosphor Bronze-QQP-330, Beryllium Copper-QQ-G-523. Saddles, bases, strap nuts, center shields Brass-QQ-B-626 or QQ-B-613. Finishes: Cadmium-QQ-P-416a, Silver-QQ-S-365, Nickel-QQ-N-290. Passivation-Mil-STD-171.

Stock No.	Type	MIL-S-12888A	CAST'L MAT'L	1-24	25-49	50-99	100-249
29F660	7JM-2	TS102P01	MFE S	.51	.38	.34	.27
29F1184	9JM-3	TS103P03	MFE B	.52	.39	.35	.28

MINIATURE SOCKETS

7EB



7JM-3

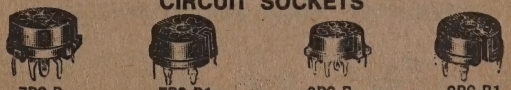
Stock No.	Type	Description	1-24	25-49	50-99	100-249
7 PIN MOLDED SADDLE TYPE BOTTOM MOUNT						
38F636	7EB	Black	.21	.18	.16	.14
38F637	7EM	Mica-Filled	.25	.20	.18	.16
9 PIN MOLDED SADDLE TYPE TOP MOUNT						
38F677	9AB	Black	.24	.19	.18	.16
38F678	9AM	Mica-Filled	.31	.24	.22	.21
9 PIN MOLDED SADDLE TYPE BOTTOM MOUNT						
38F679	9EB	Black	.24	.19	.18	.16
38F680	9EM	Mica-Filled	.31	.24	.22	.21
7 PIN—SHIELD BASE TYPE						
38F674	7XB1	Black	.32	.24	.21	.19
38F675	7XM1	Mica-Filled	.37	.30	.26	.23
9 PIN MINIATURE SOCKETS—SHIELD BASE TYPE						
38F681	9XB	Black	.37	.31	.27	.24
38F682	9XM	Mica	.40	.35	.28	.25
38F683	9XC	Ceramic	.63	.49	.40	.35

MOLDED TUBE SOCKETS

Brass solder coated contacts. *Black, †Mica.

Stock No.	Type	Mtg. Hole	1-24	25-49	50-99	100-249
8AB MOLDED OCTAL 1 5/16" MOUNTING CENTERS						
38F670*	8AB	.136 D.	.24	.19	.18	.16
38F671†	8AM	.136 D.	.31	.24	.22	.21
MOLDED OCTAL 1½" MOUNTING CENTERS						
38F672*	8EB	.143 D.	.24	.19	.18	.16
38F673†	8EM	.140 D.	.31	.24	.22	.21

CONVENTIONAL STAND-OFF TYPE PRINTED CIRCUIT SOCKETS



7PC-B 7PC-B1 9PC-B 9PC-B1

Stand-off sockets resting on shoulder of contact tail providing air gap for cooling and eliminating moisture. Designed for 1/16" printed circuit boards having bottom circuitry. Center shield and tabs * or none.**

Stock No.	Type	1-24	25-49	50-99	100-249
29F604	7 PC-B*	.21	.18	.16	.15
29F605	7 PC-B1**	.18	.16	.15	.13
29F607	9 PC-B*	.24	.19	.18	.16
29F608	9 PC-B1**	.24	.19	.18	.16

PRINTED CIRCUIT SOCKETS WITH SHIELD BASES

Attached bayonet-type shield base ground tab. Use with 1/16" printed circuit boards. Castings low loss mica-filled phenolic (MFE). Contacts phosphor bronze, hot-tinned finish. Center shield, ground tabs are brass, hot-tinned. Base is brass, nickel-plated.

Stock No.	Type	Description	1-24	25-49	50-99	100-249
29F602	7PC-M2	7-pin Min.	1.65	1.31	1.12	.90
29F603	9PC-M2	9-pin Min.	1.81	1.43	1.24	.97

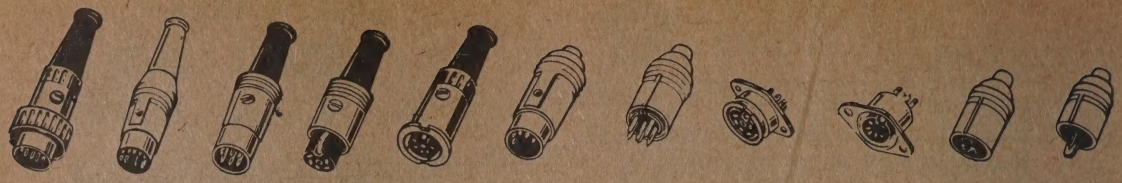
CAPACITOR SOCKETS

2C5

Type 2C5 for Mallory and Magnavox 1" FP type capacitors. 4 hot-solder-coated ground lugs, 3 recessed center contacts for extended prongs of capacitor, and two outer contacts flush with surface for short prongs of capacitor. 1½" mounting centers. **Type 2C7** same as 2C5 except for Mallory and Magnavox 1⅜" FP type capacitors. 1 27/32" mounting centers.

Stk. No.	Type	Description	1-24	25-49	50-99	100-249
29F549	2C5	For 1" Type FP	.79	.62	.55	.42
29F550	2C7	For 1⅜" Type FP	1.13	.91	.77	.61

SWITCHCRAFT INC. — Audio Connectors



Exact replacement plugs and receptacles for most foreign built tape recorders, radios, computers, and test equipment. Designed for all low level circuitry. Nickel plated barrel with plastic "snap-on" shells.

MALE PLUGS

FIG. A—STRAIGHT CORD WITH 30° LOCK RING PIN

Stock No.	Type	Description	1-9	10-24	25-49	50-99
22F454	05CL3M	3 Pins at 180°	2.20	1.65	1.51	1.38
22F455	05CL5M	5 Pins at 180°	2.36	1.77	1.62	1.48
22F456	09CL4M	4 Pins at 210°	2.28	1.71	1.57	1.43
22F457	12CL5M	5 Pins at 240°	2.36	1.77	1.62	1.48

FIG. B—STRAIGHT CORD PLUG WITH SHIELDED BARREL

22F458	05GM3M	3 Pins at 180°	1.28	.96	.88	.80
22F459	05GM5M	5 Pins at 180°	1.44	1.08	.99	.90
22F465	09GM4M	4 Pins at 210°	1.36	1.02	.94	.85
22F466	12GM5M	5 Pins at 240°	1.44	1.08	.99	.90

FIG. C—STRAIGHT CORD PLUG WITH EXTENDED BARREL

22F467	05BL3M	3 Pins at 180°	1.80	1.35	1.24	1.13
22F468	05BL5M	5 Pins at 180°	1.96	1.47	1.35	1.23
22F469	12BL5M	5 Pins at 240°	1.96	1.47	1.35	1.23

FEMALE PLUGS

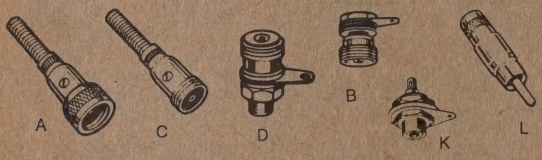
FIG. D—STRAIGHT CORD PLUG WITH EXTENDED SOCKET

Stock No.	Type	Description	1-9	10-24	25-49	50-99
22F473	07FL3F	3 Cont. at 180°	1.64	1.23	1.13	1.03
22F474	14FL5F	5 Cont. at 240°	1.80	1.35	1.24	1.13

FIG. E—STRAIGHT CORD WITH LOCK-FLANGE

22F475	06EL3F	3 Cont. at 180°	2.12	1.59	1.46	1.33
22F476	06EL5F	5 Cont. at 180°	2.28	1.71	1.57	1.43
22F477	13EL5F	5 Cont. at 210°	2.28	1.71	1.57	1.43

"MINI-CON" MINIATURE CONNECTORS



Microphone type connectors used with miniaturized audio equipment. Accepts single conductor shielded cables up to 3/16", OD. nickel plated brass bodies. Connectors are about ½ the size of standard. 5501F is removable for quick change of female to male type. Type 5501MP mounts back of panel in 3/16", dia. hole.

Stock No.	Type	Fig.	Description	1-9	10-24	25-49	50-99
22F396	250IF	A	female	.88	.66	.61	.55
22F397	250IMP	B	male	.64	.48	.44	.40
22F398	250IM	C	male	.72	.54	.50	.45
39F776	550IF	—	female	.80	.60	.55	.50
39F778	550IMP	D	male, panel	.64	.48	.44	.40

RF JACKS AND PLUGS

3505F mnts. front of panel in 3/8" hole. Fits panel up to 1 1/64" thick. **3507** has 1 3/32" O.D. shielded. Screw-on handle with cable clamp.

Stock No.	Type	Fig.	Description	1-9	10-24	25-49	50-99
26F717	3505F	K	Chassis jack	.64	.48	.44	.40
26F718	3507	L	Plug	.84	.63	.58	.53

EUROPEAN A.C. RECEPTACLE

Meets I.E.C. standards. 3 pins. .078" x .157"; rated at 250V, 6 AMP. U.L. and C.S.A. approved. Mounts in a rectangular 1 1/16" x 3¼" hole and two ⅛" dia. holes.

Stock No.	Type	1-9	10-24	25-49	50-99
26F719	EAC-301	1.16	.87	.80	.73

Molded phenolic in all inserts, and silver plated contact pins provide low mechanical interference, reduce noise and lower contact resistance, lock-ring coupling to prevent shock. Exclusive automatic grounding and polarization provision.

MALE PLUGS

FIG. F—STRAIGHT CORD PLUG WITH SNAP-LOCK PLASTIC SHELL

Stock No.	Type	Description	1-9	10-24	25-49	50-99
22F478	05LK3M	3 Pins at 180°	.92	.69	.64	.58
22F479	05LK5M	5 Pins at 180°	1.08	.81	.75	.68
22F480	09LK4M	4 Pins at 210°	1.00	.75	.69	.63
22F481	12LK5M	5 Pins at 240°	1.08	.81	.75	.68

FIG. G—STRAIGHT CORD PLUG WITH SHORT PLASTIC SHELLS

22F534	05QK3M	3 Pins at 180°	.80	.60	.55	.50
22F535	05QK5M	5 Pins at 180°	.96	.72	.66	.60
22F536	12QK5M	5 Pins at 240°	.96	.72	.66	.60

FEMALE RECEPTACLES

FIG. H—RECEPTACLES FOR LOCKING PLUGS

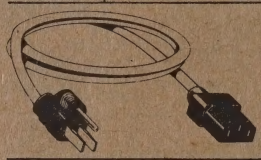
22F537	57HA3F	3 Cont. at 180°	1.04	.78	.72	.65
22F543	60HA4F	4 Cont. at 210°	1.12	.84	.77	.70
22F544	61HA5F	5 Cont. at 240°	1.20	.90	.83	.75

FIG. I—FLANGE MOUNT RECEPTACLE FOR SHIELDED BARREL PLUGS

Stock No.	Type	Description	1-9	10-24	25-49	50-99
22F545	57GA3F	3 Cont. at 180°	.80	.60	.55	.50
22F546	57GB5F	5 Cont. at 180°	.96	.72	.66	.60
22F547	60GA4F	4 Cont. at 210°	.88	.66	.61	.55
22F548	61GA5F	5 Cont. at 240°	.96	.72	.66	.60

CONTROL AND SWITCHING PLUGS WITH SNAP-ON SHELLS

22F566	01QK2M	Male Fig. BB	.48	.36	.33	.30
22F567	02QK2F	Female Fig. AA	.56	.42	.39	.35



AC LINE CORD

#18 AWG cond., UL type SVT cordage. Lgth. is 7½' with heavy black vinyl jacket. Male plug is 3 pin type. U.L. and C.S.A. recognized. Female connector is designed to meet I.E.C. req.

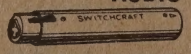
Stock No.	Type	Electrical Specifications	1-9	10-24	25-49	50-99
26F720	P-2392	3-cond. 7 amps DC 7 amps AC, 125V.	2.64	1.98	1.82	1.65

AC RECEPTACLES

3 brass contact pins are silver plated, chromate dipped. AC3 and LAC3 (ungrounded) and AC3G and LAC3G (grounded) allow movement of pins No. 1 and No. 3 in the shell to take up any off centering of mating plug contacts. Center pin No. 2 is stationary and serves as a guide. Receptacles AC3 and AC3G have .122" dia. pins. LAC3GD, same as LA3G, except center pin is ⅛" longer. LAC3, LAC3G and LAC3GD have .124" dia. pins. U.L. approved. LAC3GD is also C.S.A. approved. Rating: 115V. 7 amps.

Stock No.	Type	1-9	10-24	25-49	50-99
27F1010	AC3	.76	.57	.53	.48
27F1011	AC3G	.72	.54	.50	.45
26F722	LAC3	.76	.57	.53	.48
26F723	LAC3G	.72	.54	.50	.45
26F724	LAC3GD	.76	.57	.53	.48

AUDIO CONNECTOR ADAPTER

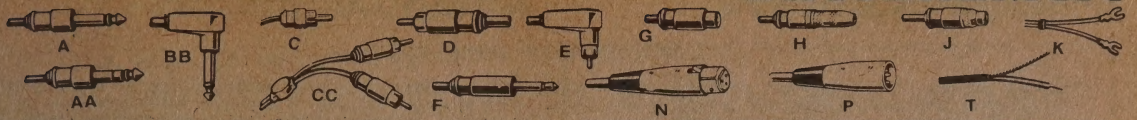


Male insert at one end, female insert other end. For use as a transformer, attenuator circuit, etc. Length 4".

Stock No.	Type	Insert Pins/ Contacts	1-9	10-24	25-49	50-99
26F721	S3FM	3	4.56	3.42	3.14	2.85

Audio Cable Assemblies

SWITCHCRAFT INC.



Molded cable assemblies offer built-in cable clamps to support cable. Cable is chrome grey with matching plastic handles. Fig. N, Q-G 3-Pin Audio Connector — Female. Fig. P, Q-G 3-Pin Audio Connector. **25WN25, 25WT25, 25WN82, 25WT82** have molded brown handles and low visibility rip cord cables.

Stock No.	Type	Terminations End No. 1 Fig.	Terminations End No. 2 Fig.	Length	1-9	10-24	25-49	50-99
STRAIGHT 2-CONDUCTOR PHONE PLUG TO VARIOUS CONNECTIONS								
37F2905	05AC05	A	A	18″	1.84	1.38	1.27	1.15
37F2906	05AD05	A	A	24″	2.08	1.56	1.43	1.30
37F2907	05AK05	A	A	6′	3.08	2.31	2.12	1.93
37F2908	05AN05	A	A	10′	4.24	3.18	2.92	2.65
37F2909	05AU05	A	A	25′	5.60	4.20	3.85	3.50
37F2910	05AK15	A	BB	6′	3.08	2.31	2.12	1.93
37F2911	05AK25	A	C	6′	2.32	1.74	1.60	1.45
37F2912	05AN25	A	C	10′	3.28	2.46	2.26	2.05
37F2913	05AK80	A	H	6′	3.08	2.31	2.12	1.93
37F2914	05AN80	A	H	10′	4.24	3.18	2.92	2.65
37F2915	05AR80	A	H	15′	4.80	3.60	3.30	3.00
37F2916	05AU80	A	H	25′	5.60	4.20	3.85	3.50
37F2917	05AK84	A	T	6′	2.08	1.56	1.43	1.30
STRAIGHT 3-CONDUCTOR PHONE PLUG TO VARIOUS CONNECTIONS								
37F2918	10BK10	AA	AA	6′	5.80	4.35	3.99	3.63
37F2919	10BN10	AA	AA	10′	7.28	5.46	5.01	4.55
37F2920	10BN81	AA	H	10′	7.28	5.46	5.01	4.55
37F2921	10BU81	AA	H	25′	10.64	7.98	7.32	6.65
37F2922	10FK25	AA	CC	6′	4.80	3.60	3.30	3.00

Stereo Cable Assembly for use with stereo tape recorders using 3-conductor dual microphone inputs— Norelco, Webcor, Revere, Wollensak. (*) Parallel unshielded cable.

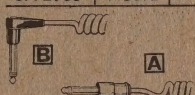
STRAIGHT PHONO PLUG TO VARIOUS CONNECTIONS								
37F2923	25AC30	C	E	18″	1.24	.93	.86	.78
37F2924	25AK30	C	E	6′	1.72	1.29	1.18	1.08
37F2925	25AK80	C	H	6′	2.32	1.74	1.60	1.45
37F2926	25AC82	C	G	18″	1.36	1.02	.94	.85
37F2927	25AF82	C	G	36″	1.52	1.14	1.05	.95
37F2928	25AH82	C	G	4′	1.84	1.38	1.27	1.15
37F2929	25AK82	C	G	6′	2.04	1.53	1.40	1.28
37F2930	25AN82	C	G	10′	2.40	1.80	1.65	1.50
37F2931	25AR82	C	G	15′	2.96	2.22	2.04	1.85
37F2932	25AT82	C	G	20′	3.56	2.67	2.45	2.23
37F2933	25AU82	C	G	25′	4.24	3.18	2.92	2.65
37F2934	25WN82	C	G	10′	1.76	1.32	1.21	1.10
37F2935	25WT82	C	G	20′	1.92	1.44	1.32	1.20
37F2936	25AC84	C	T	18″	.88	.66	.61	.55
37F2937	25AF84	C	T	36″	1.04	.78	.72	.65
37F2938	25AH84	C	T	4′	1.04	.78	.72	.65
37F2939	25AK84	C	T	6′	1.32	.99	.91	.83
37F2940	25AN84	C	T	10′	1.88	1.41	1.29	1.18
37F2941	25WN84	C	T	10′	1.24	.93	.86	.78
37F2942	25WT84	C	T	20′	1.68	1.26	1.16	1.05
37F2943	25CN85*	C	K	10′	1.68	1.26	1.16	1.05
37F2944	25CK86*	C	L	6′	2.08	1.56	1.43	1.30
37F2945	25FF25	CC	CC	36″	3.88	2.91	2.67	2.43
37F2946	25FK25	CC	CC	6′	4.48	3.36	3.08	2.80
37F2947	25FN25	CC	CC	10′	5.40	4.05	3.71	3.38
37F2948	25FF82	CC	G	36″	3.52	2.64	2.42	2.20
37F2949	25FK82	CC	G	6′	4.16	3.12	2.86	2.60
37F2950	25FN82	CC	G	10′	4.88	3.66	3.36	3.05
37F2951	25FF84	CC	TT	36″	3.44	2.58	2.37	2.15
37F2952	25FK84	CC	TT	6′	3.88	2.91	2.67	2.43

Special Stereo Cables. Two shielded insulated cables inside a common grey plastic jacket. Provides two isolated channels for all stereo applications. Phono plugs color coded.

37F2953	25AC25	C	C	18″	1.24	.93	.86	.78
37F2954	25AF25	C	C	36″	1.36	1.02	.94	.85
37F2955	25AH25	C	C	4′	1.56	1.17	1.07	.98
37F2956	25AK25	C	C	6′	1.72	1.29	1.18	1.08
37F2957	25AN25	C	C	10′	2.40	1.80	1.65	1.50
37F2958	25AR25	C	C	15′	2.96	2.22	2.04	1.85
37F2959	25AT25	C	C	20′	3.56	2.67	2.45	2.23
37F2960	25AU25	C	C	25′	4.24	3.18	2.92	2.65
37F2961	25WN25	C	C	10′	1.56	1.17	1.07	.98
37F2962	25WT25	C	C	20′	1.76	1.32	1.21	1.10
RIGHT ANGLE 2-CONDUCTOR PHONE PLUG TO VARIOUS CONNECTIONS								
37F2963	15AK15	BB	BB	6′	3.08	2.31	2.12	1.93
STRAIGHT PHONO PLUG (LONG HANDLE) TO VARIOUS CONNECTIONS								
37F2964	26AF26	D	D	36″	1.52	1.14	1.05	.95
37F2965	26AK26	D	D	6′	1.84	1.38	1.27	1.15
37F2966	26AN82	D	G	10′	2.64	1.98	1.82	1.65
RIGHT ANGLE PHONO PLUG TO VARIOUS CONNECTIONS								
37F2967	30AF30	E	E	36″	1.36	1.02	.935	.85
37F2968	30AK30	E	E	6′	1.68	1.26	1.16	1.05
37F2969	30AN30	E	E	10′	2.32	1.74	1.60	1.45
STRAIGHT TINI-PLUG TO VARIOUS CONNECTIONS								
37F2970	40DF05	F	A	36″	2.76	2.07	1.90	1.73
37F2971	40DK05	F	A	6′	3.28	2.46	2.26	2.05
37F2972	40DF25	F	C	36″	2.48	1.86	1.71	1.55
37F2973	40DK25	F	C	6′	2.96	2.22	2.04	1.85
37F2974	40DN25	F	C	10′	3.40	2.55	2.34	2.13
37F2975	40DK40	F	F	6′	2.24	1.68	1.54	1.40
37F2976	40DK80	F	H	6′	3.28	2.46	2.26	2.05
37F2977	40DK82	F	G	6′	2.96	2.22	2.04	1.85
37F2978	40DK83	F	J	6′	3.28	2.46	2.26	2.05
37F2999	40DN83	F	J	10′	3.88	2.91	2.67	2.43
37F2979	40DF84	F	T	36″	2.08	1.56	1.43	1.30
37F2980	40DK84	F	T	6′	2.32	1.74	1.60	1.45
37F2981	40DN84	F	T	10′	2.96	2.22	2.04	1.85
37F2982	40DN86	F	L	10′	2.96	2.22	2.04	1.85
EXTENSION JACK CORDS								
37F2983	82AK82	G	G	6′	2.28	1.71	1.57	1.43
CORDS WITH SPADE LUGS, ALLIGATOR CLIPS								
37F2984	85CT85*	K	K	20′	1.72	1.29	1.18	1.08
37F2985	85CU85*	K	K	25′	2.12	1.59	1.46	1.33

(*) Parallel unshielded cable.

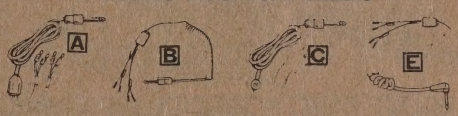
MICROPHONE CONNECTOR TO VARIOUS CONNECTIONS								
37F2986	91BU92	N	P	25′	14.60	10.95	10.04	9.13



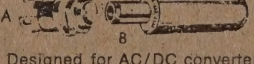
MOLDED COILED CORD ASSEMBLIES
Shielded, coiled cord assemblies with molded terminations and/or stripped and tinned ends. 20 ft. extended lengths. Single conductor shielded cable with black neoprene jacket.

37F2987	05LT05	A	A	20′	8.92	6.69	6.13	5.58
37F2988	05LT15	A	B	20′	8.92	6.69	6.13	5.58

MOLDED HEADPHONE CABLES



Stk. No.	Type	Fig.	Description	Each
37F2989	05KJ88	A	Molded Headphone Cord. 4′ 2-cond. cable from phone plug to "Y" junction. 1′ cable from "Y" junction to eyelet plugs. Parallel wired.	3.80
37F2990	05NJ88	B	Straight 2-cond. phone plug to eyelet lugs. 5′ (extended) coiled cord.	4.44
37F2991	10FJ84	C	Molded Stereo Headphone Cord. 4′ cable from phone plug to "molded band". 1′ cable from band to stripped and tinned leads.	3.52
37F2992	13NJ88	E	Right angle 2-cond. phone plug to eyelet lugs. 5′ (extended) coiled cord.	4.04



"POWER JAX," "POWER PLUG" JACKS AND PLUGS

Designed for AC/DC converter/battery charger connections. Jacks mount in 5/16″ dia. hole in panels up to 1/8″ thick.

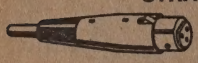
Stock No.	Type	Fig.	Mating Plug	Pin Dia.	Ea. 1-9	10-24	25-49	50-99
37F2993	712A	A	760	.100″	.96	.72	.66	.60
37F2994	722A	A	S-760	.080″				

			Handle	Center Hole Dia.				
37F2995	760	B	Blk. Plastic	.100″	.92	.69	.64	.58
37F2996	765	B	Red Plastic	.100″				
37F2997	S-760	B	Blk. Plastic	.080″	.96	.72	.66	.60
37F2998	S-765	B	Red Plastic	.080″				

"QUICK GROUND" CONNECTORS

Feature a separate "Ground-Terminal" electrically integral with the connector shell. Ground continuity between mating plugs automatically accomplished. Socket and pin assemblies utilize "wedge-action" to assure firm, reliable positioning.

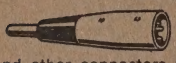
STRAIGHT FEMALE PLUG



Fresh, streamlined design includes rugged, diecast zinc body, satin nickel finish. Grounding feature offers 4-, 5-, 6-contact versatility. Mates with straight male plugs with similar arrangements.

Stock No.	Type	No. Con.	1-9	10-24	25-49	50-99
27F066	A3F	3	2.48	1.86	1.71	1.55
27F067	A4F	4	3.08	2.31	2.12	1.93
39F2274	A5F	5	5.08	3.81	3.49	3.18

STRAIGHT MALE PLUG



One-piece pin insert assembly easily removable for fast soldering. Polarizing groove. Mates with straight female plugs and other connectors with similar contact arrangements. Overall length 2 5/32"; dia. 3/4".

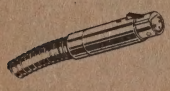
Stock No.	Type	No. Pins	1-9	10-24	25-49	50-99
27F068	A3M	3	2.12	1.59	1.46	1.33
27F069	A4M	4	2.28	1.71	1.57	1.43
39F2275	A5M	5	4.08	3.06	2.81	2.55

RIGHT-ANGLE MALE AND FEMALE PLUGS

Rugged die-cast housing. Ideal for equipment with limited space for connectors. Mates with straight male and female plugs and other similar connectors and receptacles.

Stock No.	Type	No. Con./Pins	1-9	10-24	25-49	50-99
39F2284	R3F	3	5.60	4.20	3.85	3.50
39F2285	R4F	4	6.32	4.74	4.35	3.95
39F2286	R5F	5	8.64	6.48	5.94	5.40
39F2287	R3M	3	5.16	3.87	3.55	3.23
39F2288	R4M	4	5.32	3.99	3.66	3.33
39F2289	R5M	5	7.60	5.70	5.23	4.75

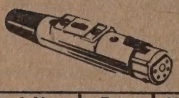
FEMALE PLUG



Mounts directly to a flexible gooseneck and/or microphone stem. 5/8-27NS-2B internal thread, 7/16" deep. Overall length 2 1/4"; dia. 3/4".

Stock No.	Type	No. Con.	1-9	10-24	25-49	50-99
22F1023	P3F	3	2.40	1.80	1.65	1.50
22F1024	P4F	4	3.04	2.28	2.09	1.90

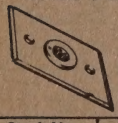
FEMALE PLUG WITH ON-OFF SWITCH



Connect directly to microphones. Built-in submin. slide switch permits instant on-off control of audio. Switch provides in-line DPDT (2-C) switching — Has locking switch. 3 61/64" L; dia. 3/4".

Stock No.	Type	No. Con.	1-9	10-24	25-49	50-99
22F1025	T3F	3	7.60	5.70	5.23	4.75
22F1026	T4F	4	8.08	6.06	5.56	5.05
22F1027	T5F	5	10.12	7.59	6.96	6.33

WALL PLATES WITH MALE PANEL SOCKETS



Single gang wall plates with male panel sockets. Fits standard electrical outlet box. 4 1/2" H. x 2 3/4" W. Stainless steel finish.

Stock No.	Type	No. Pins	1-9	10-24	25-49	50-99
27F1000	G3MS	3	5.28	3.96	3.63	3.30
22F1028	G4MS	4	5.60	4.20	3.85	3.50

®Registered trademark of Switchcraft.

WALL PLATES WITH FEMALE RECEPTACLES

Single gang wall plates with female receptacle. Fits standard electrical outlet box. 4 1/2" H. x 2 3/4" W. Stainless steel finish.

Stock No.	Type	No. Con.	1-9	10-24	25-49	50-99
22F1029	J3FS	3	5.52	4.14	3.80	3.45
22F1030	J4FS	4	5.76	4.32	3.96	3.60

MALE PANEL SOCKETS

For panel or chassis mounting; locknut accommodates panels up to 1/4" thick. Single hole mounting, can be keyed by using "D" shaped panel hole or S-3519 mounting adapter. Mates with straight female plugs and other connectors with similar contact arrangements. Flange 1 7/64" dia.; Barrel 1 7/16" overall; pin extension 5/32".

Stock No.	Type	No. Pins	1-9	10-24	25-49	50-99
27F062	B3M	3	3.04	2.28	2.09	1.90
27F065	B4M	4	3.16	2.37	2.17	1.98
39F2279	B5M	5	5.20	3.90	3.58	3.25

FEMALE PANEL SOCKETS

Panel mount receptacle. Supplied with 1 1/4-18 UNEF spanner nut; mounts in 1 1/4" dia. hole, in panels up to 7/16" thick. Mates with straight male plugs and other similar connectors.

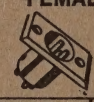
Stock No.	Type	No. Con.	1-9	10-24	25-49	50-99
39F2276	B3F	3	5.08	3.81	3.49	3.18
39F2277	B4F	4	5.32	3.99	3.66	3.33
39F2278	B5F	5	7.36	5.52	5.06	4.60

MALE PANEL SOCKETS WITH FLANGE

Mounts on wall panel or chassis with three .140" dia. mounting holes. High impact thermosetting plastic pin insert. Mates with straight female plugs and other connectors with similar contact arrangements. Flange 1 7/16" dia.; Barrel 1 3/16" overall; pin extensions 5/32".

Stock No.	Type	No. Pins	1-9	10-24	25-49	50-99
27F060	C3M	3	1.64	1.23	1.13	1.03
27F064	C4M	4	1.76	1.32	1.21	1.10
39F2280	C5M	5	3.80	2.85	2.61	2.38

FEMALE PANEL SOCKETS WITH FLANGE



For panel or chassis mounting; has socket insert, push-type latch locking device. Flange has three .140" holes for mounting screws. Mates with Switchcraft straight male plugs and other similar connectors.

Stock No.	Type	No. Con.	1-9	10-24	25-49	50-99
27F059	C3F	3	3.28	2.46	2.26	2.05
27F063	C4F	4	3.40	2.55	2.34	2.13
27F2281	C5F	5	5.32	3.99	3.66	3.33

MALE PANEL SOCKETS WITH RECTANGULAR FLANGE

Narrow, rectangular flange design for mounting on compact panel or chassis. Mates with straight female plugs and other similar connectors.

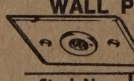
Stock No.	Type	No. Pins	1-9	10-24	25-49	50-99
27F072	D3M	3	2.04	1.53	1.40	1.28
22F1031	D4M	4	2.16	1.62	1.49	1.35
39F2283	D5M	5	3.72	2.79	2.56	2.33

FEMALE PANEL SOCKETS WITH RECTANGULAR FLANGE

Rectangular flange design permits close mounting on crowded panel or chassis. Positive latch locking device and high impact thermosetting socket insert. Mates with straight male plugs and other connectors with similar contact arrangements.

Stock No.	Type	No. Con.	1-9	10-24	25-49	50-99
27F070	D3F	3	3.36	2.52	2.31	2.10
27F071	D4F	4	3.48	2.61	2.39	2.18
27F2282	D5F	5	5.40	4.05	3.71	3.38

WALL PLATES WITH FEMALE RECEPTACLES



Two gang wall plates with two female receptacles. Mounts in standard electrical outlet junction box. 4 1/2" H. x 2 3/4" W. Stainless steel finish.

Stock No.	Type	No. Pins	1-9	10-24	25-49	50-99
22F1032	K3FS	3	7.80	5.85	5.36	4.88
22F1033	K4FS	4	8.40	6.30	5.78	5.25

Phone Jacks

SWITCHCRAFT INC.

E. HI-D JAX® PHONE JACKS

Smaller, more compact phone jacks, mate with std. ¼" phone plugs. Molded box body protects integral silver-plated, nickel silver springs. Low contact resistance and electrical leakage with little capacity between the springs. Mount on ⅜" centers in single ⅜" hole in panels up to 5/32" thick, depth behind panel 1 3/32". (*)"N" prefix feature a threaded nylon bushing to provide complete insulation of jack sleeve from mtg. panel. **Type M-112B** is designed and adjusted to mate with telephone and MIL-std. plugs. **Type 114B** switches out speakers when connecting stereo headphones. Dual N.C. switch contacts open both stereo circuits independently when a 3-cond. plug is inserted.

TWO CONDUCTOR TYPES

Stk. No.	Type	Schem. No.	Mating Plug	1-9	10-24	25-49	50-99
39F656	111	I	250	.52	.39	.36	.33
39F642	N-111*	I	250	.68	.51	.47	.43
39F657	112A	III	250	.56	.42	.39	.35
39F643	N-112A*	III	250	.72	.54	.50	.45
39F644	113	V	250	1.00	.75	.69	.63
39F645	113D	VI	250	1.00	.75	.69	.63

THREE CONDUCTOR TYPES

39F658	112B	IV	267	.60	.45	.42	.38
39F646	M-112B	IV	482	.92	.69	.64	.58
39F659	113B	VII	267	.80	.60	.55	.50
39F660	113F	XXVIII	267	.80	.60	.55	.50
39F661	114B	XII	267	.88	.66	.61	.55
39F647	N-114B*	XII	267	1.00	.75	.69	.63

F. "TINI-D JAX" MINIATURE PHONE JACK

Small, completely enclosed, molded phone jack. Mate with "Tini-Plug". Has threaded bushing for conventional mtg. Tip spring terminals that "snap-in" P.C. boards. Mount on ⅜" centers, in ¼" dia. hole in panels up to ⅛" thick. Depth behind panel 7/16".

Stk. No.	Type	Schem. No.	No. Cond.	1-9	10-24	25-49	50-99
39F648	142A	III	2	.60	.45	.42	.38

"EXTENSION JAX" CABLE EXTENSION JACKS

Standard ¼", 2- and 3-conductor extension phone jacks with solder lugs or screw type terminals. Size 1 1/16" O.D., 2 5/32" long; 121 and 131 ½" O.D., 2½" long.

Stock No.	Type	Fig.	No. Cond.	Term.	Handle	1-9	10-24	25-49	50-99
39F670	80	G	2	Screw	Black	1.44	1.08	.99	.90
39F671	88	G	2	Solder	Black	1.32	.99	.91	.83
39F672	120	J	2	Screw	Shield	1.92	1.44	1.32	1.20
39F247	121	H	2	Solder	Shield	2.00	1.50	1.38	1.25
39F785	126	G	2	Solder	Shield	2.12	1.59	1.46	1.33
39F673	128	G	2	Solder	Shield	1.76	1.32	1.21	1.10
39F649	131	H	3	Solder	Shield	2.56	1.92	1.76	1.60
22F269	830	G	3	Screw	Black	1.92	1.44	1.32	1.20
39F757	1230	J	3	Screw	Shield	2.48	1.86	1.71	1.55

JACK COVERS

Handy, rugged, spring-load phone jack covers. Covers jack openings when phone plug is removed. Protects against dust and moisture. Use with standard ⅜"-32 threaded bushing type jacks.

Stock No.	Type	Color	1-9	10-24	25-49	50-99
39F650	515	Black	1.32	.99	.91	.83

"THICK-PANEL JAX" PHONE JACK

Phone jacks with long bushing. Mount in single 1 5/32" dia. hole in panels up to 1¼" thick. Solder lug terminals. Extra shielding virtually eliminates audio hum.

Stock No.	Type	No. Cond.	Mates With	1-9	10-24	25-49
39F651	151	2	240, 245, 250, 255, 270, 280	1.84	1.38	1.27
39F652	152B	3	260, 267, 269, 297	2.00	1.50	1.38

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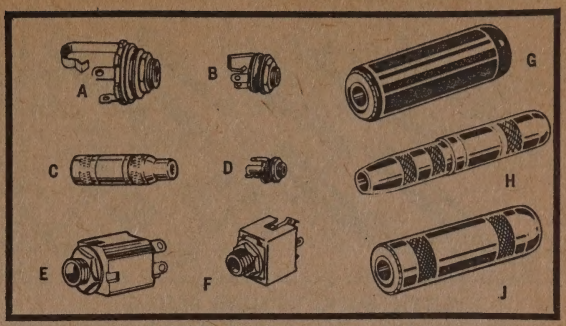


A. LITTEL-JAX® PHONE JACKS

Quality phone jacks that mate with standard ¼" phone plugs, Notched insulating washers mechanically interlock springs and solder lugs. "V" bend in tip spring firmly "holds" mating plug. Minimum space requirements. Economical. Mounts in single ⅜" hole panels up to 5/32" thick except L-11 and L-12A in panels up to ¼" thick. **C-11** and **C-12B** have locating pins (non-turn devices). **S-11** similar to **11** except .210" I.D. sleeve. **C11, C-12B,** and **C-12A** per JAN-J-641. **14B** switches out speakers when connecting stereo headphones.

TWO CONDUCTOR TYPES

Stock No.	Type	Schem. No.	Mating Plug	Mil-Type	1-9	10-24	25-49	50-99
39F782	11	I	250	....	.56	.42	.39	.35
39F662	C-11	I	440	JJ-034	.84	.63	.58	.53
39F653	L-11	I	250	....	.64	.48	.44	.40
39F663	S-11	I	S-250	....	.60	.45	.42	.38
39F783	12A	III	250	....	.60	.45	.42	.38
39F664	C-12A	III	440	JJ-089	.96	.72	.66	.60
39F654	L-12A	III	250	....	.68	.51	.47	.43
39F655	13	V	250	....	1.16	.87	.80	.73
39F691	13A	VI	250	....	1.04	.78	.72	.65
39F699	13E	IX	250	....	1.16	.87	.80	.73

THREE CONDUCTOR TYPES

39F665	12B	IV	267	....	.68	.51	.47	.43
39F667	C-12B	IV	480, 484	JJ-033	.96	.72	.66	.60
39F576	L-12B	IV	267	....	.92	.69	.64	.58
39F666	S-12B	IV	480, 484	....	.92	.69	.64	.58
39F668	13B	VII	267	....	1.00	.75	.69	.63
39F669	S-13B	VII	480, 484	....	1.28	.96	.88	.80
39F577	14B	XII	267	....	1.32	.99	.91	.83

B. "TINI-JAX" MINIATURE PHONE JACKS

Miniature 2-conductor phone jacks, approximately ⅓ the size of the Littel-Jax jack, otherwise similar in construction. Mount in ¼" dia. hole; panel up to ⅛" thick.

Stock No.	Type	Schem. No.	Mating Plug	1-9	10-24	25-49	50-99
39F744	41	I	750	.52	.39	.36	.33
39F745	42A	III	750	.56	.42	.39	.35
39F689	43A	VI	750	.88	.66	.61	.55

C. "TINI-EXTENSION JAX" MINIATURE EXT. JACK

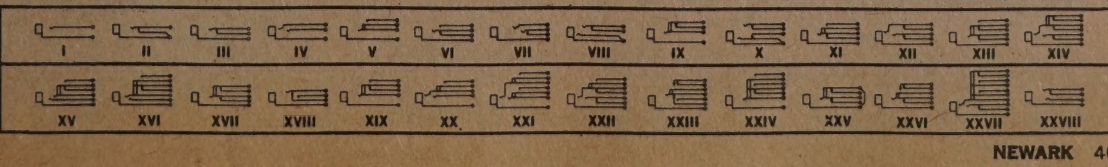
An extension or cable jack to mate with "Tini-Plug". Metal housing for ruggedness and shielding. Solder lug terminals.

Stock No.	Type	No. Cond.	1-9	10-24	25-49	50-99
22F248	125	2	1.60	1.20	1.10	1.00

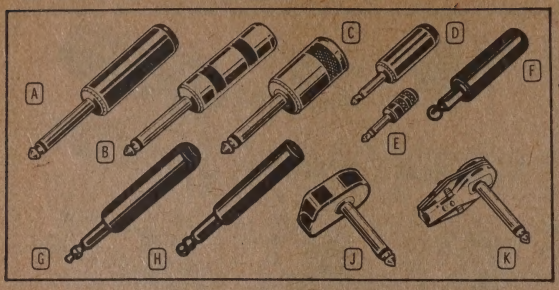
D. MICRO-JAX® SUB MINIATURE PHONE JACK

Precision manufactured jack for miniaturized applications. Single closed circuit. Internally keyed nylon insulation interlocks springs and solder lugs to eliminate shorts. Fits .190" dia. hole in panels to 3/32" thick. Only 1/25 the size of standard phone jacks.

Stock No.	Type	Schem. No.	No. Cond.	Mating Plug	1-9	10-24	25-49	50-99
39F578	TR-2A	III	2	850, 880	.64	.48	.44	.40



Phone Jacks and Plugs



"LITTEL-PLUG" PHONE PLUGS

Small size phone plugs fit standard ¼" phone jacks except (*) S-250 and S-280 which have a .206" dia. sleeve. Plugs with solder terminals have built-in cable clamp. ⅝" long x ½" dia. (‡) Has wide insulator between tip and sleeve for use in 3 conductor jack to perform a 2 conductor function without shorting.

TWO-CONDUCTOR TYPE

Stock No.	Type	Fig.	Mtg. Jack	Handle	Term	1-9	10-24	25-49	50-99
39F760	240	A	11	Black	Screw	1.00	.75	.69	.63
39F761	245	A	11	Red	Screw	1.00	.75	.69	.63
39F763	250	A	11	Black	Solder	.96	.72	.66	.60
39F674	255	A	11	Red	Solder	.96	.72	.66	.60
39F765	270	B	11	Shield	Screw	1.40	1.05	.97	.88
39F764	280	B	11	Shield	Solder	1.36	1.02	.94	.85
39F678	288‡	B	11	Shield	Solder	1.40	1.05	.97	.88
39F677	S-250*	A	S-11	Black	Solder	.96	.72	.66	.60
39F762	S-280*	B	S-11	Shield	Solder	1.36	1.02	.94	.85

THREE-CONDUCTOR TYPE

39F675	260	A	12B	Black	Screw	1.60	1.20	1.10	1.00
39F771	267	A	12B	Black	Solder	1.40	1.05	.97	.88
39F676	269	A	12B	Red	Solder	1.40	1.05	.97	.88
39F766	290	B	12B	Shield	Screw	1.84	1.38	1.27	1.15
39F767	297	B	12B	Shield	Solder	1.76	1.32	1.21	1.10

STANDARD ¼" PHONE PLUGS

TWO-CONDUCTOR TYPE — SOLDER TERMINALS

Typical mating jack "Littel-Jax" No. 11.

Stock No.	Type	Fig.	Handle	Length & Dia.	1-9	10-24	25-49	50-99
39F679	40	A	Black	2 1/16 x ¾	1.00	.75	.69	.63
39F680	70	B	Shield	2 1/16 x 1 1/16	1.64	1.23	1.13	1.03
39F681	160	C	Shield	1 x 1 1/16	1.32	.99	.91	.83
22F275	170	D	Shield	2 1/16 x 1 1/16	2.08	1.56	1.43	1.30

THREE-CONDUCTOR TYPE — SOLDER TERMINALS

Typical mating jack "Littel-Jax" No. 12B.

39F682	60	A	Black	2 1/16 x 1 1/16	1.36	1.02	.94	.85
39F683	90	C	Shield	1 x 1 1/16	1.72	1.29	1.18	1.08
22F1034	190	B	Shield	2 1/16 x 1 1/16	2.00	1.50	1.38	1.25

"LUG-PLUG" PHONE PLUGS

Low cost, two-conductor phone plugs. Fit all ¼" phone jacks. All have solder lug terminals. Handle: black phenolic.

Stock No.	Type	Fig.	Mtg. Jack	Length & Dia.	1-9	10-24	25-49	50-99
22F1035	350	A	11	1⅝ x ½	.80	.60	.55	.50

"TINI-PLUG" MINIATURE PHONE PLUGS

Miniature 2-conductor phone plugs for use with "Tini-Jax" only ⅓ the size of standard phone plugs. Handles 1⅝" overall length, are plastic or brass, nickel plated.

Stk. No.	Type	Fig.	Term.	Handle	1-9	10-24	25-49	50-99
22F1036	740	E	Screw	Black	.92	.69	.64	.58
22F1037	745	E	Screw	Red	.92	.69	.64	.58
39F746	750	E	Solder	Black	.88	.66	.61	.55
39F747	755	E	Solder	Red	.88	.66	.61	.55
39F748	780	E	Solder	Shield	1.24	.93	.86	.78

"MICRO-PLUG" SUB-MINIATURE PHONE PLUGS

Sub-miniature 2-conductor phone plugs, only 1¼" long; ¼" O.D., .097" dia. sleeve. Accommodates cables up to 7/64" dia. All plugs have integral cable clamps.

Stock No.	Type	Fig.	Description	1-9	10-24	25-49	50-99
22F395	850	F	Black Handle	.84	.63	.58	.53
22F1038	855	F	Red Handle	.84	.63	.58	.53
22F1039	880	F	Natural Handle	.84	.63	.58	.53

MILITARY TYPE "LITTEL-PLUG" & "EXTENSION JAX"

Plugs are made in accordance with MIL-P-642(A) specifications. One piece tip rod and one piece sleeve and plug body provide internal interlock to prevent parts shifting in position. Handle: black except *red. All plugs have screw terminals.

Stock No.	Type	Fig.	Mil-Type	Mating Jack	No. Cond.	1-9	10-24	25-49	50-99
22F1040	430	G	PJ-054B	820	2	1.56	1.17	1.07	.98
39F792	440	..	PJ-055B	MT-331	2	1.56	1.17	1.07	.98
39F791	480	H	PJ-068	MT-342B	3	3.64	2.73	2.50	2.28
22F391	482*	J	PJ-051R	MT-332B	3	4.04	3.03	2.78	2.53
22F1041	483	J	PJ-051B	MT-332B	3	4.04	3.03	2.78	2.53

"FLAT-PLUG" PHONE PLUGS

¼" phone plugs featuring flat, space-saving handles. Ideal for applications where conventional plugs would protrude too far. No. 220 has adapter clip which makes it convenient to clamp standard phone tips to terminals.

TWO-CONDUCTOR TYPE

Stock No.	Type	Mating Fig.	Mating Jack	Mating Handle	Term.	1-9	10-24	25-49	50-99
39F768	220	K	11	Black	Screw	1.40	1.05	.97	.88
22F1042	227	K	11	Black	Screw	1.12	.84	.77	.70
22F1043	228	L	11	Shield	Solder	1.28	.96	.88	.80

THREE-CONDUCTOR TYPE

22F1044	238	L	12B	Shield	Solder	1.80	1.35	1.24	1.13

MILITARY TYPE "TWIN-PLUG"

Meet exact industrial and military requirements. Nos. 412 & 413 use identical materials. Sleeves spaced ⅝" center to center with self-aligning feature.

No. 412 — Two electrically independent 2-conductor plugs in black plastic handle. Has external cord clamp. Old Military Type PJ-289. Similar to W.E. 289B.

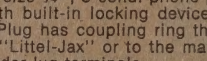
No. 413 — Three circuit plug with two electrically independent tip circuits. Interchangeable with MIL-Type PJ-421 and W.E. 241.

Stock No.	Type	MIL-Type	1-9	10-24	25-49	50-99
22F1045	412	PJ-289	4.76	3.57	3.27	2.98
22F1046	413	PJ-421	4.76	3.57	3.27	2.98

"LOCK-PLUG" & "EXTENSION JAX"

Standard size ¼", 3-cond. phone plug and mating cable extension jacks, with built-in locking device. Ideal for all P.A. audio applications. Plug has coupling ring that can be threaded to the bushing of a "Littel-Jax" or to the mating end of the "Lock-Extension Jax." Solder lug terminals.

Stk. No.	Type	Description	1-9	10-24	25-49	50-99
22F1047	298	3-Cond. "Lock-Plug"	2.32	1.74	1.60	1.45
22F1048	133	3-Cond. "Extension Jax"	2.76	2.07	1.90	1.73



"MT-JAX" MILITARY TELEPHONE JACKS

Long frame, telephone switchboard jacks designed for high quality communication and military equipment. Springs are of a special nickel silver alloy with welded cross bar palladium contacts. "A" frame design.

Stock No.	Type	Schem. No.	For Plug	MIL-Type	1-9	10-24	25-49	50-99
22F225	MT-331	I	440*	JJ-086	1.36	1.02	.94	.85
22F286	MT-332A	III	440	JJ-024	1.60	1.20	1.10	1.00
22F257	MT-332B	IV	482†	JJ-022	1.60	1.20	1.10	1.00
22F259	MT-334B	XII	482	JJ-042	1.88	1.41	1.29	1.18

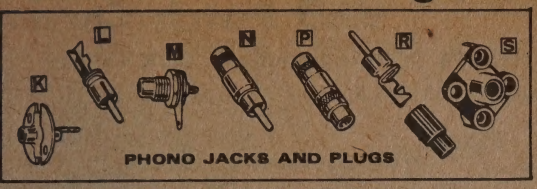
Similar in design to "MT-Jax" except frame is double width, with two mounting ears on 1⅜" centers; bushings are on ⅝" centers. Has two 3-conductor jacks interconnected.

Stock No.	Type	For Plug	1-9	10-24	25-49	50-99
22F1049	MT-389	482	5.32	3.99	3.66	3.33

*MIL Type PJ-055. †MIL Type PJ-051B.

Phono Jacks, Plugs, Adapters

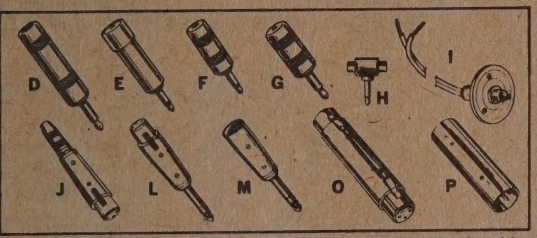
SWITCHCRAFT INC.



PHONO JACKS AND PLUGS

Low cost 2-cond. jacks and plugs for record players, FM-AM tuners, tape recorders, test equipment, etc. **3501MC** has ⅜" O.D. shell and cable clamp. **3501FP** for front panel mount in ¼" hole, in panels up to ⅛" thick. **3501FR** for rear panel mount in ⅜" hole, in panels up to 1 3/64" thick. **3502** has unique cable clamp with 1 3/32" O.D. shielded removable handle. **3503** ext. jack has removable handle, 1 1/32" O.D. with cable clamp. **3508,** color coded phono plugs with cable clamp and "snap-on" plastic handles.

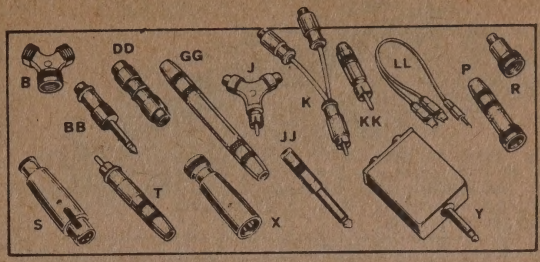
Stock No.	Type	Fig.	Description	1-9	10-24	25-49
39F2154	3501F	K	Chassis jack	.20	.15	.14
39F2155	3501M	—	Plug, less cable clamp	.16	.12	.11
39F2156	3501MC	L	Plug with cable clamp	.20	.15	.14
39F2157	3501FP	M	Chassis jack	.40	.30	.28
39F2158	3501FR	—	As above, chassis jack	.56	.42	.39
39F2159	3502	N	Plug	.56	.42	.39
39F2160	3503	P	Extension jack	.68	.51	.47
39F2161	3558-1	R	Plug, Red handle	.28	.21	.20
39F2162	3558-2	R	Plug, Black handle	.28	.21	.20
39F2163	3558-5	R	Plug, White handle	.28	.21	.20
39F2164	3512	S	Chassis jack, closed circuit	.40	.30	.28
39F2165	3512A	S	Chassis jack, closed circuit, grounded	.40	.30	.28



Versatile adapters for interconnecting components and cables that do not have mating jacks and/or plugs. Positive mating contacts prevent resistive line-losses. **378P1,** "Tini-Tee," provides dual output jacks for two separate earphones. Allows two to listen at once from a single radio, tape recorder, etc.

ADAPTERS

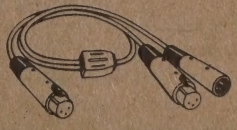
Stock No.	Type	Fig.	Description	1-9	10-24	25-49
39F2166	374P1	D	Phone jack input to a 2-cond. "Tini-Plug" output.	2.04	1.53	1.40
39F2167	375P1	E	Phono jack input to a 2-cond. "Micro-Plug" output.	1.84	1.38	1.27
39F2168	376P1	F	"Tini-Jax" input to a 2-cond. "Micro-Plug" output.	1.84	1.38	1.27
39F2169	377P1	G	"Micro-Jax" input to a 2-cond. "Tini-Plug" output.	1.84	1.38	1.27
39F2170	378P1	H	"Tini-Tee" Adapter. 2-cond. "Tini-Plug" input to two 2-cond. "Tini-Jax" outputs.	2.40	1.80	1.65
39F2171	379P1	I	Speaker enclosure phono jack, 24" cable.	1.40	1.05	.97
39F2172	383AP1	J	3 Contact Switchcraft A3F female microphone input to 3-cond. extension phone jack output.	4.72	3.54	3.25
39F2173	386AP1	L	3 Contact Switchcraft A3F female microphone input to a standard 3-cond. phone plug output.	4.64	3.48	3.19
39F2174	387AP1	M	3 Pin Switchcraft A3M male microphone input to a standard 3-cond. phone plug output.	4.08	3.06	2.81
39F2175	389P1	O	Coupler. 3-pin audio connector (Switchcraft A3M) at each end. Shielded.	5.08	3.81	3.49
39F2176	390P1	P	Coupler. 3-pin male audio connector (Switchcraft A3M) at each end. Shielded.	4.28	3.21	2.94



A versatile and complete line of adapters for interconnecting components that do not have mating jacks and/or plugs. **335AP1** has unsoldered internal wire at one end to permit user to convert terminal needed. **33AP1, 334AP1** can be used as male or female connector; coupling ring screws back, converting to male mike connector. *Shielded.

ADAPTERS

Stk. No.	Type	Fig.	Description	1-9	10-24	25-49
39F2177	25YP1	B	Y-Adapter, two male mike connectors to one female mike connector.	2.32	1.74	1.60
39F2178	330FP1*	J	Y-Adapter. Two phono jacks to phono plug.	2.08	1.56	1.43
39F2179	330F1P1	K	Flexible Y-Adapter. Phono plug to 2 phono jacks	2.40	1.80	1.65
39F2180	330F2P1	.....	Above, but phono plug and phono jack to phono plug.	2.40	1.80	1.65
39F2181	330F3P1	.....	Above, but 2 phono plugs to 1 phono plug.	2.40	1.80	1.65
39F2182	330T1P1	.....	Flexible Audio Y-Adapter, 2-cond. "Tini-Plug" to 2 phono jacks. 6" long.	2.40	1.80	1.65
39F2183	330T2P1	.....	Above, but 2-cond. "Tini-Plug" to 2 phono plugs.	2.40	1.80	1.65
39F2184	330T3P1	LL	Above, but 2-cond. "Tini-Plug" to 2 "Tini-Jax".	2.40	1.80	1.65
39F2185	332AP1	P	Phone jack input to female mike connector output.	2.00	1.50	1.38
39F2186	334AP1*	R	Phono jack input to female mike connector output.	1.72	1.29	1.18
39F2187	334BP1*	.....	Above, but phono jack input to male mike connector output.	1.52	1.14	1.05
39F2188	335AP1	S	2-cond. Switchcraft 2501MP1 input to Cannon XLR output.	3.44	2.58	2.37
39F2189	336AP1*	T	2-cond. phone jack input to phono plug output.	2.00	1.50	1.38
39F2190	336BP1	.....	Above, but 2-cond. phone jack input to phono jack output.	2.00	1.50	1.38
39F2191	339AP1	X	Switchcraft 2501FP1 output to Cannon XLR input.	3.44	2.58	2.37
39F2192	340P1*	Y	Two 2-cond. phone jack inputs to 2-cond. phone plug output.	4.24	3.18	2.92
39F2193	345AP1	BB	Phone plug output to phono jack input.	1.52	1.14	1.05
39F2194	349AP1*	DD	Phone plug coupler, phono plug at each end.	1.28	.96	.88
39F2195	361P1*	GG	Coupler. 2-cond. phone jack at each end.	2.68	2.01	1.84
39F2196	362P1	.....	Above, but 3-cond. phone jack at each end.	3.20	2.40	2.20
39F2197	364AP1*	JJ	2-cond. "Tini-Jax" to 2-cond. phone plug.	1.80	1.35	1.24
39F2198	365P1*	KK	2-cond. "Tini-Jax" input to phone jack output.	1.80	1.35	1.24



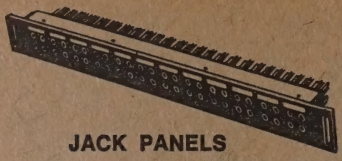
"Q-G" Y-Adapters: (1) parallel — 2 mic outputs or (2) split — two speaker outputs. Mates with Switchcraft "Q-G" connectors and compatible Amphenol and Cannon types.

Stk. No.	Type	"Q-G" Cord Plug Nos. Plug A	Plug B	Plug C	1-9	10-24	25-49	50-99
39F2199	391Q13	A3F	A3M	A3M	12.88	9.66	8.86	8.05

"Micro-Plug"® and "Micro-Jax"® are registered tradenames of Switchcraft, Inc.

SWITCHCRAFT INC.

Phone Jacks, Panels, and Patch Cords



JACK PANELS

Rugged, heavy-duty jack panels for switching, distribution, and control of audio signals in broadcasting stations, theaters, P.A. systems installations, etc. Mounting brackets slotted to fit all standard 19″ relay racks. Panel includes plastic covered designation strips.

Stk. No.	Type	Rows	Number of Jacks	1-9	10-24	25-49	50-99
39F2128	1332A	Single	24 MT-332A	45.60	34.20	31.35	28.50
39F2129	2532A	Double	48 MT-332A	84.00	63.00	57.75	52.50
39F2130	2732A	Double	52 MT-332A	87.20	65.40	59.95	54.50

JACK PANEL HOLE PLUG

Molded nylon, fits all Switchcraft jack panels. Designed to plug unused holes in jack panels.

Stk. No.	Type	Description	1-9	10-24	25-49	50-99
39F2131	P-1801	Hole Plug	.28	.21	.20	.18

PATCH CORD SETS

Constructed of bronze tinsel conductors, insulated and shielded, with a heavy black nylon braid overall.

Series 17Q — 2-conductor, shielded patch cords have twin-plug at each end with shields grounded both ends.

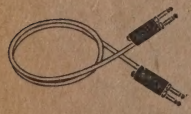
Series 18Q — 2-conductor, shielded patch cords use Military Plug PJ-051 at each end with shields grounded both ends.

Series 19Q — Single cond., shielded Military Plug PJ-047B connected to each end with shield grounded both ends.

Stk. No.	Type	Lgth.	1-9	10-24	25-49	50-99
39F2132	17QA17	6″	12.24	9.18	8.42	7.65
39F690	17QD17	2′	12.80	9.60	8.80	8.00
39F2133	17QH17	4′	13.60	10.20	9.35	8.50
39F2134	17QK17	6′	14.48	10.86	9.96	9.05
39F2135	17QN17	10′	15.32	11.49	10.53	9.58
39F692	17PD17	2′	12.80	9.60	8.80	8.00
39F2136	18QA18	6′	12.80	9.60	8.80	8.00
39F694	18QD18	2′	13.92	10.44	9.57	8.70
39F695	18QF18	3′	14.48	10.86	9.96	9.05
39F696	18QH18	4′	15.04	11.28	10.34	9.40
39F2137	19QA19	6′	6.68	5.01	4.59	4.18
39F2138	19QD19	2′	7.56	5.67	5.20	4.73
39F2139	19QF19	3′	8.08	6.06	5.56	5.05

"tini-telephone" PATCH CORDS

"tini-telephone" patch cords with 2- and 3-cond. attachable single and twin plugs. .173″ dia. fingers. Mate with TT-Jax® jacks.



Series TT-720 — 2-cond. Shielded cord. Shield is grounded to sleeve of each plug.

Series TT-740 — 2-cond. Shielded cord. Shield is grounded to sleeve of each plug.

Series TT-840 — 2-cond. Shielded cord with twin-plug phone plug attached to each end.

SERIES TT-720

Stk. No.	Type	Length	Plug Type	1-9	10-24	25-49	50-99
39F2140	TT-722	1′	TT-251	9.60	7.20	6.60	6.00
39F2141	TT-727	4′	TT-251	12.08	9.06	8.31	7.55
39F2142	TT-729	6′	TT-251	13.60	10.20	9.35	8.50

SERIES TT-740

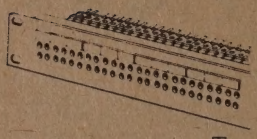
39F2143	TT-742	1′	TT-253	11.68	8.76	8.03	7.30
39F2144	TT-747	4′	TT-253	14.20	10.65	9.76	8.88
39F2145	TT-749	6′	TT-253	15.76	11.82	10.84	9.85

SERIES TT-840

39F2146	TT-842	1′	TT-261	15.96	11.97	10.97	9.98
39F2147	TT-847	4′	TT-261	18.40	13.80	12.65	11.50
39F2148	TT-849	6′	TT-261	20.32	15.24	13.97	12.70

®Registered trademark of Switchcraft, Inc.

SERIES TT "Tini-Telephone" JACK PANELS



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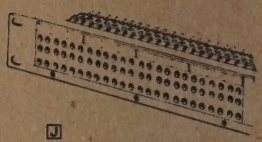
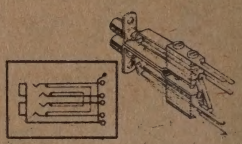


J

Series **1600,** a double row panel for 96 TT-Jax jacks with 4 molded plastic inserts which accommodate 24 jacks each. Series **1700,** a double row panel for 48 "TT-Twin-Jax" jacks with 2 molded plastic inserts which accommodate 24 twin jacks each. Series **B1700** same as Series 1700 except accommodates 48 "Tri-Jax" jacks, Nos. TT-95 or WTT-95 (24 per insert). All series feature exclusive "kwik-change" designation strips. Strips consist of a clear plastic snap-on cover and a reusable plastic marking strip.

Stk. No.	Type	Fig.	Rows	No. of Jacks	1-9	10-24
39F2149	1600	.....	2	96 single jacks	26.48	19.86
39F2150	1632A	.....	2	96, TT-32A	127.88	95.91
39F2151	1634B	.....	2	96, TT-34B	162.40	121.80
39F2152	1700	G	2	48 twin jacks	30.88	23.16
39F2153	1789	G	2	48, TT-89	229.60	172.20
22F961	B1700	J	3	48 "Tri-Jax" jacks	35.28	26.46
22F962	B1795	J	3	48, TT-95	264.00	198.00
22F963	WB1795	J	3	48, WTT-95	282.40	211.80

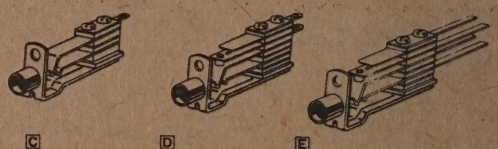
TWIN JAX PHONE JACKS



2 frames are welded back-to-back with mtg. holes on $1^{3}/_{16}$″ centers and bushings on $^{5}/_{16}$″ centers. Designed to be mounted on Series 1700 jack panels. Wire-wrapping terminals. Mate with TT-patch Cord cords.

Stk. No.	Type	Description	1-9	10-24	25-49	50-99
22F967	WTT-89	Twin jack	4.48	3.36	3.08	2.80

SERIES TT-30 & WTT-30 TT-Jax PHONE JACKS



C D E

Miniatures of the std. long frame telephone-type jacks. Rugged steel frame, with gusset for extra rigidity. Series **TT-30** require only $2^{1}3/_{16}$″ depth behind panel, mounted on $^{5}/_{16}$″ centers, in a ¼″ dia. hole in panels up to ⅜″ thick. Designed to be mounted on Series 1600 "TT" Jack Panels. Series **WTT-30,** depth behind panel $2^{1}1/_{16}$″. Both TT-30 and WTT-30 jacks can be mounted on Series 1600 panels.

SERIES TT-30

Stk. No.	Type	Fig.	Schem. No.*	Mating Plug	1-9	10-24	25-49	50-99
39F2295	TT-31	D	I	TT-251	1.04	.78	.72	.65
39F2296	TT-32A	D	III	TT-251	1.28	.96	.88	.80
39F2298	TT-34B	C	XII	TT-253	1.52	1.14	1.05	.95

SERIES WTT-30

22F968	WTT-31	E	I	TT-251	1.12	.84	.77	.70
22F969	WTT-32A	E	III	TT-251	1.40	1.05	.97	.88
22F970	WTT-32B	E	IV	TT-253	1.36	1.02	.94	.85
22F971	WTT-34B	E	XII	TT-253	1.60	1.20	1.10	1.00

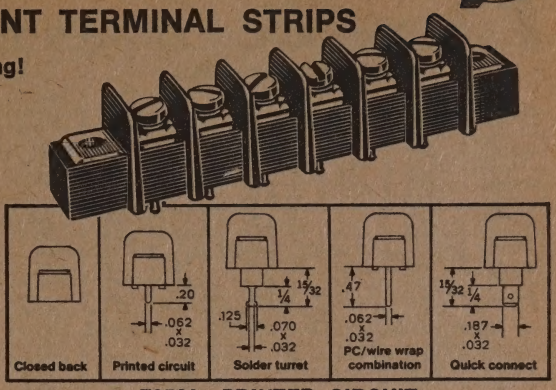
(*) See page 409.

BEAU® Terminal Strips

HIGH BARRIER RESILIENT TERMINAL STRIPS

- **BRUT! The Barriers You Can Bend Without Breaking!**
- **Single Row; ⅜" Centers**
- **20 Amps, 600 Volts**
- **Feed Thru and Closed Back**

Flexible barrier strips reduce breakage dramatically because they are made of highly resilient glass-filled thermoplastic materials. Because the barriers can actually bend without breaking, production line and in-field damage are virtually eliminated. Terminals are imbedded into the walls of the terminal block on four sides. This provides a pull-out strength over twice as great as competitive versions. It also eliminates solder joint fatigue from twisting the tail while torqueing the screws; resists fatigue under vibration conditions. Enclosed contact tails eliminates entrapment of foreign matter and reduce solder wicking. Base: ⅝" W. x 2 1/32" H. Terminals: high strength copper alloy, tin plated. 6-32 x ¼" binding head screw. Self rising wire clamps or quick connect tabs available by special order. UL recognized, CSA approved.



72100: CLOSED BACK

Stk. No.	Type	Terminals	1-24	25-49	50-99	100-249
14F2000	72102	2	.34	.28	.23	.19
14F2001	72103	3	.44	.35	.29	.24
14F2002	72104	4	.51	.41	.34	.28
14F2003	72105	5	.62	.50	.42	.34
14F2004	72106	6	.70	.56	.47	.38
14F2005	72107	7	.78	.63	.53	.43
14F2006	72108	8	.88	.71	.59	.48
14F2007	72109	9	.97	.78	.65	.53
14F2008	72110	10	1.07	.86	.72	.58
14F2009	72111	11	1.15	.92	.77	.62
14F2010	72112	12	1.24	.99	.83	.67
14F2011	72113	13	1.33	1.06	.89	.72
14F2012	72114	14	1.42	1.14	.95	.77
14F2013	72115	15	1.50	1.20	1.00	.81
14F2014	72116	16	1.60	1.28	1.07	.87
14F2015	72117	17	1.69	1.36	1.13	.92
14F2016	72118	18	1.78	1.43	1.19	.97
14F2028	72119	19	1.87	1.50	1.25	1.01
14F2029	72120	20	1.96	1.57	1.31	1.06
14F2030	72121	21	2.06	1.68	1.40	1.14
14F2031	72122	22	2.18	1.74	1.46	1.18
14F2032	72123	23	2.25	1.80	1.51	1.22
14F2033	72124	24	2.33	1.86	1.56	1.26

72200: INSULATED TURRET

Stk. No.	Type	Terminals	1-24	25-49	50-99	100-249
14F2017	72202	2	.41	.33	.28	.23
14F2018	72203	3	.54	.44	.37	.30
14F2019	72204	4	.65	.52	.44	.36
14F2020	72205	5	.80	.64	.54	.43
14F2021	72206	6	.91	.73	.61	.49
14F2022	72207	7	1.03	.82	.69	.56
14F2023	72208	8	1.16	.93	.78	.63
14F2024	72209	9	1.29	1.03	.86	.70
14F2025	72210	10	1.42	1.14	.95	.77
14F2026	72211	11	1.53	1.23	1.03	.83
14F2027	72212	12	1.66	1.33	1.11	.90

72500: PRINTED CIRCUIT

Stk. No.	Type	Terminals	1-24	25-49	50-99	100-249
14F2034	72502	2	.39	.32	.26	.22
14F2035	72503	3	.51	.41	.34	.28
14F2036	72504	4	.61	.49	.41	.33
14F2037	72505	5	.74	.60	.50	.40
14F2038	72506	6	.85	.68	.57	.46
14F2039	72507	7	.95	.76	.64	.52
14F2040	72508	8	1.08	.86	.72	.59
14F2041	72509	9	1.19	.96	.80	.65
14F2042	72510	10	1.32	1.06	.88	.71
14F2043	72511	11	1.42	1.14	.95	.77
14F2044	72512	12	1.53	1.23	1.03	.83
14F2045	72513	13	1.65	1.32	1.10	.89
14F2046	72514	14	1.76	1.41	1.18	.95
14F2047	72515	15	1.88	1.50	1.26	1.02
14F2048	72516	16	2.00	1.60	1.34	1.08
14F2049	72517	17	2.11	1.69	1.41	1.14
14F2050	72518	18	2.23	1.78	1.49	1.21
14F2051	72519	19	2.34	1.88	1.57	1.27
14F2052	72520	20	2.46	1.97	1.64	1.33

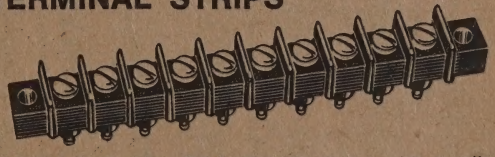
72700: PRINTED CIRCUIT/WIRE WRAP

14F2053	72702	2	.41	.33	.27	.20
14F2054	72703	3	.54	.43	.36	.29
14F2055	72704	4	.64	.52	.43	.35
14F2956	72705	5	.78	.63	.53	.43
14F2057	72706	6	.89	.72	.60	.49
14F2058	72707	7	1.01	.81	.68	.55
14F2059	72708	8	1.14	.92	.77	.62
14F2060	72709	9	1.26	1.01	.85	.68
14F2061	72710	10	1.40	1.12	.94	.76

72900: QUICK CONNECT

14F2062	72902	2	.40	.32	.27	.22
14F2063	72903	3	.52	.42	.35	.28
14F2064	72904	4	.62	.50	.42	.34
14F2065	72905	5	.76	.61	.51	.41
14F2066	72906	6	.86	.69	.58	.47
14F2067	72907	7	.97	.78	.65	.53
14F2068	72908	8	1.10	.88	.74	.60
14F2069	72909	9	1.22	.98	.82	.66
14F2070	72910	10	1.34	1.08	.90	.73

SINGLE-ROW BARRIER TERMINAL STRIPS



Have high-impact, glass-filled phenolic bases with excellent breakage resistance. **Series 12000:** 15 amperes. Wire sizes: No. 22 to No. 16. Standard screw: 5-40 x ¼" on ⅜" centers. **Series 13000** (next page): 20 amperes. Wire sizes: No. 26 to No. 12. Standard screw: 6-32 x ¼" on 7/16" centers.

12100: CLOSED BACK

Stk. No.	Type	Terminals	1-24	25-49	50-99	100-249
14F2071	12102	2	.40	.32	.27	.22
14F2072	12104	4	.66	.53	.45	.36
14F2073	12106	6	.95	.76	.64	.51
14F2074	12108	8	1.22	.98	.82	.66
14F2075	12110	10	1.50	1.20	1.00	.81
14F2076	12112	12	1.77	1.42	1.18	.96
14F2077	12114	14	2.05	1.64	1.37	1.11

12500: PRINTED CIRCUIT

14F2078	12502	2	.55	.44	.37	.30
14F2079	12504	4	.95	.76	.63	.51
14F2080	12506	6	1.37	1.09	.91	.74
14F2081	12508	8	1.77	1.42	1.18	.96
14F2082	12510	10	2.18	1.74	1.45	1.18
14F2083	12512	12	2.58	2.07	1.73	1.40
14F2084	12514	14	3.00	2.40	2.00	1.62

12600: TURRET

14F2085	12602	2	.60	.48	.41	.33
14F2086	12604	4	1.06	.85	.71	.57
14F2087	12606	6	1.54	1.23	1.03	.83
14F2088	12608	8	2.00	1.60	1.34	1.08
14F2089	12610	10	2.47	1.98	1.65	1.34
14F2090	12612	12	2.94	2.35	1.96	1.59

BEAU® Terminal Strips

SINGLE-ROW BARRIER TERMINAL STRIPS (Cont'd)

13100: CLOSED BACK

Stk. No.	Type	Terminals	1-24	25-49	50-99	100-249
14F2091	13102	2	.52	.42	.35	.28
14F2092	13103	3	.69	.56	.47	.38
14F2093	13104	4	.88	.70	.59	.48
14F2094	13105	5	1.05	.84	.70	.57
14F2095	13106	6	1.23	.98	.82	.67
14F2096	13107	7	1.40	1.12	.94	.76
14F2097	13108	8	1.58	1.27	1.06	.86
14F2098	13109	9	1.76	1.41	1.18	.95
14F2099	13110	10	1.94	1.55	1.29	1.05
14F2100	13111	11	2.11	1.69	1.41	1.14
14F2101	13112	12	2.29	1.83	1.53	1.24

13200: INSULATED TURRET TERMINAL

14F2102	13202	2	.83	.66	.56	.45
14F2103	13203	3	1.15	.92	.77	.63
14F2104	13204	4	1.49	1.19	.99	.81
14F2105	13205	5	1.81	1.45	1.21	.98
14F2106	13206	6	2.14	1.71	1.43	1.16
14F2107	13207	7	2.47	1.97	1.65	1.33
14F2108	13208	8	2.80	2.24	1.87	1.51
14F2109	13209	9	3.13	2.50	2.09	1.69
14F2110	13210	10	3.45	2.76	2.31	1.87

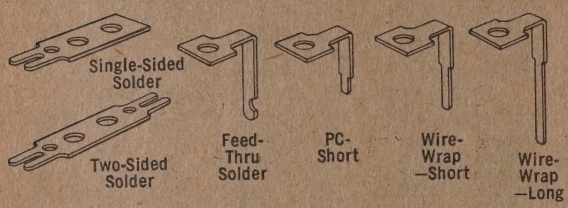
13500: PRINTED CIRCUIT DIRECT SOLDER FEED THRU

Stk. No.	Type	Terminals	1-24	25-49	50-99	100-249
14F2111	13502	2	.74	.59	.50	.40
14F2112	13503	3	1.02	.82	.69	.56
14F2113	13504	4	1.31	1.05	.88	.71
14F2114	13505	5	1.60	1.28	1.07	.86
14F2115	13506	6	1.89	1.51	1.26	1.02
14F2116	13507	7	2.17	1.74	1.45	1.17
14F2117	13508	8	2.46	1.97	1.65	1.33
14F2118	13509	9	2.75	2.20	1.84	1.49
14F2119	13510	10	3.04	2.43	2.03	1.64

13600: TURRET TERMINAL FEED-THRU

14F2120	13602	2	.74	.59	.49	.40
14F2121	13603	3	1.02	.82	.68	.55
14F2122	13604	4	1.30	1.04	.87	.71
14F2123	13605	5	1.59	1.27	1.06	.86
14F2124	13606	6	1.88	1.50	1.26	1.02
14F2125	13607	7	2.16	1.73	1.44	1.17
14F2126	13608	8	2.45	1.96	1.64	1.32
14F2127	13609	9	2.74	2.19	1.83	1.48
14F2128	13610	10	3.02	2.42	2.02	1.63

DOUBLE-ROW BARRIER TERMINAL STRIPS



All series are general-purpose phenolic. Terminal styles shown above. Fast-Tab terminals available on next page. All UL recognized, CSA approved.

Series	Amps	Back Style	Terminal Centers	Wire Sizes	Screw Size	H x W
14000	15	Open	3/8"	22-16	5-40x1/4"	13/32"x 7/8"
15000	15	Closed	5/16"	22-16	5-40x1/4"	27/64"x 7/8"
16000	15	Open	3/8"	22-16	6-32x1/4"	13/32"x 7/8"
17000	15	Closed	5/16"	22-16	6-32x1/4"	27/64"x 7/8"
18000	20	Open	7/16"	16-14	6-32x1/4"	1/2"x1 1/8"
19000	20	Closed	7/16"	16-14	6-32x1/4"	35/64"x1 1/8"
21000	30	Open	9/16"	14-12	8-32x1/4"	5/8"x1 5/16"
22000	30	Closed	9/16"	14-12	8-32x1/4"	21/32"x1 5/16"

14000: OPEN BACK

Stk. No.	Type	Terminals	1-24	25-49	50-99	100-249
14F2129	14002	2	.30	.24	.20	.17
14F2130	14003	3	.34	.27	.23	.19
14F2131	14004	4	.41	.33	.27	.22
14F2132	14005	5	.53	.42	.35	.29
14F2133	14006	6	.63	.50	.42	.34
14F2134	14007	7	.67	.54	.45	.36
14F2135	14008	8	.79	.63	.53	.43
14F2136	14009	9	.85	.68	.57	.46
14F2137	14010	10	.95	.76	.64	.51
14F2138	14011	11	1.01	.81	.68	.55
14F2139	14012	12	1.09	.87	.73	.59
14F2140	14013	13	1.17	.94	.79	.64
14F2141	14014	14	1.27	1.02	.85	.69
14F2142	14015	15	1.39	1.11	.93	.75
14F2143	14016	16	1.46	1.17	.98	.79
14F2144	14017	17	1.53	1.23	1.03	.83
14F2145	14018	18	1.59	1.28	1.07	.86
14F2146	14019	19	1.74	1.39	1.16	.94
14F2147	14020	20	1.80	1.44	1.20	.97
14F2148	14021	21	1.86	1.49	1.24	1.00
14F2149	14022	22	1.92	1.53	1.28	1.04
14F2150	14023	23	2.00	1.60	1.34	1.08
14F2151	14024	24	2.12	1.70	1.42	1.15

INSULATING/MARKER STRIP FOR 14000

Stk No.	Type	Positions	1-24	25-49	50-99	100-249
14F2152	VF-14002-101	2	.11	.09	.08	.06
14F2153	VF-14003-101	3	.13	.11	.09	.07
14F2154	VF-14004-101	4	.14	.11	.09	.08
14F2155	VF-14005-101	5	.15	.12	.10	.08
14F2156	VF-14006-101	6	.15	.12	.10	.08
14F2157	VF-14007-101	7	.17	.14	.12	.10
14F2158	VF-14008-101	8	.17	.14	.12	.10
14F2159	VF-14009-101	9	.17	.14	.12	.10
14F2160	VF-14010-101	10	.20	.16	.13	.11
14F2161	VF-14011-101	11	.20	.16	.13	.11
14F2162	VF-14012-101	12	.20	.16	.13	.11
14F2163	VF-14013-101	13	.22	.18	.15	.12
14F2164	VF-14014-101	14	.22	.18	.15	.12
14F2165	VF-14015-101	15	.22	.18	.15	.12
14F2166	VF-14016-101	16	.25	.20	.17	.14
14F2167	VF-14017-101	17	.25	.20	.17	.14
14F2168	VF-14018-101	18	.25	.20	.17	.14
14F2169	VF-14019-101	19	.27	.22	.18	.15
14F2170	VF-14020-101	20	.27	.22	.18	.15
14F2171	VF-14021-101	21	.27	.22	.18	.15
14F2172	VF-14022-101	22	.32	.26	.22	.18
14F2173	VF-14023-101	23	.34	.28	.23	.19
14F2174	VF-14024-101	24	.37	.30	.25	.20

14100: ONE-SIDED SOLDER TERMINALS

Stk. No.	Type	Terminals	1-24	25-49	50-99	100-249
14F2175	14102	2	.36	.29	.24	.20
14F2176	14104	4	.60	.48	.41	.33
14F2177	14106	6	.89	.71	.60	.48
14F2178	14108	8	1.11	.89	.75	.60
14F2179	14110	10	1.41	1.13	.95	.77
14F2180	14112	12	1.65	1.32	1.11	.90

14300: FEED-THRU SOLDER TERMINALS

Stk. No.	Type	Terminals	1-24	25-49	50-99	100-249
14F2181	14302	2	.36	.29	.24	.20
14F2182	14304	4	.59	.47	.40	.32
14F2183	14306	6	.85	.68	.57	.46
14F2184	14308	8	1.05	.84	.71	.57
14F2185	14310	10	1.38	1.10	.92	.75
14F2186	14312	12	1.58	1.26	1.06	.86
14F2187	14314	14	1.84	1.47	1.23	1.00
14F2188	14316	16	2.02	1.62	1.35	1.09

INSULATING/MARKER STRIP FOR 14300

Stock No.	Type	Positions	1-24	25-49	50-99	100-249
14F2189	VF-14302-301	2	.16	.13	.11	.09
14F2190	VF-14304-301	4	.17	.14	.12	.10
14F2191	VF-14306-301	6	.20	.16	.13	.11
14F2192	VF-14308-301	8	.20	.16	.13	.11
14F2193	VF-14310-301	10	.22	.18	.15	.12
14F2194	VF-14312-301	12	.22	.18	.15	.12
14F2195	VF-14314-301	14	.25	.20	.17	.14
14F2196	VF-14316-301	16	.27	.22	.18	.15

BEAU® Terminal Strips and Terminals

DOUBLE-ROW BARRIER TERMINAL STRIPS

15000 SERIES: CLOSED BACK

Stk. No.	Type	Terminals	1-24	25-49	50-99	100-249
14F2197	15002	2	.30	.24	.20	.17
14F2198	15004	4	.41	.33	.27	.22
14F2199	15006	6	.63	.50	.42	.34
14F2200	15008	8	.79	.63	.53	.43
14F2201	15010	10	.95	.76	.64	.51
14F2202	15012	12	1.09	.87	.73	.59

15300 SERIES: FEED-THRU SOLDER TERMINALS

14F2203	15302	2	.36	.29	.24	.20
14F2204	15304	4	.59	.47	.40	.32
14F2205	15306	6	.85	.68	.57	.46
14F2206	15308	8	1.05	.84	.71	.57
14F2207	15310	10	1.38	1.10	.92	.75
14F2208	15312	12	1.58	1.26	1.06	.86

16000 SERIES: OPEN BACK

14F2209	16002	2	.33	.26	.22	.18
14F2210	16003	3	.39	.31	.26	.21
14F2211	16004	4	.53	.42	.35	.29
14F2212	16005	5	.60	.48	.41	.33
14F2213	16006	6	.71	.57	.48	.39
14F2214	16007	7	.81	.65	.54	.44
14F2215	16008	8	.91	.73	.61	.49
14F2216	16009	9	.97	.78	.65	.53
14F2217	16010	10	1.07	.86	.72	.58
14F2218	16011	11	1.13	.90	.76	.61
14F2219	16012	12	1.27	1.02	.85	.69
14F2220	16013	13	1.39	1.11	.93	.75
14F2221	16014	14	1.52	1.22	1.02	.82

18000: OPEN BACK

14F2222	18002	2	.33	.26	.22	.18
14F2223	18003	3	.41	.33	.27	.22
14F2224	18004	4	.57	.45	.38	.31
14F2225	18005	5	.65	.52	.44	.35
14F2226	18006	6	.77	.62	.52	.42
14F2227	18007	7	.91	.73	.61	.49
14F2228	18008	8	.97	.78	.65	.53
14F2229	18009	9	1.05	.84	.71	.57
14F2230	18010	10	1.17	.94	.79	.64
14F2231	18011	11	1.33	1.07	.89	.72
14F2232	18012	12	1.41	1.13	.95	.77

INSULATING/MARKER STRIP FOR 18000

14F2233	VF-18002-101	2	.13	.11	.09	.07
14F2234	VF-18003-101	3	.14	.11	.09	.08
14F2235	VF-18004-101	4	.15	.12	.10	.08
14F2236	VF-18005-101	5	.15	.12	.10	.08
14F2237	VF-18006-101	6	.17	.14	.12	.10
14F2238	VF-18007-101	7	.17	.14	.12	.10
14F2239	VF-18008-101	8	.20	.16	.13	.11
14F2240	VF-18009-101	9	.20	.16	.13	.11
14F2241	VF-18010-101	10	.20	.16	.13	.11
14F2242	VF-18011-101	11	.22	.18	.15	.12
14F2243	VF-18012-101	12	.22	.18	.15	.12

18300: FEED-THRU SOLDER TERMINALS

14F2244	18302	2	.48	.39	.32	.26
14F2245	18304	4	.79	.63	.53	.43
14F2246	18306	6	1.05	.84	.71	.57
14F2247	18308	8	1.41	1.13	.95	.77

INSULATING/MARKER STRIP FOR 18300

14F2248	VF-18302-301	2	.15	.12	.10	.09
14F2249	VF-18304-301	4	.20	.16	.13	.11
14F2250	VF-18306-301	6	.20	.16	.13	.11
14F2251	VF-18308-301	8	.22	.18	.15	.12

19000: CLOSED BACK

14F2252	19002	2	.33	.26	.22	.18
14F2253	19004	4	.57	.45	.38	.31
14F2254	19006	6	.77	.62	.52	.42
14F2255	19008	8	.97	.78	.65	.53
14F2256	19010	10	1.17	.94	.79	.64

19300: FEED-THRU SOLDER TERMINALS

14F2257	19302	2	.48	.39	.32	.26
14F2258	19304	4	.79	.63	.53	.43
14F2259	19306	6	1.05	.84	.71	.57
14F2260	19308	8	1.41	1.13	.95	.77
14F2261	19310	10	1.74	1.39	1.16	.94

21000: OPEN BACK

14F2262	21002	2	.36	.29	.24	.20
14F2263	21003	3	.53	.42	.35	.29
14F2264	21004	4	.65	.52	.44	.35
14F2265	21005	5	.81	.65	.54	.44
14F2266	21006	6	.93	.75	.63	.51
14F2267	21007	7	1.03	.83	.69	.56
14F2268	21008	8	1.13	.90	.76	.61
14F2269	21009	9	1.33	1.07	.89	.72

21000 (Continued)

Stk. No.	Type	Terminals	1-24	25-49	50-99	100-249
14F2270	21010	10	1.46	1.17	.98	.79
14F2271	21011	11	1.58	1.26	1.06	.86
14F2272	21012	12	1.76	1.41	1.18	.95
14F2273	21013	13	1.86	1.49	1.24	1.00
14F2274	21014	14	1.96	1.57	1.31	1.06
14F2275	21015	15	2.12	1.70	1.42	1.15
14F2276	21016	16	2.31	1.85	1.54	1.25
14F2277	21017	17	2.43	1.94	1.62	1.31
14F2278	21018	18	2.61	2.09	1.74	1.41
14F2279	21019	19	2.79	2.23	1.87	1.51
14F2280	21020	20	2.89	2.32	1.93	1.57

INSULATING/MARKER STRIP FOR 21000

14F2281	VF-21002-101	2	.13	.10	.09	.07
14F2282	VF-21003-101	3	.15	.12	.10	.08
14F2283	VF-21004-101	4	.18	.14	.12	.10
14F2284	VF-21005-101	5	.17	.14	.12	.10
14F2285	VF-21006-101	6	.17	.14	.12	.10
14F2286	VF-21007-101	7	.20	.16	.13	.11
14F2287	VF-21008-101	8	.20	.16	.13	.11
14F2288	VF-21009-101	9	.22	.18	.15	.12
14F2289	VF-21010-101	10	.25	.20	.17	.14
14F2290	VF-21011-101	11	.25	.20	.17	.14
14F2291	VF-21012-101	12	.27	.22	.18	.15
14F2292	VF-21013-101	13	.27	.22	.18	.15
14F2293	VF-21014-101	14	.29	.24	.20	.16
14F2294	VF-21015-101	15	.29	.24	.20	.16
14F2295	VF-21016-101	16	.34	.28	.23	.19
14F2296	VF-21017-101	17	.37	.30	.25	.20
14F2297	VF-21018-101	18	.39	.31	.26	.21
14F2298	VF-21019-101	19	.41	.33	.28	.22
14F2299	VF-21020-101	20	.43	.35	.29	.24

21300: FEED-THRU SOLDER TERMINALS

14F2300	21302	2	.54	.44	.37	.30
14F2301	21304	4	.93	.75	.63	.51
14F2302	21306	6	1.35	1.08	.91	.73
14F2303	21308	8	1.76	1.41	1.18	.95
14F2304	21310	10	2.12	1.70	1.42	1.15

INSULATING/MARKER STRIP FOR 21300

14F2305	VF-21302-301	2	.20	.16	.13	.11
14F2306	VF-21304-301	4	.22	.18	.15	.12
14F2307	VF-21306-301	6	.25	.20	.17	.14
14F2308	VF-21308-301	8	.27	.22	.18	.15
14F2309	VF-21310-301	10	.29	.24	.20	.16

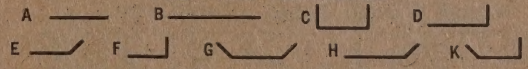
22000: CLOSED BACK

14F2310	22002	2	.36	.29	.24	.20
14F2311	22003	3	.53	.42	.35	.29
14F2312	22004	4	.65	.52	.44	.35
14F2313	22005	5	.81	.65	.54	.44
14F2314	22006	6	.93	.75	.63	.51
14F2315	22007	7	1.03	.83	.69	.56
14F2316	22008	8	1.13	.90	.76	.61
14F2317	22009	9	1.33	1.07	.89	.72
14F2318	22010	10	1.46	1.17	.98	.79
14F2319	22011	11	1.58	1.26	1.06	.86
14F2320	22012	12	1.76	1.41	1.18	.95
14F2321	22013	13	1.86	1.49	1.24	1.00
14F2322	22014	14	1.96	1.57	1.31	1.06
14F2323	22015	15	2.12	1.70	1.42	1.15
14F2324	22016	16	2.31	1.85	1.54	1.25
14F2325	22017	17	2.43	1.94	1.62	1.31
14F2326	22018	18	2.61	2.09	1.74	1.41

22300: FEED-THRU SOLDER TERMINALS

14F2327	22302	2	.54	.44	.37	.30
14F2328	22304	4	.93	.75	.63	.51
14F2329	22306	6	1.35	1.08	.91	.73
14F2330	22308	8	1.76	1.41	1.18	.95
14F2331	22310	10	2.12	1.70	1.42	1.15

FAST-TAB TERMINALS

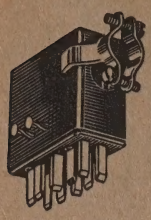


Also fits Series 72000 High Barrier Terminal Blocks.

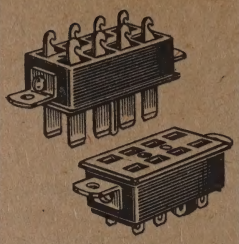
Stock No.	Type	Fig.	Description	1-24	25-49	50-99	100-249
14F2332	1210	D	Two-sided .187 Tab Flat	.06	.05	.04	.03
14F2333	1211	E	Two-sided .187 Tab 45°	.06	.05	.04	.03
14F2334	1212	F	Two-sided .187 Tab 90°	.06	.05	.04	.03
14F2335	1213	G	One-sided .187 Tab Flat	.05	.04	.03	.03
14F2336	1214	H	One-sided .187 Tab 45°	.05	.04	.03	.03
14F2337	1215	K	One-sided .187 Tab 90°	.05	.04	.03	.03
14F2338	1216	A	Two-sided .187 Tab Flat/45°	.06	.05	.04	.03
14F2339	1217	B	Two-sided .187 Tab Flat/90°	.06	.05	.04	.03
14F2340	1218	C	Two-sided .187 Tab 45°/90°	.06	.05	.04	.03

Large selection of Feed-Thru, Over-The-Edge, and Angle-Tab variations available . . . also jumpers and straddle plates.

BEAU® Plug and Socket Connectors



3300 SERIES**
10 amps, 250 volts



5400 SERIES**
15 amps, 250 volts

Thermoplastic Backshells

High grade phenolic bodies provide excellent electrical characteristics. Thermoplastic backshells provide greatest dielectric strength and protection . . . resist scuffing, abrasion, most acids/alkalies, and are non-corrosive. UL recognized, CSA listed. Male contacts are brass, cad. plated; female contacts are phosphor bronze, cad. plated. All hardware is bright nickel electroplated steel. Deep, shallow brackets and flat plates have black wrinkle paint. Both series available in chassis mounted or cable mounted configurations. Series 3300 completely interchangeable and intermatable with other Series 300 type connectors. Series 5400 completely interchangeable and intermatable with other Series 2400 or 400 type connectors. *Special polarization.

P-3300 PLUGS: ANGLE BRACKET

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249
14F2341	P-3302-AB	2	.36	.29	.24	.20
14F2342	P-3303-AB	3	.40	.32	.27	.22
14F2343	P-3304-AB	4	.51	.41	.34	.28
14F2344	P-3306-AB	6	.59	.47	.40	.32
14F2345	P-3306-8-AB*	6	.62	.49	.41	.34
14F2346	P-3308-AB	8	.65	.52	.44	.35
14F2347	P-3310-AB	10	.77	.62	.52	.42
14F2348	P-3312-AB	12	.85	.68	.57	.46
14F2349	P-3315-AB	15	1.09	.87	.73	.59
14F2350	P-3318-AB	18	1.35	1.08	.91	.73
14F2351	P-3321-AB	21	1.65	1.32	1.11	.90
14F2352	P-3324-AB	24	1.98	1.59	1.33	1.07
14F2353	P-3327-AB	27	2.37	1.89	1.58	1.28
14F2354	P-3330-AB	30	2.69	2.15	1.80	1.45
14F2355	P-3333-AB	33	3.05	2.44	2.04	1.65

S-3300 SOCKETS: ANGLE BRACKET

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249
14F2400	S-3302-AB	2	.39	.31	.26	.21
14F2401	S-3303-AB	3	.48	.39	.32	.26
14F2402	S-3304-AB	4	.53	.42	.35	.29
14F2403	S-3306-AB	6	.60	.48	.41	.33
14F2404	S-3306-8-AB*	6	.64	.51	.43	.35
14F2405	S-3308-AB	8	.77	.62	.52	.42
14F2406	S-3310-AB	10	.89	.71	.60	.48
14F2407	S-3312-AB	12	1.01	.81	.68	.55
14F2408	S-3315-AB	15	1.33	1.07	.89	.72
14F2409	S-3318-AB	18	1.50	1.20	1.00	.81
14F2410	S-3321-AB	21	1.84	1.47	1.23	1.00
14F2411	S-3324-AB	24	2.20	1.76	1.47	1.19
14F2412	S-3327-AB	27	2.49	1.99	1.66	1.35
14F2413	S-3330-AB	30	2.85	2.28	1.90	1.54
14F2414	S-3333-AB	33	3.24	2.59	2.16	1.75

P-3300 PLUGS: FLAT PLATE

14F2356	P-3302-FP	2	.60	.48	.41	.33
14F2357	P-3303-FP	3	.64	.51	.43	.35
14F2358	P-3304-FP	4	.71	.57	.48	.39
14F2359	P-3306-FP	6	.83	.66	.56	.45
14F2360	P-3306-8-FP*	6	.83	.66	.55	.45
14F2361	P-3308-FP	8	.91	.73	.61	.49
14F2362	P-3310-FP	10	.97	.78	.65	.53
14F2363	P-3312-FP	12	1.05	.84	.71	.57

S-3300 SOCKETS: FLAT PLATE

14F2415	S-3302-FP	2	.65	.52	.44	.35
14F2416	S-3303-FP	3	.67	.54	.45	.36
14F2417	S-3304-FP	4	.77	.62	.52	.42
14F2418	S-3306-FP	6	.85	.68	.57	.46
14F2419	S-3306-8-FP*	6	.88	.71	.59	.48
14F2420	S-3308-FP	8	.97	.78	.65	.53
14F2421	S-3310-FP	10	1.07	.86	.72	.58
14F2422	S-3312-FP	12	1.23	.99	.83	.67

P-3300 PLUGS: SHALLOW BRACKET

14F2364	P-3315-SB	15	1.59	1.28	1.07	.86
14F2365	P-3318-SB	18	1.92	1.53	1.28	1.04
14F2366	P-3321-SB	21	2.32	1.86	1.55	1.26
14F2367	P-3324-SB	24	2.70	2.16	1.81	1.46
14F2368	P-3327-SB	27	3.11	2.49	2.08	1.68
14F2369	P-3330-SB	30	3.48	2.78	2.32	1.88
14F2370	P-3333-SB	33	3.88	3.11	2.59	2.10

S-3300 SOCKETS: SHALLOW BRACKET

14F2423	S-3315-SB	15	1.82	1.46	1.22	.98
14F2424	S-3318-SB	18	2.04	1.64	1.37	1.11
14F2425	S-3321-SB	21	2.46	1.97	1.65	1.33
14F2426	S-3324-SB	24	2.83	2.27	1.89	1.53
14F2427	S-3327-SB	27	3.25	2.60	2.17	1.76
14F2428	S-3330-SB	30	3.64	2.91	2.43	1.97
14F2429	S-3333-SB	33	4.05	3.24	2.70	2.19

P-3300 PLUGS: DEEP BRACKET

14F2371	P-3302-DB	2	.93	.75	.63	.51
14F2372	P-3303-DB	3	.93	.75	.63	.51
14F2373	P-3304-DB	4	.97	.78	.65	.53
14F2374	P-3306-DB	6	1.05	.84	.71	.57
14F2375	P-3306-8-DB*	6	1.05	.84	.70	.57
14F2376	P-3308-DB	8	1.11	.89	.75	.60
14F2377	P-3312-DB	12	1.35	1.08	.91	.73
14F2378	P-3315-DB	15	1.59	1.28	1.07	.86
14F2379	P-3318-DB	18	1.92	1.53	1.28	1.04
14F2380	P-3321-DB	21	2.32	1.86	1.55	1.26
14F2381	P-3324-DB	24	2.70	2.16	1.81	1.46
14F2382	P-3327-DB	27	3.11	2.49	2.08	1.68
14F2383	P-3330-DB	30	3.48	2.78	2.32	1.88
14F2384	P-3333-DB	33	3.88	3.11	2.59	2.10

S-3300 SOCKETS: DEEP BRACKET

14F2430	S-3302-DB	2	.95	.76	.64	.51
14F2431	S-3303-DB	3	.95	.76	.64	.51
14F2432	S-3304-DB	4	.99	.80	.67	.54
14F2433	S-3306-DB	6	1.09	.87	.73	.59
14F2434	S-3306-8-DB*	6	1.16	.93	.77	.63
14F2435	S-3308-DB	8	1.23	.99	.83	.67
14F2436	S-3312-DB	12	1.52	1.22	1.02	.82
14F2437	S-3315-DB	15	1.82	1.46	1.22	.98
14F2438	S-3318-DB	18	2.04	1.64	1.37	1.11
14F2439	S-3321-DB	21	2.46	1.97	1.65	1.33
14F2440	S-3324-DB	24	2.83	2.27	1.89	1.53
14F2441	S-3327-DB	27	3.25	2.60	2.17	1.76
14F2442	S-3330-DB	30	3.64	2.91	2.42	1.97
14F2443	S-3333-DB	33	4.05	3.24	2.70	2.19

P-3300 PLUGS: CABLE CLAMP TOP

14F2385	P-3302-CCT	2	.79	.63	.53	.43
14F2386	P-3303-CCT	3	.85	.68	.57	.46
14F2387	P-3304-CCT	4	.91	.73	.61	.49
14F2388	P-3306-CCT	6	.99	.80	.67	.54
14F2389	P-3306-8-CCT*	6	.98	.79	.66	.53
14F2390	P-3308-CCT	8	1.05	.84	.71	.57
14F2391	P-3310-CCT	10	1.17	.94	.79	.64
14F2392	P-3312-CCT	12	1.27	1.02	.85	.69
14F2393	P-3315-CCT	15	1.74	1.39	1.16	.94
14F2394	P-3318-CCT	18	1.96	1.57	1.31	1.05
14F2395	P-3321-CCT	21	2.38	1.91	1.59	1.29
14F2396	P-3324-CCT	24	2.77	2.22	1.85	1.50
14F2397	P-3327-CCT	27	3.19	2.55	2.13	1.73
14F2398	P-3330-CCT	30	3.56	2.85	2.38	1.92
14F2399	P-3333-CCT	33	3.98	3.18	2.66	2.15

S-3300 SOCKETS: CABLE CLAMP TOP

14F2444	S-3302-CCT	2	.81	.65	.54	.44
14F2445	S-3303-CCT	3	.85	.68	.57	.46
14F2446	S-3304-CCT	4	.93	.75	.63	.51
14F2447	S-3306-CCT	6	1.03	.83	.69	.56
14F2448	S-3306-8-CCT*	6	1.08	.87	.72	.59
14F2449	S-3308-CCT	8	1.13	.90	.76	.61
14F2450	S-3310-CCT	10	1.33	1.07	.89	.72
14F2451	S-3312-CCT	12	1.50	1.20	1.00	.81
14F2452	S-3315-CCT	15	1.88	1.50	1.26	1.02
14F2453	S-3318-CCT	18	2.12	1.70	1.42	1.15
14F2454	S-3321-CCT	21	2.51	2.01	1.68	1.36
14F2455	S-3324-CCT	24	2.91	2.33	1.94	1.57
14F2456	S-3327-CCT	27	3.31	2.65	2.21	1.79
14F2457	S-3330-CCT	30	3.76	3.01	2.51	2.03
14F2458	S-3333-CCT	33	4.14	3.32	2.77	2.24

**Extra long, Pre-Grounding Contact available for greater safety—Contact Newark.

BEAU® Plug and Socket Connectors

(Continued from previous page**)

*Special polarization.

P-3300 PLUGS: CABLE CLAMP TOP, LATCH

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249
14F2460	P-3302-CCT-L	2	.83	.66	.56	.45
14F2461	P-3303-CCT-L	3	1.01	.81	.68	.55
14F2462	P-3304-CCT-L	4	1.05	.84	.71	.57
14F2463	P-3306-CCT-L	6	1.13	.90	.76	.61
14F2464	P-3306-8-CCT-L*	6	1.16	.93	.78	.63
14F2465	P-3308-CCT-L	8	1.27	1.02	.85	.69
14F2466	P-3310-CCT-L	10	1.39	1.11	.93	.74
14F2467	P-3312-CCT-L	12	1.50	1.20	1.00	.81
14F2468	P-3315-CCT-L	15	1.88	1.50	1.26	1.02
14F2469	P-3318-CCT-L	18	2.20	1.76	1.47	1.19
14F2470	P-3321-CCT-L	21	2.55	2.04	1.70	1.38
14F2471	P-3324-CCT-L	24	2.95	2.36	1.97	1.60
14F2472	P-3327-CCT-L	27	3.33	2.67	2.23	1.80
14F2473	P-3330-CCT-L	30	3.76	3.01	2.51	2.03
14F2474	P-3333-CCT-L	33	4.14	3.32	2.77	2.24

S-3300 SOCKETS: CABLE CLAMP TOP, KEEPER

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249
14F2527	S-3302-CCT-K	2	.97	.78	.65	.53
14F2528	S-3303-CCT-K	3	1.03	.83	.69	.56
14F2529	S-3304-CCT-K	4	1.07	.86	.72	.58
14F2530	S-3306-CCT-K	6	1.20	.96	.80	.65
14F2531	S-3306-8-CCT-K*	6	1.25	1.00	.84	.68
14F2532	S-3308-CCT-K	8	1.38	1.10	.92	.75
14F2533	S-3310-CCT-K	10	1.52	1.22	1.02	.82
14F2534	S-3312-CCT-K	12	1.65	1.32	1.11	.90
14F2535	S-3315-CCT-K	15	2.02	1.62	1.35	1.09
14F2536	S-3318-CCT-K	18	2.34	1.88	1.57	1.27
14F2537	S-3321-CCT-K	21	2.73	2.18	1.82	1.47
14F2538	S-3324-CCT-K	24	3.13	2.52	2.09	1.69
14F2539	S-3327-CCT-K	27	3.50	2.80	2.34	1.89
14F2540	S-3330-CCT-K	30	3.96	3.17	2.65	2.14
14F2541	S-3333-CCT-K	33	4.31	3.45	2.88	2.33

P-3300 PLUGS: CABLE CLAMP END

14F2475	P-3303-CCE	3	.81	.65	.54	.44
14F2476	P-3304-CCE	4	.80	.64	.53	.43
14F2477	P-3306-CCE	6	1.03	.83	.69	.55
14F2478	P-3306-8-CCE*	6	.98	.79	.66	.53
14F2479	P-3308-CCE	8	1.09	.87	.73	.59
14F2480	P-3310-CCE	10	1.23	.99	.83	.67
14F2481	P-3312-CCE	12	1.35	1.08	.91	.73
14F2482	P-3315-CCE	15	1.78	1.43	1.19	.96
14F2483	P-3318-CCE	18	2.00	1.60	1.34	1.08
14F2484	P-3321-CCE	21	2.43	1.94	1.62	1.31
14F2485	P-3324-CCE	24	2.79	2.23	1.86	1.51
14F2486	P-3327-CCE	27	3.23	2.58	2.16	1.75
14F2487	P-3330-CCE	30	3.57	2.86	2.39	1.93
14F2488	P-3333-CCE	33	4.02	3.22	2.69	2.18

S-3300 SOCKETS: CABLE CLAMP END

14F2542	S-3303-CCE	3	.83	.66	.56	.45
14F2543	S-3304-CCE	4	.86	.69	.58	.47
14F2544	S-3306-CCE	6	1.05	.84	.71	.57
14F2545	S-3306-8-CCE*	6	1.10	.88	.74	.60
14F2546	S-3308-CCE	8	1.17	.94	.79	.64
14F2547	S-3310-CCE	10	1.38	1.10	.92	.75
14F2548	S-3312-CCE	12	1.53	1.23	1.03	.83
14F2549	S-3315-CCE	15	1.92	1.53	1.28	1.04
14F2550	S-3318-CCE	18	2.25	1.80	1.50	1.22
14F2551	S-3321-CCE	21	2.58	2.07	1.73	1.40
14F2552	S-3324-CCE	24	2.97	2.37	1.98	1.60
14F2553	S-3327-CCE	27	3.36	2.69	2.24	1.81
14F2554	S-3330-CCE	30	3.74	3.02	2.52	2.04
14F2555	S-3333-CCE	33	4.18	3.35	2.79	2.26

P-5400 PLUGS: ANGLE BRACKET

14F2489	P-5404-AB	4	1.14	.91	.76	.62
14F2490	P-5406-AB	6	1.30	1.04	.87	.71
14F2491	P-5408-AB	8	1.28	1.03	.86	.69
14F2492	P-5410-AB	10	1.69	1.35	1.13	.91
14F2493	P-5412-AB	12	1.94	1.55	1.29	1.05
14F2494	P-5414-AB	14	3.85	3.08	2.57	2.08
14F2495	P-5415-AB	15	4.32	3.46	2.89	2.33
14F2496	P-5416-AB	16	5.76	4.61	3.85	3.11

S-5400 SOCKETS: ANGLE BRACKET

14F2556	S-5404-AB	4	1.28	1.02	.86	.69
14F2557	S-5406-AB	6	1.47	1.18	.98	.80
14F2558	S-5408-AB	8	1.74	1.39	1.16	.94
14F2559	S-5410-AB	10	1.87	1.49	1.24	1.01
14F2560	S-5412-AB	12	2.05	1.64	1.37	1.11
14F2561	S-5414-AB	14	3.99	3.19	2.67	2.16
14F2562	S-5415-AB	15	4.82	3.86	3.22	2.61
14F2563	S-5416-AB	16	5.90	4.72	3.94	3.19

P-5400 PLUGS: SHALLOW BRACKET

14F2498	P-5404-SB	4	1.38	1.10	.92	.75
14F2499	P-5406-SB	6	1.56	1.25	1.04	.84
14F2500	P-5408-SB	8	1.78	1.43	1.19	.95
14F2501	P-5410-SB	10	1.96	1.57	1.31	1.06
14F2502	P-5412-SB	12	2.16	1.73	1.45	1.17

S-5400 SOCKETS: SHALLOW BRACKET

14F2565	S-5404-SB	4	1.46	1.17	.98	.79
14F2566	S-5406-SB	6	1.65	1.32	1.11	.90
14F2567	S-5408-SB	8	1.90	1.52	1.27	1.03
14F2568	S-5410-SB	10	2.08	1.67	1.39	1.13
14F2569	S-5412-SB	12	2.34	1.88	1.57	1.27

P-5400 PLUGS: DEEP BRACKET

14F2503	P-5404-DB	4	1.46	1.17	.98	.79
14F2504	P-5406-DB	6	1.65	1.32	1.11	.90
14F2505	P-5408-DB	8	1.88	1.50	1.26	1.02
14F2506	P-5410-DB	10	2.04	1.64	1.37	1.11
14F2507	P-5412-DB	12	2.28	1.83	1.53	1.24
14F2508	P-5414-DB	14	4.12	3.29	2.75	2.23
14F2509	P-5415-DB	15	4.95	3.96	3.31	2.68
14F2510	P-5416-DB	16	5.92	4.74	3.95	3.20

S-5400 SOCKETS: DEEP BRACKET

14F2570	S-5404-DB	4	1.56	1.25	1.04	.84
14F2571	S-5406-DB	6	1.78	1.43	1.19	.96
14F2572	S-5408-DB	8	1.96	1.57	1.31	1.06
14F2573	S-5410-DB	10	2.25	1.80	1.50	1.22
14F2574	S-5412-DB	12	2.43	1.94	1.62	1.31
14F2575	S-5414-DB	14	4.09	3.27	2.73	2.21
14F2576	S-5415-DB	15	5.14	4.11	3.43	2.78
14F2577	S-5416-DB	16	5.91	4.73	3.95	3.19

P-5400 PLUGS: CABLE CLAMP TOP

14F2511	P-5404-CCT	4	1.82	1.46	1.22	.98
14F2512	P-5406-CCT	6	1.98	1.59	1.33	1.07
14F2513	P-5408-CCT	8	2.26	1.81	1.51	1.22
14F2514	P-5410-CCT	10	2.44	1.95	1.63	1.32
14F2515	P-5412-CCT	12	2.58	2.07	1.73	1.40
14F2516	P-5414-CCT	14	4.54	3.63	3.03	2.45
14F2517	P-5415-CCT	15	5.37	4.29	3.58	2.90
14F2518	P-5416-CCT	16	6.22	4.98	4.16	3.36

S-5400-CCT SOCKETS: CABLE CLAMP TOP

14F2578	S-5404-CCT	4	1.90	1.52	1.27	1.03
14F2579	S-5406-CCT	6	2.10	1.68	1.41	1.14
14F2580	S-5408-CCT	8	2.37	1.89	1.58	1.28
14F2581	S-5410-CCT	10	2.58	2.07	1.73	1.40
14F2582	S-5412-CCT	12	2.81	2.25	1.88	1.52
14F2583	S-5414-CCT	14	4.67	3.74	3.12	2.53
14F2584	S-5415-CCT	15	5.56	4.45	3.72	3.01
14F2585	S-5416-CCT	16	6.48	5.18	4.33	3.50

P-5400 PLUGS: CABLE CLAMP END

14F2519	P-5404-CCE	4	1.86	1.49	1.24	1.00
14F2520	P-5406-CCE	6	2.02	1.62	1.35	1.09
14F2521	P-5408-CCE	8	2.28	1.83	1.53	1.24
14F2522	P-5410-CCE	10	2.49	1.99	1.66	1.35
14F2523	P-5412-CCE	12	2.70	2.16	1.81	1.46
14F2524	P-5414-CCE	14	4.62	3.69	3.08	2.50
14F2525	P-5415-CCE	15	5.45	4.36	3.64	2.94
14F2526	P-5416-CCE	16	6.31	5.05	4.21	3.41

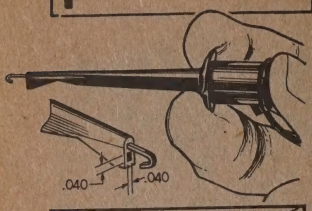
S-5400 SOCKETS: CABLE CLAMP END

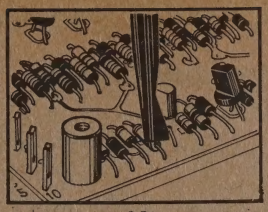
14F2586	S-5404-CCE	4	1.94	1.55	1.30	1.05
14F2587	S-5406-CCE	6	2.12	1.70	1.42	1.15
14F2588	S-5408-CCE	8	2.40	1.92	1.61	1.30
14F2589	S-5410-CCE	10	2.63	2.10	1.76	1.42
14F2590	S-5412-CCE	12	2.83	2.27	1.89	1.53
14F2591	S-5414-CCE	14	4.63	3.70	3.09	2.50
14B2592	S-5415-CCE	15	5.49	4.39	3.67	2.97
14F2593	S-5416-CCE	16	6.58	5.26	4.39	3.56

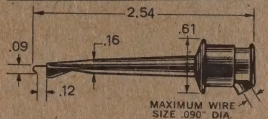
**Series 3300 feature C-clip fasteners to cut installation time, intermate with Series 5400 and other Series 2400 and 400 type connectors —Contact Newark for specific details.

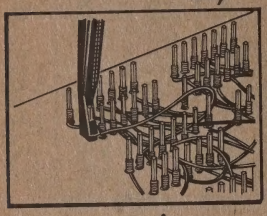
Test Leads and Clips

POMONA ELECTRONICS



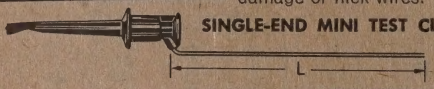






Plunger action clips with gold-plated contact hook can be connected rapidly to component leads. Clip is completely insulated to point of connection. Comfortable finger grip operation. Positive connection that won't pop off. No sharp teeth to damage or nick wires.

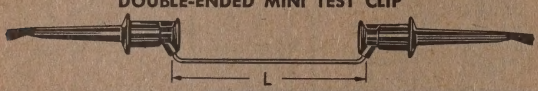
SINGLE-END MINI TEST CLIP



No connector on one end to permit connection of various components. Nylon insulation molded directly to clip for added durability. Gold-plated beryllium copper tip for maximum sensitivity. Wire is 22 AWG, stranded 26x36. Extra flexible polyvinyl insulation, .052" outside diameter.

Stk.No.	Type	Lgth.	Color	1-24	25-49	50-99
35F1020	3780-8	8"	Red			
35F1021	3780-12	12"	Red	1.00	.90	.85
35F1022	3780-24	24"	Red			
35F1023	3780-36	36"	Red			
35F1024	3780-48	48"	Red	1.05	.95	.89
35F1025	3780-60	60"	Red	1.10	.99	.94
35F1026	3780-8	8"	Black			
35F1027	3780-12	12"	Black	1.00	.90	.85
35F1028	3780-24	24"	Black			
35F1029	3780-36	36"	Black			
35F1030	3780-48	48"	Black	1.05	.95	.89
35F1031	3780-60	60"	Black	1.10	.99	.94

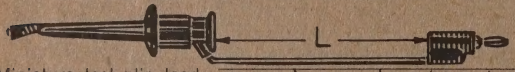
DOUBLE-ENDED MINI TEST CLIP



Connectors at both ends for quick connections between test points, without damage from sharp teeth. Both ends have gold-plated beryllium copper hook tips for high conductivity. Nylon insulation molded directly onto wire for added strength. 22 AWG, stranded tin copper wire. Polyvinyl insulation has .052" O.D. Operating range: −25°C to +105°C.

Stk.No.	Type	Lgth.	Color	1-24	25-49	50-99
35F1032	3781-8	8"	Red			
35F1033	3781-12	12"	Red			
35F1034	3781-18	18"	Red	1.65	1.49	1.40
35F1035	3781-24	24"	Red			
35F1036	3781-36	36"	Red			
35F1037	3781-48	48"	Red	1.70	1.53	1.45
35F1038	3781-60	60"	Red	1.75	1.58	1.49
35F1039	3781-8	8"	Black			
35F1040	3781-12	12"	Black			
35F1041	3781-18	18"	Black	1.65	1.49	1.40
35F1042	3781-24	24"	Black			
35F1043	3781-36	36"	Black			
35F1044	3781-48	48"	Black	1.70	1.53	1.45
35F1045	3781-60	60"	Black	1.75	1.58	1.49

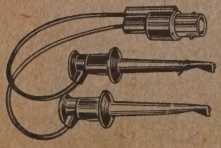
MINI TEST CLIP—TO STACKING BANANA PLUG



Miniature test clip lead adapts to equipment using miniature banana jacks. Beryllium copper gold-plated hook tip. Nylon insulation molded directly onto clip and wire. Wire is 20 AWG, stranded 41x38 T.C. Extra flexible polyvinyl insulation.

Stk. No.	Type	Lgth.	Color	Net
35F950	3784-12-0	12"	Black	1.85
35F951	3784-24-0	24"	Black	1.85
35F952	3784-36-0	36"	Black	1.85
35F953	3784-48-0	48"	Black	1.95
35F954	3784-60-0	60"	Black	2.05
35F955	3784-12-2	12"	Red	1.85
35F956	3784-24-2	24"	Red	1.85
35F957	3784-36-2	36"	Red	1.85
35F958	3784-48-2	48"	Red	1.95
35F959	3784-60-2	60"	Red	2.05

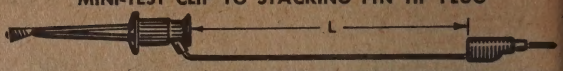
CLIPS TO BNC RECEPTACLE



Model 3788. Molded breakout converts coaxial cable with a male plug to test cable with clips. Clips are gold-plated beryllium copper with hook tips. Nylon insulation molded directly onto one black, one red wire. Wire 22 AWG tinned copper, PVC insulation .052" O.D. Connector BNC receptacle UG-1094/U. Length, 7".

Stock No.	Type	1-24	25-49	50-99	100-249
35F1061	3788	3.95	3.56	3.36	2.77

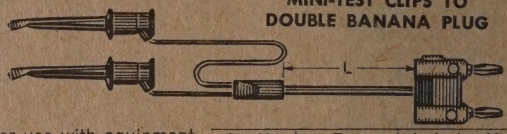
MINI-TEST CLIP TO STACKING PIN TIP PLUG



Miniature test clip adapts to equipment using standard pin tip jacks. Beryllium copper gold-plated hook tip. Nylon insulation. .080 dia., ½" long, brass, gold flashed pin tip plug. Beryllium copper, gold flashed stack-up. Accepts .080 dia. pin.

Stk. No.	Type	Lgth.	Color	Net
35F960	3785-12-0	12"	Black	1.85
35F961	3785-24-0	24"	Black	1.85
35F962	3785-36-0	36"	Black	1.85
35F963	3785-48-0	48"	Black	1.95
35F964	3785-60-0	60"	Black	2.05
35F965	3785-12-2	12"	Red	1.85
35F966	3785-24-2	24"	Red	1.85
35F967	3785-36-2	36"	Red	1.85
35F968	3785-48-2	48"	Red	1.95
35F969	3785-60-2	60"	Red	2.05

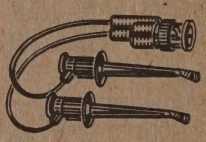
MINI-TEST CLIPS TO DOUBLE BANANA PLUG



For use with equipment having standard binding posts or banana jacks. Shielded coaxial cable, RG58C/U, .195" O.D., nom. cap. 28.5 pf/ft.

Stk. No.	Type	Lgth.	Net
35F970	3786-C-18	18"	
35F971	3786-C-24	24"	
35F972	3786-C-36	36"	6.50
35F973	3786-C-48	48"	
35F974	3786-C-60	60"	

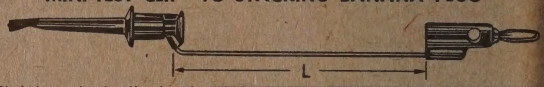
MINI-TEST CLIPS TO BNC PLUG



Molded breakout converts coaxial cable with BNC receptacle to test cable with clips. Beryllium copper gold-plated hook tip. Nylon insulation molded directly onto clip and wire: one red, one black.

Stk. No.	Type	Lgth.	Net
35F975	3789	7"	4.95

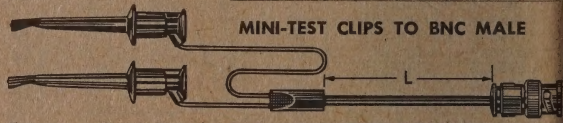
MINI-TEST CLIP—TO STACKING BANANA PLUG



Miniature test clip lead adapts to equipment using standard banana jacks. Beryllium copper gold-plated hook tip. Nylon insulation molded directly onto clip and wire. Wire is 20 AWG, stranded 41x38 T.C. Extra flexible polyvinyl insulation.

Stk. No.	Type	Lgth.	Color	1-24	25-49	50-99
35F1046	3782-12	12"	Red	1.65	1.49	1.40
35F1047	3782-24	24"	Red	1.65	1.49	1.40
35F1048	3782-36	36"	Red	1.65	1.49	1.40
35F1049	3782-48	48"	Red	1.70	1.53	1.45
35F1050	3782-60	60"	Red	1.75	1.58	1.49
35F1051	3782-12	12"	Black	1.65	1.49	1.40
35F1052	3782-24	24"	Black	1.65	1.49	1.40
35F1053	3782-36	36"	Black	1.65	1.49	1.40
35F1054	3782-48	48"	Black	1.70	1.53	1.45
35F1055	3782-60	60"	Black	1.75	1.58	1.49

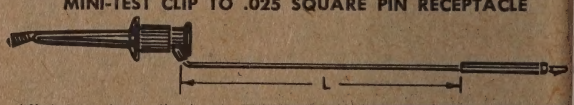
MINI-TEST CLIPS TO BNC MALE



For use with equipment having BNC receptacles. Beryllium copper gold-plated hook tip. Shielded coaxial cable, .195" O.D., 28.5 pf/ft.

Stock No.	Type	Lgth.	1-9	10-24	25-49
35F1056	3787-C-18	18"			
35F1057	3787-C-24	24"			
35F1058	3787-C-36	36"	6.50	5.85	5.53
35F1059	3787-C-48	48"			
35F1060	3787-C-60	60"			

MINI-TEST CLIP TO .025 SQUARE PIN RECEPTACLE



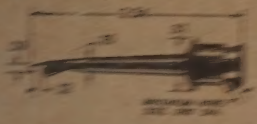
Miniature test clip lead has .025 square pin receptacle which slides over .025 square pins. Beryllium copper gold-plated hook tip. Wire is 20 AWG, stranded 41x 36 T.C. .025 pin receptacle has gold-plated phosphor bronze contact.

Stk. No.	Type	Lgth.	Color	Net
35F976	3783-12-0	12"	Black	2.25
35F977	3783-24-0	24"	Black	2.25
35F978	3783-36-0	36"	Black	2.25
35F979	3783-48-0	48"	Black	2.35
35F980	3783-60-0	60"	Black	2.45
35F981	3783-12-2	12"	Red	2.25
35F982	3783-24-2	24"	Red	2.25
35F983	3783-36-2	36"	Red	2.25
35F984	3783-48-2	48"	Red	2.35
35F985	3783-60-2	60"	Red	2.45

Test Probes, Clips and Sockets

PONOMA ELECTRONICS

DO-IT-YOURSELF "GRABBERS"



Featured plunger-type action between thumb and two fingers with comfortable finger grip operation. Positive connection that won't pull off. No sharp teeth to damage or mar wires. High temperature metal resists melting when soldering. Accepts wire up to .093" dia.

"MAXI GRABBER"

3" length, designed especially for hook-up wiring of electronic components where depth of testing is a key factor. Will fit many holes as small as 1/4" dia.

Stk. No.	Type	Color	1-24	25-49	50-99
35F994	4003	Black	1.45	1.40	1.40
35F995	4003-2	Red	1.45	1.40	1.40

"MICRO GRABBER"

1.75" grabber is designed for testing of high density packaging. Lightweight and small size permits multiple usage of units in confined areas.

Stk. No.	Type	Color	1-24	25-49	50-99
35F996	4003-3	Black	1.20	.95	.85
35F997	4003-4	Red	1.20	.95	.85

"GRABBERS" WITH 6-32 THREAD

Can be used with oscilloscope and test equipment with a 6-32 screw-on tip. Can be crimped or soldered to wire. Supplied with screw-on tip.

Stk. No.	Type	Color	1-24	25-49	50-99
35F998	4011-2	Black	1.30	1.25	1.20
35F999	4011-3	Red	1.30	1.25	1.20

6-32 SCREW-ON REPLACEMENT TIP

Stk. No.	Type	Pkg. of 10 1-24	25-49	50-99
35F1000	4011	1.50	ea.75	ea.50

"GRABBERS"

Stock No.	Type	Color	Per Pkg. of 10 1-24	25-49	50-99
35F1001	4003-2	Black	6.50	7.95	7.25
35F1002	4003-3	Red	6.50	7.95	7.25

DIP CLIP IC TEST CLIPS

14-Pin Dual In-Line 28-Pin Dual In-Line 40-Pin Dual In-Line

Specially designed to allow the attachment of test probes to IC packages. Design allows possibility of accidental shorting while testing. Has smooth, non-serrated nickel-silver contacts with spring-loaded wiping action to assure good electrical connection. Positive control finger design gives positive positioning to prevent accidentally overloading sensitive circuits. Once connected, no-tension test probes may be quickly connected for convenient hands-free testing in the laboratory or in the field.

Stock No.	Type	Description	Net
35F1004	4114	14-Pin Dual In-Line	3.75
35F1005	4124	24-Pin Dual In-Line	11.95
35F1006	4140	40-Pin Dual In-Line	19.95
35F1008	4014*	14-Pin Dual In-Line	3.75
35F1007	4024*	24-Pin Dual In-Line	11.95
35F1009	4040*	40-Pin Dual In-Line	19.95

*Between Holders for testing the same voltages

R.F. CONNECTOR ADAPTERS/TERMINATORS

Manufactured in accordance with MIL-C-39012. All are miniature series RF connectors and especially adaptable to microwave component applications such as coupling, division and mixers. Frequency range 0-4 GHz. Dielectric withstanding voltage 1000 VRMS. 50 ohm R.F. leakage at 20 mm between hot and ground. Temperature range -65°C to +165°C.

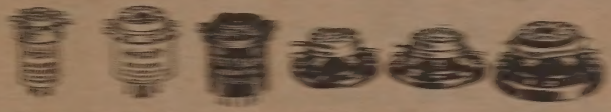
SMA TO BNC

Stk. No.	Type	Description	Net
35F1009	4035	SMA Male to BNC Male	14.95
35F1010	4037	SMA Female to BNC Male	17.95

BNC 51 OHM FEED-THRU TERMINATION

Stk. No.	Type	Description	Net
35F1017	4101	Termination	14.95

BREADBOARD SOCKETS, RELAY & TEST SOCKET ADAPTERS



TS5-7 TS5-8 TS5-12 16-7 16-8 16-9

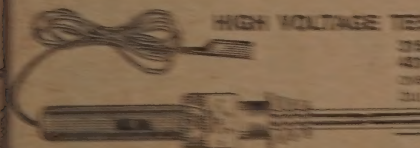
Test socket type adapters are ideal for making measurements of voltage, watts, and ohms without risking component circuits from the bottom of the chassis. Precise extended test lead for easy use with either alligator clips or test probes.

Stock No.	Type	Description	1-24	25-49	50-99
34F937	TS5-7	7-pin	3.50	3.25	3.00
34F938	TS5-8	8-pin	3.75	3.40	3.25
34F940	TS5-12	12-pin	3.75	3.40	3.25
34F969	TS5-12	Connector	3.40	3.00	2.75

Surface mounted breadboard sockets are ideal for experimental circuit design, prototype assemblies and plug-in production applications. Features gold plated leads to prevent corrosion from soaking to chassis.

Stock No.	Type	Description	1-24	25-49	50-99
34F964	16-7	7-pin	.95	.87	.75
34F963	16-8	8-pin	1.10	.95	.85
34F964	16-9	9-pin	1.30	1.15	1.00

HIGH VOLTAGE TEST PROBES



Easily make high voltage adjustments in the home without carrying bulky equipment. Just connect the probe to TV chassis with alligator clip, connect test probe tip to high voltage anode, and keep voltage indicator on built-in meter. On-off switch in handle protects meter when not in use.

Stock No.	Type-Description	Volts Full Scale	Built-in Meter Reads
34F966	4001 Neon	15,000	0 to 20 kV
34F967	4001 Neon	15,000	0 to 20 kV
34F968	4001 Neon	15,000	0 to 20 kV
35F1003	4001 Neon	15,000	0 to 20 kV
34F970	4001	15,000	0 to 20 kV

11 CONTACT RELAY SOCKET

For use in industrial Control equipment requiring a rugged, compact 11 contact connection. Features one-piece molded stainless steel mounting spring that locks relay into socket. Will hold up to 10 amps.

Stock No.	Type	1-24
35F1018	11	3.25

POMONA ELECTRONICS

PATCH CORDS, TEST LEADS

PLUGS, CLIPS AND CONNECTORS

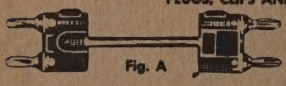


Fig. A

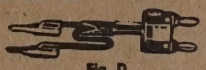


Fig. D

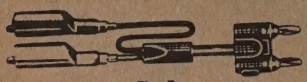


Fig. B

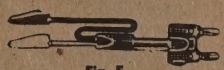


Fig. E

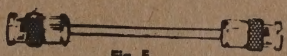


Fig. F

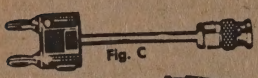


Fig. C

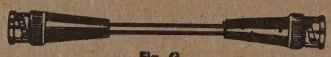


Fig. G

¾" double banana plug cabled to a variety of plugs, connectors, clips and tips as indicated below. The double banana plug permits parallel multiple stacking and has a clearly marked ground connection. Color of plug body matches cable color, avwt., 5 oz. *Two conductor twisted 18 ga. (65 x 36) wire. Vinyl jacket and insulation. Nom. cap. 30 mmf/ft., gray color. **Shielded microphone cable. Polyethylene insulation. Vinyl jacket. Nom. cap. 25 mmf/ft., gray color. Coaxial cable, clr. blk. †50 ohm RG58C/U,‡ 75 ohm RG59 B/U,§ 93 ohm RG62 A/U.

WITH DOUBLE PLUGS EACH END — Fig. A

Stk. No.	Type	Length	1-9	10-24	25-49	50-99
34F801	2BA-36*	36"				
34F803	2BB-36**	36"	5.95	5.36	5.06	4.17
34F805	2BC-36†	36"				

WITH ALLIGATOR CLIPS — Fig. B.

34F807	2BA-AL-36*	36"				
34F809	2BB-AL-36**	36"	6.95	6.26	5.91	4.87
34F811	2BC-AL-36†	36"				

WITH UG88E/U MALE BNC CONNECTOR — Fig. C.

34F813	2BB-BNC-36**	36"	6.95	6.26	5.91	4.87
34F815	2BC-BNC-36†	36"				

WITH .080 DIA. PHONE TIP PLUG — Fig D.

34F821	2BC-PP-36†	36"	7.50	6.75	6.38	5.25

WITH MINIGATOR CLIPS — Fig E

34F823	2BA-MG-36*	36"				
34F825	2BB-MG-36**	36"	6.95	6.26	5.91	4.87
34F827	2BC-MG-36†	36"				

UG88E/U MALE BNC CONNECTOR BOTH ENDS — Fig. F

34F842	BNC-C24†	24"	6.50	5.85	5.53	4.55
34F843	BNC-C36†	36"				

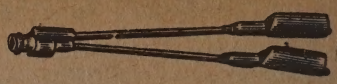
CRIMP BNC BOTH ENDS — Fig. G.

35F1072	2249-C-12†	12"				
35F1073	2249-C-24†	24"				
35F1074	2249-C-36†	36"				
35F1075	2249-C-48†	48"	5.95	5.36	5.06	4.17
35F1076	2249-C-60†	60"				
35F1077	2249-E-12‡	12"				
35F1078	2249-E-24‡	24"				
35F1079	2249-E-36‡	36"				
35F1080	2249-E-48‡	48"				
35F1081	2249-E-60‡	60"				
35F1082	2249-M-12§	12"				
35F1083	2249-M-24§	24"	6.85	6.17	5.82	4.80
35F1084	2249-M-36§	36"				
35F1085	2249-M-48§	48"				
35F1086	2249-M-60§	60"				

STACK-UP CONNECTING LEADS

Model B. Fits all standard banana jacks. Permit stack-up and side connections.

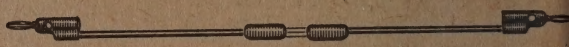
Stk. No.	Type	Length	Color	1-24	25-49	50-99	100-249
34F875	B-4	4"	Red				
34F876	B-4	4"	Black				
34F877	B-8	8"	Red				
34F878	B-8	8"	Black				
34F879	B-12	12"	Red				
34F880	B-12	12"	Black	1.80	1.62	1.53	1.26
34F881	B-18	18"	Red				
34F882	B-18	18"	Black				
34F848	B-24	24"	Red				
34F849	B-24	24"	Black				
34F850	B-36	36"	Red				
34F851	B-36	36"	Black				


BREAK-OUT CABLE

Model 2630. BNC jack - aligator clips. 2-18-AWG stranded leads. Cable and clips are color coded. 1 red and 1 black. 500V peak. Operating temp. range: -25°C to +85°C. 7" long.
Model 2631. Same as 2630, except with minigator clips.

Stk. No.	Type	1-24	25-49	50-99	100-249
34F964	2630	3.75	3.38	3.19	2 63
34F965	2631	3.75	3.38	3.19	2.63

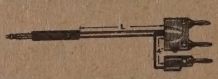
STACK-UP BANANA PLUG PATCH CORD



Multiple stacking feature keeps circuitry neater. Reliable solderbound connections can stand 50 lb. pull. Colors: Black, Red.

Stock No.	Type	Length	1-24	25-49	50-99	100-249
25F2200	4274-12	12"				
25F2201	4274-24	24"				
25F2202	4274-36	36"	3.00	2.70	2.55	2.10
25F2203	4274-48	48"				
25F2204	4274-60	60"				

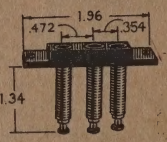
BANTAM PLUG TO DOUBLE PLUG BALANCED LINE



Plastic jacketed, shielded cable; Color: gray. Minature 3 conductor phone plug. Dble. banana plug w/single plug breakout.

Stock No.	Type	Length	1-9	10-24	25-49	50-99
25F2205	4281-12	12"				
25F2206	4281-24	24"				
25F2207	4281-36	36"	19.95	17.96	16.96	13.97
25F2208	4281-48	48"				
25F2209	4281-60	60"				

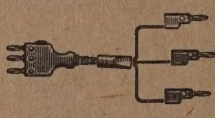
EUROPEAN TRIPLE BANANA JACK



Tin-plated brass jacks w/polycarbonate Thermoplastic insulation. Size: 1.96" x 1.34". With two 6-32 nuts and screws.

Stock No.	Type	Color	1-24	25-49	50-99	100-249
25F2210	4163-0	Black				
25F2211	4163-2	Red	2.95	2.66	2.51	2.07
25F2212	4163-8	Gray				

TRIPLE BANANA PLUG TO SINGLE BANANA PLUGS



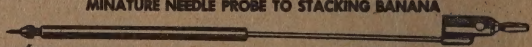
Patch cord for special applications. Spacing between triple plugs, 0.355" and 0.470". Fits many European banana jacks.

Stock No.	Type	Length	1-9	10-24	25-49	50-99
25F2213	1701-18	18"				
25F2214	1701-24	24"				
25F2215	1701-36	36"	24.95	22.46	21.21	17.47
25F2216	1701-48	48"				
25F2217	1701-60	60"				

Needle Tip Probe To Banana Jack Type 1705, 1705-2. Sharp replaceable needle tip for encapsulated circuits. Banana jack in handle connected to tip. Pin tip is steel nickel plated. Jack is .166" dia. brass nickel plated. Length: 5 ½".

Stock No.	Model No.	Color	1-24	25-49	50-99	100-249
35F1087	1705	Black	1.95	1.76	1.66	1.37
35F1088	1705-2	Red				

MINATURE NEEDLE PROBE TO STACKING BANANA



Type 3861. Also has replaceable steel, nickel-plated tip. Tough thermo plastic is molded directly onto probe tip. 20 AWG wire, overall length, 48" Plug is one piece beryllium copper. Temp. range: -25°C to +105°C.

Stock No.	Model No.	Color	1-24	25-49	50-99	100-249
35F1089	3861-48	Black	2.50	2.25	2.13	1.75
35F1090	3861-48	Red				

TEST LEAD HOLDER

Model 1508. Patch cords and cable assemblies can be filed for instant selection. Accepts cables up to .210" diameter. Cold rolled steel with orange baked enamel finish. Wt. 5 oz.

Model 2708. RG cable holder. Similar to 1508, but with .450" slots for coax cable. Blue-finish. 11" L x 3.5" W; p slots.

Stk.No.	Type	1-24	25-49	50-99	100-249
34F956	1508	3.85	3.47	3.27	2.70
34F957	2708				

Housings and Adapters

POMONA ELECTRONICS

SHIELDED "BLACK BOXES"

Die cast aluminum; shielded housing; fulfill the requirement for RF applications. Cover and screws included. Blue baked enamel finish except (*)-unfinished. (**)-Has BNC jack in top center. (#) Has red and black banana jack binding posts with solder turret terminals in top center. (†) Isolated.

Stk. No.	Type	1st End	2nd End	Size	1-24	25-49	50-99	100-249
34F952	2390	BNC Jack	BNC Jack	A	8.85	7.97	7.52	6.20
34F953	2391	BNC Jack	BNC Plug	A	9.85	8.87	8.37	6.90
35F3500	2392**	BNC Jack	BNC Jack	A	11.50	10.35	9.78	8.05
35F3501	2393#	BNC Jack	BNC Plug	A	12.85	11.57	10.92	9.00
34F954	2397	None	None	A	1.95	1.76	1.66	1.37
35F3502	*2400	None	None	A	1.95	1.76	1.66	1.37
35F3503	3230	BNC Jack	BNC Jack	B	8.85	7.97	7.52	6.20
35F3504	3231	BNC Jack	BNC Plug	B	9.85	8.87	8.37	6.90
35F3505	3232**	BNC Jack	BNC Jack	B	11.50	10.35	9.78	8.05
35F3506	3233#	BNC Jack	BNC Plug	B	12.85	11.57	10.92	9.00
34F955	2417	None	None	B	2.50	2.25	2.13	1.75
35F3507	*2428	None	None	B	1.95	1.76	1.66	1.37
35F986	3239	BNC Jack†	BNC Jack†	B	14.85	13.37	12.62	10.40
35F987	3234	BNC Jacks	BNC Jacks	B	12.50	11.25	10.63	8.75
35F988	2399	SMA Jack	SMA Jack	B	19.95	17.96	16.96	13.97
35F989	2424	4 BNC . . .	Jacks	B	12.50	11.25	10.63	8.75
35F3508	2901	None	None	C	6.50	5.85	5.53	4.55
34F966	2902	BNC Jack	BNC Jack	C	10.85	9.77	9.22	7.60
35F3510	*2906	None	None	C	6.50	5.85	5.53	4.55
35F3511	3601	None	None	D	4.50	4.05	3.83	3.15
35F3512	3602	BNC Jack	BNC Jack	D	9.85	8.87	8.37	6.90
35F3513	3603	BNC Jack	BNC Plug	D	10.85	9.77	9.22	7.60
35F3514	*3606	None	None	D	4.50	4.05	3.83	3.15

SHIELDED BLACK BOXES WITH CARD GUIDES

Extruded aluminum. Blue finish except (*) unfinished. Top and bottom covers and screws supplied. Slotted to accept 1/16" circuit boards.

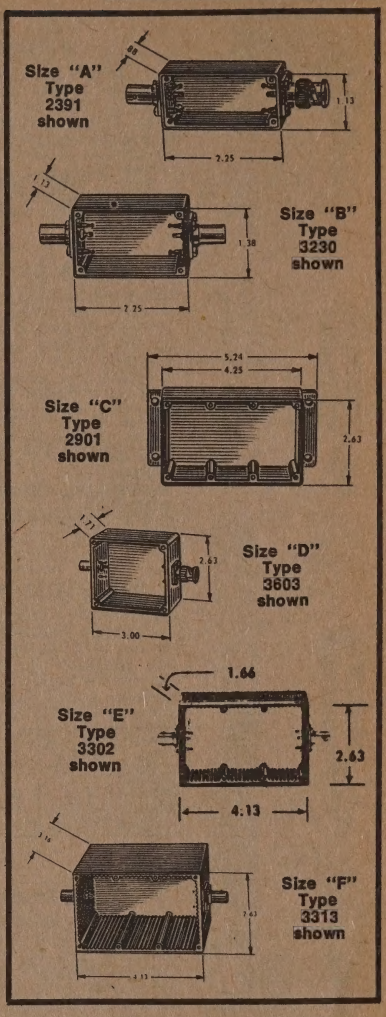
Stk. No.	Type	1st End	2nd End	Size	1-24	25-49	50-99	100-249
34F947	3301	None	None	E	9.50	8.55	8.08	6.65
35F3515	3302	BNC Jack	BNC Jack	E	13.50	12.15	11.48	9.45
35F3517	3311	None	None	F	10.85	9.77	9.22	7.60
35F3518	3312	BNC Jack	BNC Jack	F	16.85	15.17	14.32	11.80
35F3520	*3316	None	None	F	10.85	9.77	9.22	7.60
35F990	4260	None	None	G				
35F991	*4259	None	None	G				
35F992	4253	None	None	1½ D.	24.95	22.46	21.21	17.47
35F993	*4252	None	None	1½ D.				

MOUNTING BOARDS AND SHIELDING DIVIDERS FOR BOXES WITH CARD GUIDES

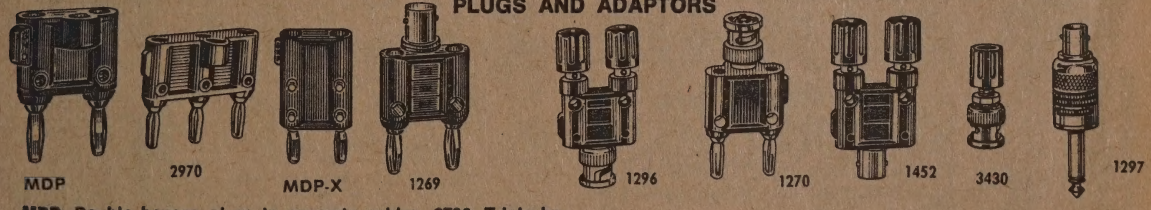
Stk. No.	Type	For Use With	Dimensions A	Dimensions B	No. of Holes	Material	1-24	25-49	50-99	100-249
35F3521	3326	Fig. E	2.39	1.50	24x15	Glass-Epoxy (GEE)	.95	.86	.81	.67
35F3525	3551	Fig. F	2.39	3.00	12x15	Glass-Epoxy (GEE)	1.50	1.35	1.28	1.05
35F3526	3553	Fig. F	2.39	3.00	23x30	Glass-Epoxy (GEE)	1.95	1.76	1.66	1.37

NON-SHIELDED BLACK BOXES

Stock No.	Type	Dimensions Length	Width	Depth	Connections	1-24	25-49	50-99	100-249
35F3527	2103	2.25	1.00	1.00	None	.95	.86	.81	.67
35F3528	2104	2.38	1.53	1.53	None	.95	.86	.81	.67
35F3529	2105	1.75	1.44	.69	None	.95	.86	.81	.67
34F951	2224	2.38	1.53	1.53	Lower: Banana Plug (2)	3.85	3.47	3.27	2.70


Size "A" Type 2391 shown
Size "B" Type 3230 shown
Size "C" Type 2901 shown
Size "D" Type 3603 shown
Size "E" Type 3302 shown
Size "F" Type 3313 shown

PLUGS AND ADAPTORS



MDP. Double banana plugs to separate cables. **2790.** Triple banana plug to 3 separate cables. **MDP-X.** Jacks and plugs for 4 isolated terms. **MDP-S.** Int. bonded shorting bar. **1269.** BNC jack to dbl. banana plug. **1296.** Binding post to BNC plug. **1270.** BNC plug to dbl. banana plug. **1452.** Binding post jack to BNC receptacle. **3430.** Binding post to BNC plug. **1297.** BNC to phone plug.

Stk. No.	Model	Color	1-24	25-49	50-99	100-249
34F856	MDP	Red	.85	.77	.72	.60
34F857	MDP	Black	.85	.77	.72	.60
35F1065	2970	Red	1.75	1.58	1.49	1.23
35F1066	2970	Black	1.75	1.58	1.49	1.23
34F858	MDP-S	Natural	1.25	1.13	1.06	.88
34F859	MDP-X	Red	3.50	3.15	2.98	2.45
34F860	1269	Black	3.50	3.15	2.98	2.45
34F870	1296	Black	5.25	4.73	4.46	3.68
35F1067	1270	Black	4.25	3.83	3.61	2.98
35F1068	1452	Black	4.95	4.46	4.21	3.47
35F1069	3430	Red	2.50	2.25	2.13	1.75
35F1070	3430	Black	2.50	2.25	2.13	1.75
35F1071	1297	Metal	5.85	5.27	4.97	4.10

MINIATURE BANANA PLUGS AND ADAPTERS

Model 3269. Adapter. BNC receptacle to miniature double banana plug—½" centers.

Model 3296 Adapter. 5-way binding posts on ½" ctrs. with .104" dia. banana jacks attached to BNC plug.

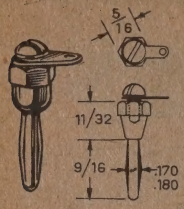
Model 2945. Miniature Solderless Banana Plug Stack-up. Collar acts as strain relief. .104" dia. jack to plug.

Model 2244. Miniature double banana plug on ½" ctrs.

Stk. No.	Type	Color	1-24	25-49	50-99	100-249
34F936	3269	Black	4.25	3.83	3.61	2.98
34F937	3296	Black	5.85	5.27	4.97	4.10
34F938	2945	Black	.85	.77	.72	.60
34F939	2945	Red	.85	.77	.72	.60
34F844	2244	Black	1.25	1.13	1.06	.88

SPC technology — VOLTREX brand Plugs and Jacks

BANANA PLUGS



BANANA PLUG

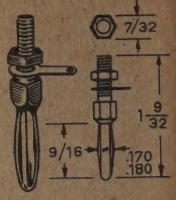
Hex brass, nickel plated body. Four-leaved phosphor bronze, nickel plated spring. 15 amps AC for 10°C temperature rise, cont. duty. Supplied with screw and phosphor bronze tinned lug. Fits std. jacks.

Stock No.	EACH			
	1-99	100-499	500-999	1000-Up
39N890	.40	.29	.24	.20

BANANA PLUG

Hex brass, nickel plated body. Four-leaved phosphor bronze, nickel plated spring. 15 amps AC for 10°C temperature rise, cont. duty. Supplied with hex nut, phosphor bronze tinned lug. Threaded stud for panel mntg. Fits std. jacks.

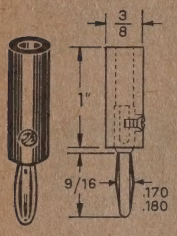
Stock No.	EACH			
	1-9	10-49	50-99	100-Up
38N291	.35	.29	.27	.24



INSULATED BANANA PLUG

Nickel plated plug. Four-leaved phosphor bronze nickel plated spring. 15 amps AC for 10°C temperature rise, continuous duty. Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to plug for solderless connection. Fits standard banana jacks. Available in four colors.

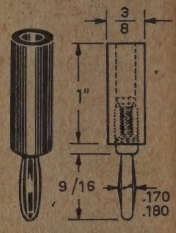
Stock No.	Color	1-9	10-49	50-99	100-Up
39N944	Red	.36	.30	.27	.24
39N940	Black				
39N941	Yellow				
39N942	Green				



INSULATED BANANA PLUG

Hex brass, nickel plated plug. Four-leaved phosphor bronze, nickel plated spring. 15 amps AC for 10°C temperature rise, continuous duty. Wire can be soldered to brass stud or plug. Stud also locks wire for solderless connection.

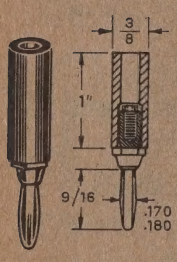
Stock No.	Color	1-9	10-49	50-99	100-Up
39N934	Red	.42	.53	.32	.28
39N935	Black				
39N936	Yellow				
39N937	Green				
39N938	Blue				
39N939	White				



INSULATED BANANA PLUG

Brass, nickel plated plug. Four-leaved phosphor bronze, nickel plated spring. 15 amps AC for 10°C temperature rise, continuous duty. Set screw secures wire without soldering. Fits standard banana jacks. Molded phenolic plastic handle available in four colors: red, black, green and yellow.

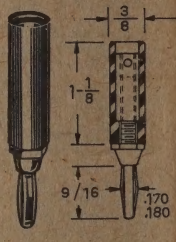
Stock No.	Color	1-9	10-49	50-99	100-Up
39N863	Red	.36	.30	.27	.24
39N864	Black				
39N865	Green				
39N866	Yellow				



INSULATED BANANA PLUG

Hex brass nickel plate with mating brass spacer plug. Four-leaved phosphor bronze, nickel plated spring. 15 amps AC for 10°C temperature rise, continuous duty. Machined Butyrate, per MIL-P-10408A, Type I, class II handle. Cross drilled hole in spacer allows quick solderless connection of wire to plug. Fits standard banana jacks.

Stock No.	Color	1-9	10-49	50-99	100-Up
35N635	Red	.75	.62	.56	.50
35N640	Black				

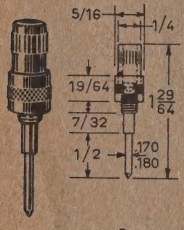


TIP PLUGS

SOLDERLESS TIP PLUG

Brass, nickel plated body. 12 amps AC for 10°C temperature rise, continuous duty. Solderless wire fits thru body of tip then wraps around screw portion and is tightened with knurled collar. Force fit type. Fits std. phone tip jacks.

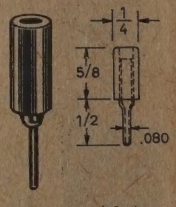
Stock No.	1-9	10-49	50-99	100-Up
39N850	.26	.21	.19	.17



INSULATED TIP PLUG

Brass, nickel plated plug. 12 amps AC for 10°C temperature rise, continuous duty. Solderless. Wire fits thru body of tip, then wraps around screw portion and tightened with knurled collar. Threaded type. Fits std. phone tip jacks. Molded phenolic handle.

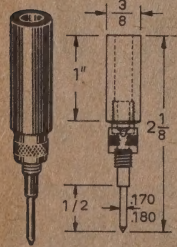
Stock No.	Color	1-9	10-49	50-99	100-Up
39N852	Red	.30	.25	.23	.20
39N853	Black				



INSULATED TIP PLUG

Brass, nickel plated plug. 12 amps AC for 10°C temperature rise, continuous duty. Drawn hollow tip for easy soldering. Molded Butyrate per Fed. Spec. L-P349A, Type 3, Class MS handle. Fits standard phone tip jack.

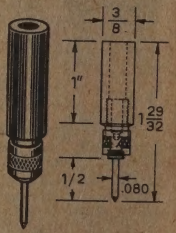
Stock No.	Color	1-9	10-49	50-99	100-Up
35N689	Red	.12	.10	.09	.08
35N690	Black				



INSULATED TIP PLUG

Brass, nickel plated plug. 12 amps AC for 10° temp. rise, continuous duty. Solderless. Knurled, threaded type collar. Molded phenolic handle. Fits std. phone tip jacks.

Stock No.	Color	1-9	10-49	50-99	100-Up
35N775	Red	.30	.25	.23	.20
35N776	Black				
35N777	Green				
35N778	Yellow				

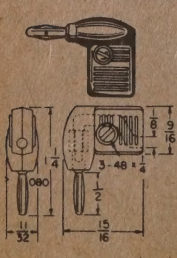


METER PLUGS

METER BANANA PLUG

Brass, nickel plated plug. Four-leaved phosphor bronze, nickel plated spring. 10 amps AC for 10°C Temp. rise, cont. duty. Molded in two halves for easy assembly with screw and nut. Fits std. banana jacks. Phenolic handle.

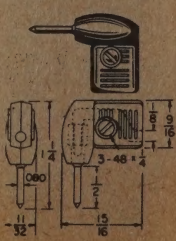
Stock No.	Color	1-9	10-49	50-99	100-Up
39N965	Red	.58	.48	.44	.39
39N866	Black				



METER TIP PLUG

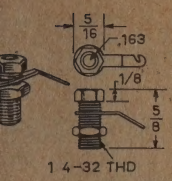
Brass, nickel plated plug .12 amps AC for 10°C temperature rise, continuous duty. Molded in two halves for easy assembly with screw and nut. Fits standard phone tip jacks. Molded phenolic handle. Red or black.

Stock No.	Color	1-9	10-49	50-99	100-Up
39N963	Red	.42	.35	.32	.28
39N964	Black				



BANANA AND TIP JACKS

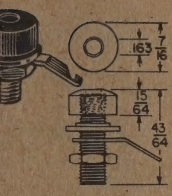
BANANA JACKS



Hex brass, nickel plated body. 15 amps AC for 10°C Temp. rise, cont. duty. Supplied with hex nut and brass tinned lug. Mounts in ¼" hole in panels up to ⅜" thick. Accepts std. banana plugs.

Stock No.	1-9	10-49	50-99	100-Up
39N867	.23	.19	18	.16

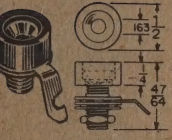
INSULATED BANANA JACKS



Brass, nickel plated body. 15 amps AC for 10°C temp. rise, cont. duty. 750V, 60 cycle AC cont. working voltage. 4.0 pf cap. Supplied with hex nut/fiber washer. Mnts. in 5/16" hole in panels up to ⅜".

Stock No.	Color	1-9	10-49	50-99	100-Up
39N868	Red	.24	.20	.18	.16
39N869	Black				
39N870	Green				
39N871	Yellow				

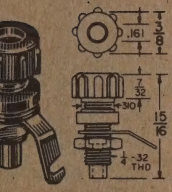
INSULATED BANANA JACK



Brass, nickel plated body. 15 amps AC for 10°C temp. rise, cont. duty. 750 V, 60 cycle AC cont. working voltage. 4.0 pf. cap. Supplied with hex nut/fiber washer/lockwasher/brass tinned lug.

Stock No.	Color	1-9	10-49	50-99	100-Up
39N967	Red	.34	.28	.26	.23
39N968	Black				

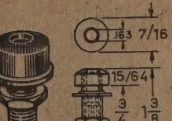
NYLON BANANA JACK



Brass, nickel plated body. Molded nylon, per MIL-P-20693A, head. 15 amps AC for 10°C temp. rise, cont. duty. 1K Volts 60 cycle AC cont. working voltage. 4.0 pf. cap. Hex nut, brass tinned lug. Mts in 5/16" hole in panels up to ¼" thick.

Stock No.	Color	1-9	10-49	50-99	100-Up
39N972	Red	.46	.38	.35	.31
39N973	Black	.46	.38	.35	.31

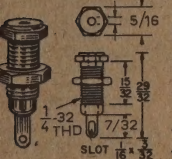
INSULATED JACK



Brass, nickel plated body. Phosphor bronze spring. 12 amps AC for 10°C temp. rise, cont. duty. 4 mmfd cap. Hex nut/fiber washer. Accepts std. phone tip or banana plugs. Mnts. in 5/16" hole in panels up to ½" thick.

Stock No.	Color	1-9	10-49	50-99	100-Up
35N2760	Red	.44	.36	.33	.29
35N2761	Black				
35N2762	Green				
35N2763	Yellow				

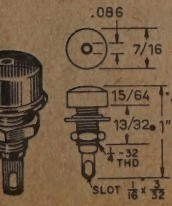
PHONE TIP JACK



Brass, nickel plated body. Phosphor bronze contact. 15 amps AC for 10°C temp. rise, cont. duty. Positive contact with std. phone tip plugs. Hex nut. Mounts in ¼" hole in panel up to ⅜" thick.

Stock No.	1-9	10-49	50-99	100-Up
39N855	.29	.24	.22	.20

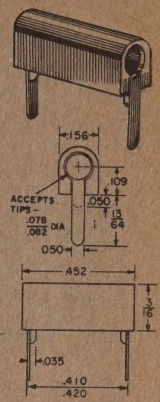
INSULATED PHONE TIP JACKS



Brass, nickel plated body. Phosphor bronze contact. 15 amps AC. 4.0 pf cap. Supplied with hex nut/fiber washer. Mounts in 5/16" hole in panels up to ⅜" thick. Accepts standard phone tip plugs.

Stock No.	Color	1-9	10-49	50-99	100-Up
39N856	Red	.29	.24	.22	.20
39N857	Black				
39N858	Green				
39N859	Yellow				

PC TEST JACK

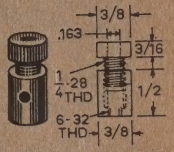


Right angle. Molded nylon per MIL-P-20693A, body. Beryllium copper spring. Silver underplate with gold overplate finish. 5 amps AC for 10°C temp. rise, cont. duty. 1.5 KV, 60 cycle AC cont. working voltage. .005 ohms max. res. at rated current. Cap. less than 1 pf at 5mHz. Mnts in .052" hole on .4" cntrs.

Stock No.	Color	1-9	10-24	25-49	50-99
99N1725	White	.35	.31	.28	.26
99N1726	Red				
99N1727	Black				
99N1728	Brown				
99N1729	Green				
99N1730	Orange				
99N1731	Blue				
99N1732	Yellow				
99N1733	Gray				
99N1734	Violet				
99N1735	Natural				

BINDING POSTS

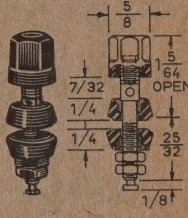
METAL BINDING POST



Brass, nickel plated head and body. 15 amps AC for 10°C temp. rise, cont. duty. Accepts standard phone tip or banana plugs.

Stock No.	1-9	10-49	50-99	100-Up
38N293	.42	.35	.32	.28

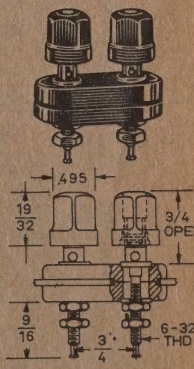
5-WAY BINDING POST



Captive molded Lexan, with brass, gold plated insert hex head. Brass, gold plated body. Molded Lexan, with gold plated brass insert washers. 30 amps AC for 10°C temp. rise, cont. duty. 2 KV AC, 60 Hz., cont. working voltage. 5 pf cap. to ⅛" thick aluminum panel. Accepts phone tip, spade lug, banana plug, alligator clip, stranded or solid wire up to 15 AWG.

Stock No.	Color	1-9	10-49	50-99	100-Up
35N844	Red	.78	.65	.59	.52
35N749	Black				

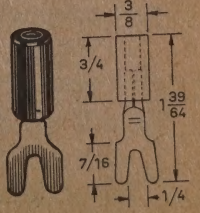
DUAL ASSEMBLY BINDING POST NYLON



Brass, nickel plated body. Captive molded Lexan head. Molded black styrene insulation, cross slotted to accept std. phone tips in post either forward or sideways. 15 amps AC for 10°C temp. rise, cont. duty. 2 KV, 60 cycle AC cont. working voltage. 2 pf cap. between conductors. 3 pf to panel. Mnts in 2½" holes on ¾" mntg cntrs in panels up to ¼" thick. Accepts single or dual banana plugs. Supplied with 4 hex nuts. 2 flat washers.

Stock No.	Color	1-9	10-49
35N845	Two Black	1.38	1.15
35N846	Two Red		
35N847	One Red, One Black		

INSULATED SPADE LUG



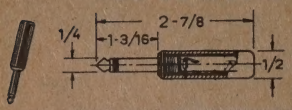
Steel electro tinned, .020" thick lug. Molded Butyrate handle. 15 amp AC for 10°C temp. rise, cont. duty. Tapered slots fit studs from ¼" down to #6 dia. Fits all standard binding posts. Accepts std. banana plugs in rear. Solder bridge for wire connection up to No. 18 AWG. Red or black.

Stock No.	Color	1-9	10-49	50-99	100-Up
39N977	Red	.12	.10	09	.08
39N978	Black				

SPC technology — VOLTREX brand Plugs and Jacks

PHONE PLUGS

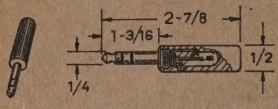
TWO CONDUCTOR PHONE PLUG



Brass, nickel plated plug. Molded Bakelite handle except*. Mates with two conductor std. phone jacks. Solder type plug has tinned terminals for easy solderability.

Stock No.	Handle	Lug Type	1-9	10-24	25-49	50-99	100-249
39N674	Red	Solder	.96	.72	.66	.60	.50
39N763	Black	Solder	.96	.72	.66	.60	.50
39N764	Metal*	Solder	1.36	1.02	.94	.85	.71
39N761	Red	Screw	1.00	.75	.69	.63	.52
39N760	Black	Screw	1.00	.75	.69	.63	.52
39N765	Metal*	Screw	1.40	1.05	.97	.88	.73

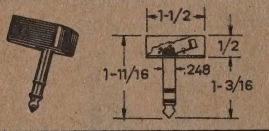
THREE CONDUCTOR PHONE PLUG



Molded Bakelite or brass, nickel plated handle. Brass nickel plated plug. Mates with std. phone jacks. Solder type plug has tinned terminals.

Stock No.	Handle	Lug Type	1-9	10-24	25-49	50-99	100-249
39N676	Red	Solder	1.40	1.05	.97	.88	.73
39N771	Black	Solder	1.40	1.05	.97	.88	.73
39N767	Metal	Solder	1.76	1.32	1.21	1.10	.91
39N675	Black	Screw	1.60	1.20	1.10	1.00	.83
39N766	Metal	Screw	1.84	1.38	1.27	1.15	.95

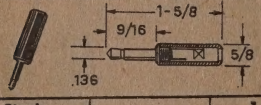
RIGHT ANGLE 2 OR 3 CONDUCTOR PHONE PLUG



Black, molded Bakelite handle. Brass, nickel plated plug. Flat profile does not interfere with operation or placement of equipment. Screw type terminals. Mates with std. phone jacks.

Stock No.	No. Cond.	1-9	10-24	25-49	50-99	100-249
39N768	2	1.40	1.05	.97	.88	.73
39N769	3	1.76	1.32	1.21	1.10	.89

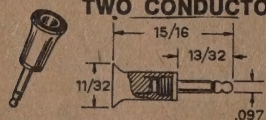
MINIATURE TWO CONDUCTOR PHONE PLUG



Molded Bakelite or brass, nickel plated handle. Brass, nickel plated plug. Has tinned terminals. Mates with miniature phone jack.

Stock No.	Handle	1-9	10-24	25-49	50-99	100-249
39N747	Red	.88	.66	.61	.55	.46
39N746	Black	.88	.66	.61	.55	.46
39N748	Metal	1.24	.93	.86	.78	.64

ULTRA-MINIATURE TWO CONDUCTOR PHONE PLUG

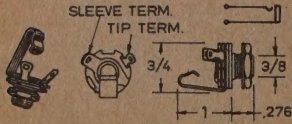


Black, molded Bakelite handle. Brass, nickel plated plug. Tinned terminals. Mates with ultra-miniature phone jack.

Stock No.	1-9	10-24	25-49	50-99	100-249
22N395	.84	.63	.58	.53	.44

PHONE JACK

TWO CONDUCTOR OPEN CIRCUIT PHONE JACK

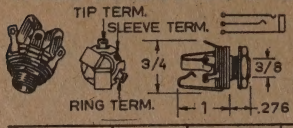


Brass, nickel plated bushing and spring. Brass, tin plated terminals. Accepts two conductor std. phone plug. Needs 1" clearance behind panel, 3/8" dia. hole.

Stock No.	1-9	10-24	25-49	50-99	100-249
39N782	.56	.42	.39	.35	.29

PHONE JACKS

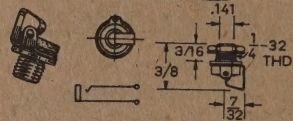
THREE CONDUCTOR OPEN CIRCUIT PHONE JACK



Brass, nickel plated bushing and spring. Brass, tin plated terminals. Accepts three conductor phone plug. Needs 1" clearance behind panel, 3/8" dia. hole.

Stock No.	1-9	10-24	25-49	50-99	100-249
39N665	.68	.51	.47	.43	.36

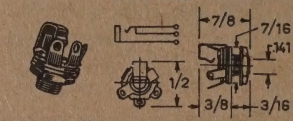
MINIATURE TWO CONDUCTOR OPEN CIRCUIT PHONE JACK



Brass, nickel plated bushing and spring. Brass, tin plated terminals. Accepts two conductor miniature phone plug. Mounts in 1/4" dia. hole.

Stock No.	1-9	10-24	25-49	50-99	100-249
39N744	.52	.39	.36	.33	.27

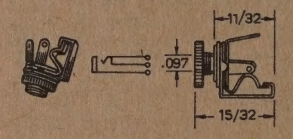
MINIATURE TWO CONDUCTOR CLOSED CIRCUIT PHONE JACK



Brass, nickel plated bushing and spring. Brass, tin plated terminals. Accepts two conductor miniature phone plug. Mounts in 1/4" dia. hole.

Stock No.	1-9	10-24	25-49	50-99	100-249
39N745	.56	.42	.39	.35	.29

ULTRA-MINIATURE TWO CONDUCTOR CLOSED CIRCUIT PHONE JACK

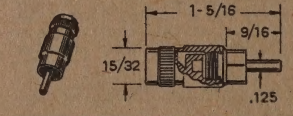


Brass, nickel plated bushing and spring. Brass, tin plated terminals. Accepts two conductor ultra-min. phone plug.

Stock No.	1-9	10-24	25-49	50-99	100-249
22N394	.64	.48	.44	.40	.33

PHONE PLUGS & JACKS

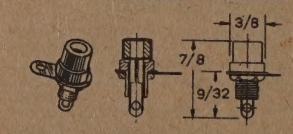
SHIELDED HANDLE PHONO PLUG



Steel, cadmium plated shell. Drawn brass, nickel plated pin. .062" fiber washer. Mates with phono jacks. Finger grip. Neat appearance.

Stock No.	1-9	10-24	25-49	50-99	100-249
39N685	.56	.42	.39	.35	.29

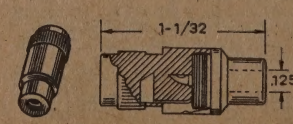
FRONT MOUNT PHONO JACK



Steel, cadmium plated shell. Brass, nickel plated contacts. Brass, cadmium plated lugs. XP laminated phenolic insulation. Mates with phono plugs. Mnts. in 3/8" dia. hole. Supplied with nut, washer and solder lug.

Stock No.	1-9	10-24	25-49	50-99	100-249
39N684	.40	.30	.28	.26	.22

INLINE PHONO JACK



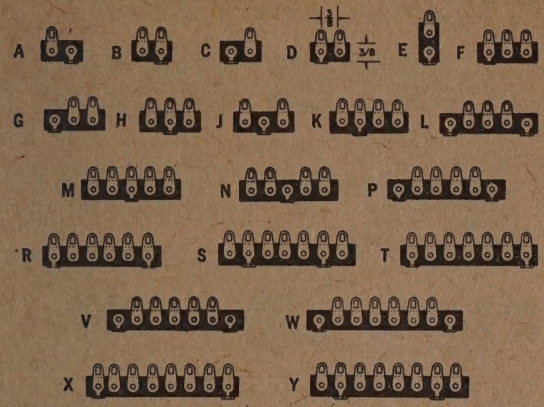
Steel, cadmium plated shell. Brass, nickel plated contacts. XP laminated phenolic insulation. Mates with phono plugs. Combo clamp and shielded jack.

Stock No.	1-9	10-24	25-49	50-99	100-249
22N250	.68	.51	.47	.43	.36

VOLTREX brand STRIPS AND CLIPS

SPC technology

TIE DOWN TERMINAL STRIPS

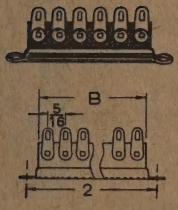


Standard type. Steel, cadmium plated lugs spaced ⅜" apart. XP Phenolic strip, ⅜" wide and .062" thick. Mount: .140" I.D. for No. 6 screw.

Stock No.	Fig.	1-9	10-24	25-49	50-99	100-Up
28N650	A	.15	.14	.13	.11	.08
29N567	B	.15	.14	.13	.11	.08
29N568	C	.15	.14	.13	.11	.08
29N569	D	.15	.14	.13	.11	.08
29N570	E	.18	.17	.16	.14	.11
29N576	F	.18	.17	.15	.12	.10
29N575	G	.17	.16	.15	.12	.09
29N574	H	.18	.17	.15	.12	.10
28N651	J	.17	.16	.15	.12	.08
29N583	K	.16	.15	.14	.13	.10
28N652	L	.18	.17	.16	.14	.11
29N587	M	.19	.18	.16	.14	.11
29N586	N	.18	.17	.16	.14	.11
28N653	P	.21	.20	.18	.16	.12
29N585	R	.21	.20	.18	.17	.13
29N590	S	.22	.21	.19	.17	.13
29N588	T	.22	.21	.19	.17	.13
28N654	V	.22	.21	.19	.17	.13
28N655	W	.22	.21	.19	.18	.14
29N591	X	.22	.21	.20	.18	.14
29N593	Y	.22	.21	.20	.18	.14

TERMINAL STRIP ASSEMBLY

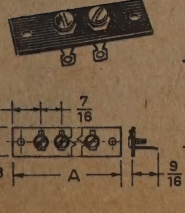
Steel, cadmium plated lug. Steel, cadmium plated base. XP Phenolic strip. Mounting holes for #6 screws.



Stock No.	Term.	Dim. A	Dim. B	1-24	25-49	50-99	100-Up
28N680	2	1.000	⅝	.19	.18	.17	.14
28N681	3	1.312	15/16	.21	.19	.18	.17
28N682	4	1.625	1¼	.22	.21	.19	.18
28N683	5	1.937	1 9/16	.22	.21	.19	.18
28N684	6	2.250	1⅞	.25	.22	.20	.19
28N685	7	2.562	2 3/16	.25	.22	.20	.19
28N686	8	2.875	2½	.29	.24	.21	.20
28N687	9	3.187	2 13/16	.32	.25	.22	.21
28N688	10	3.500	3⅛	.32	.25	.22	.21
28N689	11	3.812	3 7/16	.35	.27	.25	.22
28N690	12	4.125	3¾	.35	.27	.25	.22
28N691	13	4.437	4 1/16	.38	.33	.27	.24

SCREW TYPE TERMINAL BOARD

Brass, hot tinned lugs on 7/16" cntrs. Steel, cadmium plated, 6-32 x ⅜" screw. XP Phenolic strip ⅝" W.



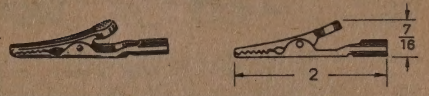
Stock No.	Term.	Mounting Centers	1-24	25-49	50-99	100-Up
29N551	1	⅞"	.10	.15	.14	.12
29N552	2	1 1/16"	.19	.18	.15	.14
29N553	3	1¾"	.23	.19	.18	.15
29N554	4	2 3/16"	.31	.25	.21	.19
29N555	5	2⅝"	.36	.28	.24	.22
29N556	6	3 1/16"	.43	.36	.30	.26
29N557	7	3½"	.53	.41	.36	.30
29N558	8	3 15/16"	.58	.48	.40	.33
29N559	9	4⅜"	.72	.54	.45	.37
29N560	10	4 13/16"	.85	.64	.55	.45

ALLIGATOR CLIPS

2" ALLIGATOR CLIPS

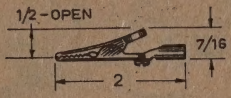
½" jaw opening. Accepts standard banana plug in rear. 5 amps AC for 10°C temp. rise, continuous duty.

SOLDER CONNECTION



Stock No.	Type	1-9	10-99	100-499	500-Up
28N500	Steel, cadmium plated	.14	.10	.08	.07

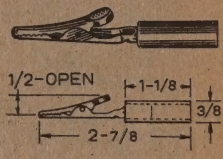
SCREW CONNECTION



Stock No.	Type	1-9	10-99	100-499	500-Up
28N501	Steel, cadmium plated	.16	.12	.10	.09
28N502	Solid copper	.25	.19	.15	.13

ALLIGATOR CLIP ADAPTER

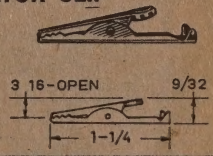
Phone tip to alligator clip. Steel, cadmium plated clip. Brass body. Phosphor bronze contact. Molded Butyrate handle. 5 amps AC for 10°C temp. rise, cont. duty. Rear jack permits adapting std. tip plug to alligator clips.



Stock No.	Color	1-9	10-49	50-99	100-Up
28N604	Red	.51	.42	.38	.34
28N605	Black				

MINIATURE ALLIGATOR CLIP

3/16" jaw opening. Jaws match accurately and grip securely. Unique spring construction. Solder connection and ears for crimping. 1 amp AC for 10°C temp. rise, continuous duty.



Stock No.	Type	1-9	10-99	100-499	500-Up
28N528	Steel, cadmium plated	.11	.08	.07	.06
28N259	Copper	.13	.10	.08	.07

ALLIGATOR CLIP BOOTS

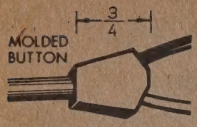
Molded vinyl plastic material. Fully insulates clip while allowing maximum jaw opening. 1 K volts, 60 cycle AC continuous working voltage.

Stock No.	Color	Type	Clip Length	1-9	10-99	100-499	500-Up
28N492	Red	Std.	2"	.09	.07	.06	.05
28N493	Black	Std.	2"	.09	.07	.06	.05
28N472	Red	Midget	1¼"	.06	.05	.04	.03
28N473	Black	Midget	1¼"	.06	.05	.04	.03

NEWARK Your Dependable Source For All Your Electronic Needs

SPC technology VOLTREX brand Cords and Adapters

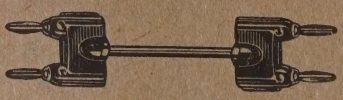
PATCH CORDS



CABLE TYPES AVAILABLE

	Wire "A"	Wire "B"
Descr.	18 ga. 65/36 str.	RG58/U Coax
Insul.	Vinyl	Polyethylene
Jacket	Vinyl	Vinyl
Nom. Cap.	30 pd/ft.	50 ohm imp.

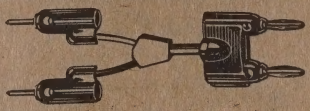
DOUBLE PLUG BOTH ENDS



Brass, nickel plated plug. Four-leaved, beryllium copper, nickel plated spring. Wire "B," 36" L. Molded Butyrate handle. Mates with std. dual binding post having ¾" cntrs. Each end terminates with molded double banana plug. Interconnects unlimited no. of multiple circuits top and side.

Stock No.	Wire	1-9	10-24	25-49	50-Up
34N801	"A"	5.95	5.36	5.06	4.17
34N805	"B"				

DOUBLE PLUG TO "CROSS-PATCH" PIN PLUGS



Brass, nickel plated body. Four-leaved, beryllium copper, nickel plated spring. Molded Butyrate handle. Mates with std. dual binding post having ¾" cntrs. One end double banana plug, other end "cross-patch" pin plugs. 36" L. wire.

Stock No.	Wire	1-9	10-24	25-49	50-Up
34N804	"A"	7.50	.675	6.38	5.25
34N805	"B"				

BNC MALE BOTH ENDS

With wire "B" as specified above.

Stock No.	Length	1-9	10-24	25-49	50-Up
34N842	24"	6.50	5.85	5.53	4.55
34N843	36"				

CROSS PATCH BANANA PLUG CORD

Brass, nickel plated body. Four-leaved, beryllium copper, nickel plated spring. Uses wire "A." Molded Butyrate handle. Interconnects unlimited number of multiple circuits. Positive, lasting contact for all banana plugs on top and side. With plug spring 9/16" long.

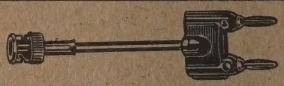
Stock No. Red	Stock No. Black	Wire Length	1-9	10-24	25-49	50-Up
34N877	34N878	8"	1.80	1.62	1.53	1.26
34N879	34N880	12"				
34N848	34N849	24"				
34N850	34N851	36"				

DOUBLE PLUG TO ALLIGATOR CLIPS

Brass, nickel plated plug. Four-leaved, beryllium copper, nickel plated spring. Steel, cadmium plated clip. Molded vinyl plastic insulation. 36" long wire. Mates with std. dual binding post having ¾" cntrs. One end with double banana plug, other has insulated alligator clips; one red, one black. Polarity indication molded in.

Stock No.	Wire Type	1-9	10-24	25-49	50-Up
34N807	"A"	6.95	6.26	5.91	4.87
34N811	"B"				

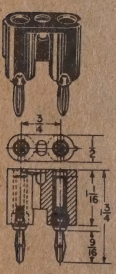
BNC MALE TO DOUBLE PLUG



Brass, nickel plated plug. Four-leaved, beryllium copper, nickel plated spring. Molded Butyrate handle. Wire "B," 36" L. Mates with std. dual binding post having ¾" cntrs. One end double banana plug, other has BNC male plug.

Stock No.	1-9	10-24	25-49	50-Up
34N815	6.95	6.26	5.91	4.87

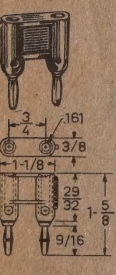
INSTRUMENT ADAPTERS



DUAL BANANA PLUG

Brass, nickel plated plug. Four-leaved, phosphor bronze, nickel plated spring. Steel, cadmium plated screw. 1.0 pf cap. between conductors. Wire held with internal set screw.

Stock No.	Color	1-99	100-499	500-999	1000-Up
39N895	Red	1.46	1.06	.86	.75
39N896	Black				

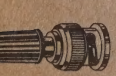


DUAL BANANA PLUG

Brass, nickel plated plug. Four-leaved, beryllium copper, nickel plated spring. Molded Butyrate handle. 7/32" dia. cable guide on rear. 15 amps AC for 10°C. temp. rise, cont. duty.

Stock No.	Color	1-9	10-24	25-49	50-Up
34N856	Red	.85	.77	.72	.60
34N857	Black				

BINDING POST TO BNC MALE



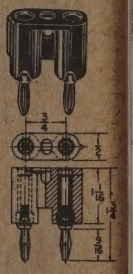
Front: BNC male. Rear: Insulated 5-way binding post. Permits adaptation of a 5-way insulated binding post to equipment using BNC jack.

Stock No.	Color	1-9	10-24	25-49	50-Up
35N1069	Red	2.50	2.25	2.13	1.75
35N1070	Black				

BNC MALE TO BANANA PLUGS

Rear: BNC series co-axial plug. Front: Dual banana plugs on ¾" centers. Banana jack holes for side stacking. Black.

Stock No.	1-9	10-24	25-49	50-Up
35N1067	4.25	3.83	3.61	2.98



DUAL SHORTING PLUG

Internally shorted plug mates with standard dual binding posts on ¾" centers. Rear banana jack holes allow connection to shorted posts. Black.

Stock No.	1-9	10-24	25-49	50-Up
34N858	1.25	1.13	1.06	.88

BINDING POSTS TO BNC MALE

Meets UG-144 I/U. Front: BNC series co-axial plug. Rear: Insulated dual 5-way binding posts, red and black, on ¾" centers. Black body.

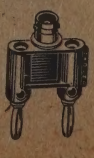
Stock No.	1-9	10-24	25-49	50-Up
34N870	5.25	4.73	4.46	3.68

BINDING POSTS TO BNC FEMALE

Front: BNC series co-axial jack. Rear: Insulated, dual 5-way binding posts, red and black on ¾" centers. Black body.

Stock No.	1-9	10-24	25-49	50-Up
35N1068	4.95	4.46	4.21	3.47

BNC FEMALE TO BANANA PLUGS



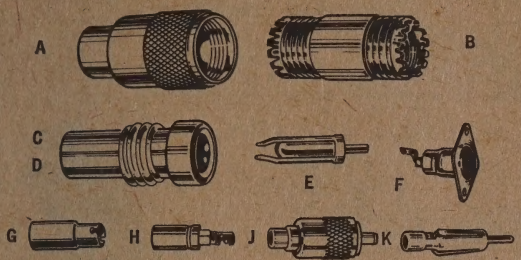
Front: Dual banana plugs on ¾" centers. Banana jack holes for side stacking. Rear: BNC series co-axial jack. Black body.

Stock No.	1-9	10-24	25-49	50-Up
34N860	3.50	3.15	2.98	2.45

VOLTREX brand Plugs and Jacks — SPC technology

CB ACCESSORIES

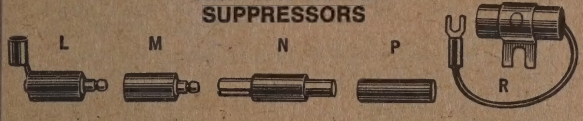
UHF CONDUCTORS AND ADAPTERS



Use for connecting RG-6, RG-8, RG-11, RG-58 and RG-59U cables. PL-259. Brass, silver plated shell. PL-258. Junction for joining separate cable lengths. Other types include UG-175U reducing adapter for RG-58U cable, UG-176U reducing adapter for RG-59U cable, Motorola plug and jack, lead-in adapter, Motorola adapter without flange, PL-259 to RCA jack adapter, and Motorola plug to RCA jack adapter.

Stock No.	Description	Fig.	EACH 1-24	EACH 25-99
39N030	PL-259 Straight Solder Type Plug	A	.80	.64
39N035	PL-258 Straight Adapter	B	1.24	.97
39N040	UG-175U Reducing Adaptor for RG-58U	C	.25	.20
39N041	UG-176U Reducing Adaptor for RG-59U	D	.25	.20
16N1080	Motorola Plug.	E	.17	.15
16N1081	Motorola Jack	F	.22	.20
16N1082	Lead-in Adaptor	G	.10	.09
16N1083	Motorola Jack without Flange	H	.11	.10
16N1084	PL-259 to RCA Jack Adapter	J	1.55	1.41
16N1085	Motorola Plug to RCA Jack Adapter	K	.56	.51

IGNITION NOISE SUPPRESSORS



Reduce and eliminate engine noise. Available for use on spark plugs, distributors and generators. Condensers eliminate radio interference caused by auto electrical system. Fit all cars. Proven quality. Guaranteed long life. Other suppressors include snap-on, universal, distributor and double-screw types.

Stock No.	Description	Fig.	EACH 1-9	EACH 10-24	EACH 25-99
16N1086	Snap-On Type	L	.61	.55	.50
16N1087	Universal with Double Thread	M	.55	.50	.45
16N1088	Distributor Plug-In	N	.66	.60	.54
16N1089	Double-Screw	P	.39	.35	.31
16N1090	Generator Condenser .5 Mfd.	R	.44	.40	.36
16N1091	Generator Condenser .25 Mfd.	R	.46	.42	.38

INSTALLATION KIT

Contains quick disconnect harness for electrical connects as well as for CB antenna. Contains quick disconnect antenna harness, 2 contact polarized connector, PL-258 junction.

Stock No.	1-24	25-49	50-99	100-Up
16N1092	6.95	6.30	5.75	5.50

"T" TAP CONNECTOR

Totally insulated connector. Crimps to any hot wire. Other end has insulated crimp plug for connection.

Stock No.	1-24	25-49	50-99	100-Up
16N1093	.28	.25	.22	.20

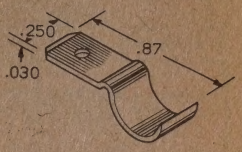
POLARIZED CONNECTORS

Full insulated to permit quick connect, disconnect. 18″ color coded wire loop. Available with 2 or 4 contacts.

Stock No.	No. of Contacts	1-9	10-49	50-99	100-Up
16N1094	2	.44	.40	.35	.32
16N1095	4	.92	.84	.75	.69

MALE FUSE CLIP ADAPTOR

Ideal when fuse clip connections are not easily accessible. Instant electrical connection for add-on accessories. Sturdy brass construction. Beveled edges for easier insertion. Excellent conductivity. Easy fuse removal.



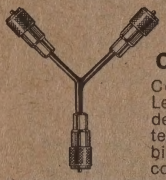
Stock No.	1-99	100-999	1000-Up
16N1096	.04	.03	.02

ANTENNA EXTENSION

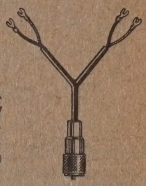
Snap-on. Ideal for quick disconnect of CB antenna. High quality RG-58U, 18″ L, one end with snap-on PL-259, other end with std. PL-259. One PL-258 UHF junction also required. Use with other equipment as well.

Stock No.	1-24	25-99	100-Up
16N1097	4.95	4.50	4.00

CO-PHASED HARNESS

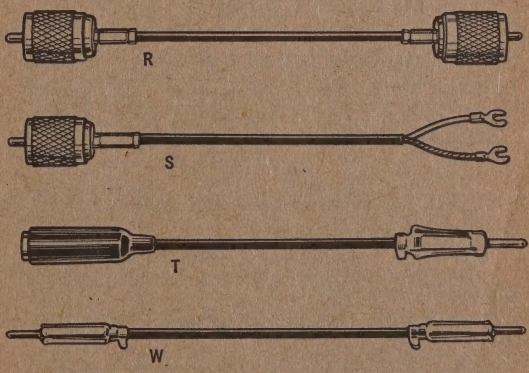


Co-phased "Y" harnesses. Lengths of RG-59U specifically designed to co-phase two antennas in cars, trucks and mobile home installations. PL-259 connector on main lead.



Stock No.	Length	Branch Con.	1-24	25-99	100-Up
16N1098	7½′	PL-259	11.44	10.40	9.40
16N1099	9′	PL-259	12.10	11.00	9.90
16N1100	18′	PL-259	15.62	14.20	12.80
16N1101	7½′	Spade Lugs	6.60	6.00	5.50
16N1102	9′	Spade Lugs	7.15	6.50	5.90
16N1103	18′	Spade Lugs	10.70	9.70	8.80

COAXIAL CABLE



Feature pre-assembled, flexible, weather resistant RG-58U and RG-8U cables. Coaxial connectors crimped to wire with unique waterproof seal for greater flexibility and strain relief. Ideal for all types of marine, mobile and base station installations.

Stock No.	Fig.	Cable	One End	Other End	Cable Length	1-24	25-99	100-Up
16N1104	R	RG-58U	PL-259	PL-259	12″	4.40	4.00	3.52
16N1105	R	RG-58U	PL-259	PL-259	24″	4.62	4.20	3.70
16N1106	R	RG-58U	PL-259	PL-259	36″	4.73	4.30	3.78
16N1107	R	RG-58U	PL-259	PL-259	48″	4.84	4.40	3.87
16N1108	R	RG-58U	PL-259	PL-259	60″	5.06	4.60	4.05
16N1109	R	RG-58U	PL-259	PL-259	144″	6.16	5.60	4.93
16N1110	R	RG-58U	PL-259	PL-259	240″	7.48	6.80	5.98
16N1111	S	RG-58U	PL-259	Lugs	36″	2.83	2.57	2.26
16N1112	S	RG-58U	PL-259	Lugs	144″	4.26	3.87	3.41
16N1113	S	RG-58U	PL-259	Lugs	240″	5.54	5.04	4.43
16N1114	T	RG-58U	*	*	24″	2.15	1.95	1.72
16N1115	W	RG-58U	*	Fem.	24″	2.10	1.90	1.68
16N1116	R	RG-8U	PL-259	PL-259	36″	5.18	4.71	4.14
16N1117	R	RG-8U	PL-259	PL-259	50′	24.75	22.50	19.80
16N1118	R	RG-8U	PL-259	PL-259	100′	45.98	41.80	36.78

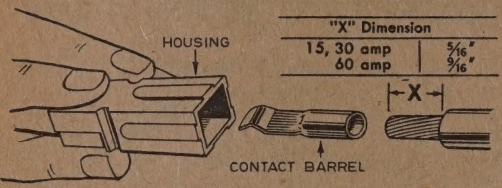
(*)Motorola Plug.

SPC technology "A" Mode* Connectors

*Amperage Module. A unique concept in electronic connectors. This patented design offers these significant features:

- Meets Current Requirements from 15 through 600 Amps
- High Voltage Protection—Rated 600 Volts
- Self-Mating—No Separate Male and Female Units
- Stackable—Insulation Cases Fit Like Building Blocks With Slide-Lok Action that Permits Multipole Assembly
- Mountable—Case Designed for Screw Mounting of Assemblies
- Extremely Low Contact Resistance—400 Micro-ohms
- Snap Action—Positive Connect and Disconnect
- Self Cleaning of Contacts with Each Make and Break
- Maximum Conductivity from Silver Plated Copper Contacts
- High Reliability Index—15,000 Cycle Mechanical Life
- Color Coded Cases—Simplify Wiring
- U.L. Recognized and C.S.A. Listed
- High Dielectric, Impact Resistant Polycarbonate Case
- Non-Pitting Current Carrying Surfaces
- Vibration Protected—Full Current Flow under Vibration

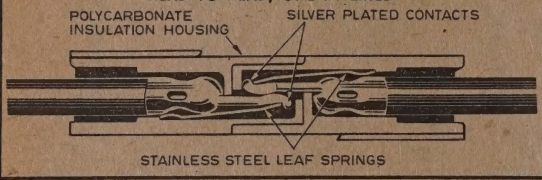
DESIGN & ASSEMBLE "A" MODE TO YOUR OWN CONFIGURATION FOR SINGLE POLE UNIT, ASSEMBLE BASIC HALF UNIT:



1. Strip wire per chart above.
2. Solder or crimp* wire into contact barrel.
3. Insert† contact into housing until it snaps into place.

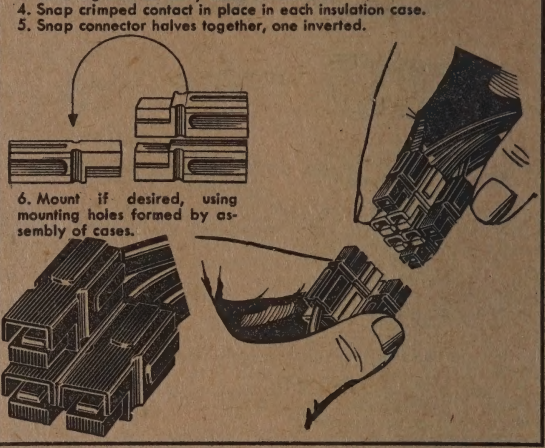
*See "A" Mode Crimp Tools for important requirements.
†Use #13N2017 insertion & removal tool for 15, 30, 60A sizes.

COMPLETE CONNECTION—SNAP TOGETHER 2 HALF UNITS HEAD TO HEAD, ONE INVERTED



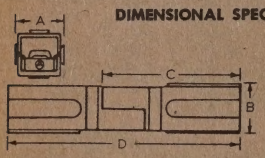
MULTIPOLE CONNECTOR

1. Strip wire for each pole desired.
2. Solder or crimp into contact barrel.
3. Slide together as many cases as desired.
4. Snap crimped contact in place in each insulation case.
5. Snap connector halves together, one inverted.



6. Mount if desired, using mounting holes formed by assembly of cases.

DIMENSIONAL SPECIFICATIONS—INCHES



Rating	A	B	C	D
15 Amp	5/16	5/16	31/32	1 5/8
30 Amp	5/16	5/16	31/32	1 5/8
60 Amp	5/8	5/8	1 7/8	3 13/64
120 Amp	7/8	7/8	2 3/4	4 5/8
180 Amp	1 1/8	1 1/8	3 1/4	5 1/2
600 Amp	2 3/8	2 3/8	6	9 13/16

PHYSICAL AND ELECTRICAL CHARACTERISTICS

NOMINAL AMPERAGE:	15
SIZE (inches):	5/16x5/16x3 1/32
HOUSING MATERIAL:	Polycarbonate
STANDARD COLOR:	Yellow
CONTACT MATERIAL:	Copper, Silver Plated
SPRING MATERIAL:	300 Series Stainless Steel
OPERATING TEMPERATURE RANGE:	—20°C to 105°C
CURRENT RATING:	15 Amp on 16 AWG Wire produces 19°C Rise
VOLTAGE RATING:	600
BREAKDOWN VOLTAGE TO MOUNTING:	6000 DC
WIRE SIZE ACCOMMODATION:	16 to 20 AWG
MAX. WIRE INSULATION DIAMETER:	.137"
MATING FORCE: (one pair):	Approx. 2 lbs.
EXTRACTION FORCE (one pair):	Approx. 2 lbs.
CONTACT RETENTION FORCE:	Approx. 25 lbs.
CONTACT INSERTION FORCE:	Approx. 3 lbs.
CONTACT RESISTANCE (AVERAGE):	With 5/8" of 16 AWG wire 875 Microhms
ENVIRONMENTAL RESTRICTIONS:	Protected—No Hydrocarbon fluids

ENGINEERING DESIGN TEST KITS

Including instructions for engineering evaluation and prototype testing. *Contains six silver plated contacts and six insulation cases.

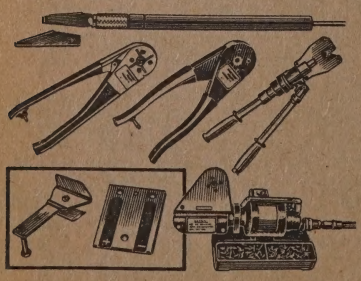
Stk. No.	A	Color	Per Kit
13N2014	15	Yellow	2.48
13N2015	30	Red	3.09
13N2016	60	Blue	9.27

"A" MODE STANDARD PACKAGES—15, 30, 60, 120, 180 AND 600 AMP MODULES

Each connector includes silver plated contact and insulation case.

Stock No.	Amps	Color	AWG Wire Size	Std. Pkg.	PRICE PER PACKAGE 1-4	5-9	10-24	25-49
13N1996	15	Red	16-20	100				
13N1997	15	Black	16-20	100				
13N1998	15	White	16-20	100	48.16	42.49	37.86	34.51
13N1999	15	Green	16-20	100				
13N2000	15	Yellow	16-20	100				
13N2001	30	Red	12-18	100				
13N2002	30	Green	12-18	100				
13N2003	30	Black	12-18	100	51.50	45.32	40.69	36.83
13N2004	30	White	12-18	100				

Stock No.	Amps	Color	AWG	Std. Pkg.	PRICE PER PACKAGE 1-4	5-9	10-24	25-49
13N2005	60	Blue	6-12	25	37.86	33.22	29.87	27.04
13N2006	60	Red	6-12	25	37.86	33.22	29.87	27.04
13N2007	60	Black	6-12	25	37.86	33.22	29.87	27.04
13N2008	120	Blue	2-6	20	86.01	75.71	67.73	61.29
13N2009	180	Blue	0-4	10	60.26	53.05	47.38	43.01
13N2010	180	Black	0-4	10	60.26	53.05	47.38	43.01
13N2011	180	White	0-4	10	60.26	53.05	47.38	43.01
13N2012	180	Red	0-4	10	60.26	53.05	47.38	43.01
13N2013	600	Blue	600MCM	1	51.50	47.13	43.26	39.92



A INSERTION AND REMOVAL TOOL FOR CONTACTS

For use with 15, 30 and 60 amp contacts.
13N2017. NET.....6.44

"A" MODE CRIMPING TOOLS

Designed to operate on the indent principle; results in locking the wire in the barrel of the contact without deforming contact barrel.

B HAND CRIMP TOOL FOR 15 AND 30 AMP CONTACTS

Quickly and easily crimps contacts.
13N2018.....40.17

C RATCHET TYPE HAND CRIMP TOOLS

Controlled crimp cycle—jaws will not open until full crimp indent has been achieved.
13N2019. For 15 and 30 Amp Contacts. 153.47
13N2020. For 60 Amp Contacts.....153.47

D PNEUMATIC BENCH MOUNTED CRIMP TOOLS

80N350. For 15 and 30 Amp Contacts. 592.25
80N351. For 60 Amp Contacts.....592.25

E PORTABLE HYDRAULIC CRIMP TOOL

For 120 and 180-amp contacts. Controlled crimp cycle.
80N352.....453.20

MOUNTING FOR 600-AMP CONNECTOR

For secure installation of two pairs of connectors.
13N2022. (Fig. F.) Handle.....6.70
13N2021. (Fig. G.) Bracket.....6.70

For Further Details Request "A" Mode Brochure From Your Nearest Newark Branch.

H. H. Smith Spacers

¼" O.D. ROUND ALUMINUM

Lgth. In.	Clearance Hole #4 (.115) Stk. No.	Type	Clearance Hole #6 (.140) Stk. No.	Type	Clearance Hole #8 (.171) Stk. No.	Type	Pkg. of 100
.125	67F4011	8480	67F4019	8500	67F4027	8520	5.00
.250	67F4012	8481	67F4020	8501	67F4028	8521	6.00
.375	67F4013	8482	67F4021	8502	67F4029	8522	7.00
.500	76F4014	8483	67F4022	8503	67F4030	8523	8.00
.625	67F4015	8484	67F4023	8504	67F4031	8524	9.00
.750	67F4016	8485	67F4024	8505	67F4032	8525	10.00
.875	67F4017	8486	67F4025	8506	67F4033	8526	11.00
1.000	67F4018	8487	67F4026	8507	67F4034	8527	12.00

¼" O.D. ROUND THREADED ALUMINUM

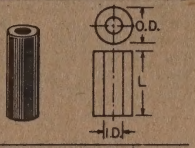
Lght. In.	4-40 Thread Stk. No.	Type	6-32 Thread Stk. No.	Type	8-32 Thread Stk. No.	Type	Pkg. of 100
.125	67F4060	8320	67F4076	8340	67F4092	8360	6.00
.250	67F4061	8321	67F4077	8341	67F4093	8361	7.00
.375	67F4062	8322	67F4078	8342	67F4094	8362	8.00
.500	67F4063	8323	67F4079	8343	67F4095	8363	9.00
.625	67F4064	8324	67F4080	8344	67F4096	8364	10.00
.750	67F4065	8325	67F4081	8345	67F4097	8365	11.00
.875	67F4066	8326	67F4082	8346	67F4098	8366	12.00
1.000	67F4067	8327	67F4083	8347	67F4099	8367	14.00
1.250	67F4068	8328	67F4084	8348	67F4100	8368	16.00
1.500	67F4069	8329	67F4085	8349	67F4101	8369	17.00
1.750	67F4070	8330	67F4086	8350	67F4102	8370	18.00
2.00	67F4071	8331	67F4087	8351	67F4103	8371	19.00

¼" HEX THREADED ALUMINUM

.125	67F4108	8400	67F4116	8420	67F4124	8440	7.00
.250	67F4109	8401	67F4117	8421	67F4125	8441	8.00
.375	67F4110	8402	67F4118	8422	67F4126	8442	9.00
.500	67F4111	8403	67F4119	8423	67F4127	8443	10.00
.625	67F4112	8404	67F4120	8424	67F4128	8444	11.00
.750	67F4113	8405	67F4121	8425	67F4129	8445	12.00
.875	67F4114	8406	67F4122	8426	67F4130	8446	13.00
1.000	67F4115	8407	67F4123	8427	67F4131	8447	14.00

FIBRE SPACERS

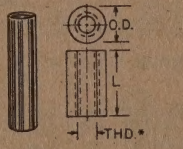
Per MIL-F-1148A, Grade CH, ¼" O. D.



Versatile fibre bushings are ideal for use in raising sub-panels, chassis, tuning capacitors, transformers, etc. Clearance hole: #4, #6, or #8 as indicated.

Lgth. In.	Clearance Hole #4 (.115) Stk. No.	Type	Clearance Hole #6 (.140) Stk. No.	Type	Clearance Hole #8 (.171) Stk. No.	Type	Pkg. of 100
.125	67F4169	8880	67F4170	8881	67F4171	8882	5.20
.250	67F4172	2335	35F547	2130	35F550	2140	6.30
.375	67F4173	2336	67F4183	2131	67F4184	2141	7.80
.500	67F4174	2337	35F567	2132	35F568	2142	9.20
.625	67F4177	8895	67F4178	8896	67F4179	8897	10.60
.750	67F4175	2338	35F548	2133	35F566	2143	12.60
.875	67F4180	8904	67F4181	8905	67F4182	8906	14.50
1.000	67F4176	2339	35F549	2134	67F4185	2144	15.50

¼" O.D. PHENOLIC THREADED SPACERS



Good mechanical strength; resists chemicals and abrasions. Excellent dielectric and low moisture absorption. PBE Grade MIL-P-79A. Natural color. On spacers ¾" and longer, tap is ⅜" from each end; others continuous.

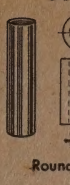
Lgth. In.	4-40 Thread Stk. No.	Type	6-32 Thread Stk. No.	Type	8-32 Thread Stk. No.	Type	Pkg. of 100
.250	67F4186	8660	67F4187	8661	67F4188	8662	9.40
.375	67F4189	8666	67F4190	8667	67F4191	8668	12.00
.500	67F4192	8672	67F4193	8673	67F4194	8674	13.40
.625	67F4195	8678	67F4196	8679	67F4197	8680	15.00
.750	67F4198	8684	67F4199	8685	67F4200	8686	17.70
.875	67F4201	8690	67F4202	8691	67F4203	8692	19.40
1.000	67F4204	8696	67F4205	8697	67F4206	8698	21.00

POINTER KNOBS

Molded bakelite pointer knobs, supplied with ¼" plain hole or brass insert. Complete with set screw.

Stk. No.	Type	Style	Type Hole	Color	Each
67F4233	2220	A	¼" Plain	Black	.17
67F4234	2223	A	¼" Brass Insert	Black	.25
67F4235	2226	B	¼" Plain	Black	.30
67F4236	2228	B	¼" Brass Insert	Black	.43
67F4237	2230	C	¼" Plain	Black	.23

ALUMINUM AND BRASS SPACERS



Aluminum spacers are Iridite 14-2 per MIL-C-5541. Brass spacers are zinc plated. On threaded spacers ¾" and longer, tap is ⅜" from each end; on smaller threaded spacers, thread is continuous through entire length. Clearance hole on non-threaded units: #4, #6 or #8.

¼" O.D. ROUND BRASS

Lgth. In.	Clearance Hole #4 (.115) Stk. No.	Type	Clearance Hole #6 (.140) Stk. No.	Type	Clearance Hole #8 (.171) Stk. No.	Type	Pkg. of 100
.125	67F4132	8700	67F4133	8701	67F4134	8702	5.70
.250	35F533	2340	35F536	2100	35F541	2105	7.00
.375	35F534	2341	35F537	2101	35F563	2106	8.40
.500	35F535	2342	35F538	2102	35F564	2107	9.40
.750	67F4135	2343	35F539	2103	67F4137	2108	14.50
1.000	67F4136	2344	35F540	2104	35F565	2109	18.60

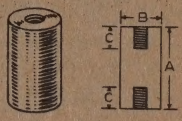
¼" O.D. ROUND THREADED BRASS

Lgth. In.	4-40 Thread Stk. No.	Type	6-32 Thread Stk. No.	Type	8-32 Thread Stk. No.	Type	Pkg. of 100
.125	67F4152	8760	67F4153	8761	67F4154	8762	7.40
.250	35F883	2370	35F553	2120	35F556	2125	8.00
.375	35F884	2371	35F561	2121	35F557	2126	9.50
.500	35F551	2372	35F554	2122	35F558	2127	12.40
.750	35F552	2373	35F555	2123	35F559	2128	18.00
1.000	35F885	2374	35F562	2124	35F560	2129	21.00

¼" HEX THREADED BRASS

.125	67F4155	8820	67F4156	8821	67F4157	8822	7.50
.250	67F4158	2330	35F871	2320	67F4164	2325	8.70
.375	67F4159	2331	67F4163	2321	67F4165	2326	10.60
.500	67F4160	2332	35F872	2322	67F4166	2327	12.40
.750	67F4161	2333	35F873	2323	67F4167	2328	19.30
1.000	67F4162	2334	35F874	2324	67F4168	2329	22.80

CERAMIC STANDOFFS



Mil Spec standoffs made of Grade L-5 ceramic; to MIL-1-10 requirements. Outside is glazed. Threaded as indicated.

MIL SPEC

Stock No.	Type No.	Thread	Dimensions A	B	C	Each	Pkg. of 100
67F4207	2600	6-32	½"	⅜"	5/32"	.....	28.00
67F4208	2601	6-32	5/8"	⅜"	3/16"	.....	29.00
67F4209	2602	6-32	¾"	⅜"	¼"	.....	30.00
67F4210	2603	6-32	1"	⅜"	⅜"	.32	.....
67F4211	2604	6-32	1¼"	⅜"	⅜"	.33	.....
67F4212	2605	6-32	1½"	⅜"	⅜"	.37	.....
67F4213	2606	6-32	2"	⅜"	⅜"	.40	.....
67F4214	2607	8-32	5/8"	½"	3/16"	.....	30.00
67F4215	2608	8-32	¾"	½"	¼"	.....	31.00
67F4216	2609	8-32	1"	½"	¼"	.33	.....
67F4217	2610	8-32	1¼"	½"	⅜"	.37	.....
67F4218	2611	8-32	1½"	½"	⅜"	.39	.....
67F4219	2612	8-32	2"	½"	⅜"	.44	.....
67F4220	2613	8-32	2½"	½"	⅜"	.48	.....
67F4221	2614	8-32	3"	½"	⅜"	.53	.....

COMMERCIAL CERAMIC STANDOFFS

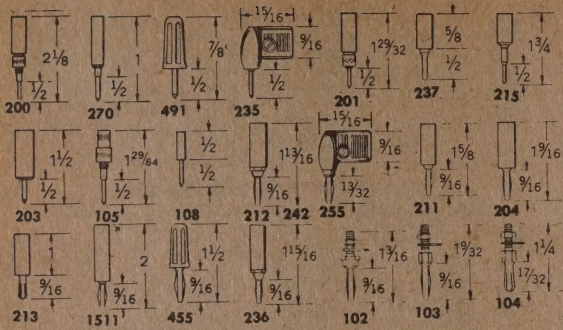
Stock No.	Type No.	Thread	Dimensions A	B	C	Each	Pkg. of 100
67F4222	2640	6-32	¼"	¼"	Thru	.....	24.00
67F4223	2641	6-32	½"	¼"	5/32"	.....	25.00
67F4224	2642	6-32	⅜"	⅜"	5/32"	.....	26.00
67F4225	2643	6-32	½"	⅜"	3/16"	.....	28.00
67F4226	2644	6-32	½"	½"	9/64"	.....	29.00
67F4227	2645	6-32	¾"	½"	¼"	.....	30.00
67F4228	2646	6-32	1"	½"	⅜"	.32	.....
67F4229	2647	6-32	1½"	½"	3/16"	.37	.....
67F4230	2648	6-32	2½"	½"	½"	.63	.....
67F4231	2649	¼-20	2½"	¾"	¾"	1.27	.....
67F4232	2650	¼-20	4"	¾"	¾"	1.47	.....

MALE-FEMALE ROUND THREADED SPACERS

BRASS, NICKEL PLATED

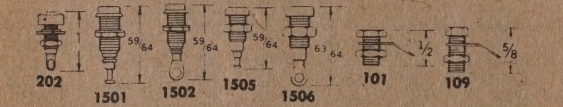
Lgth. In.	4-40 Thread Stk. No.	Type	6-32 Thread Stk. No.	Type	8-32 Thread Stk. No.	Type	Pkg. of 100
.250	67F4238	8200	67F4245	8232	67F4252	8264	22.80
.375	67F4239	8201	67F4246	8233	67F4253	8265	23.20
.500	67F4240	8202	67F4247	8234	67F4254	8266	23.70
.625	67F4241	8203	67F4248	8235	67F4255	8267	24.20
.750	67F4242	8204	67F4249	8236	67F4256	8268	24.70
.875	67F4243	8205	67F4250	8237	67F4257	8269	25.20
1.000	67F4244	8206	67F4251	8238	67F4258	8270	25.90

H. H. Smith Connectors



INSULATED TIP PLUGS NICKEL PLATED BRASS

Stk. No.	Type	Color	Description	1-9	10-49	50-99	100-Up
39F852 39F853	200 200	Red Black	Solderless Threaded type.. Phenolic handle	.30	.25	.23	.20
39F846 39F847	270 270	Red Black	Sub-min. 1 3/32" l. Fibre hndl.	.36	.30	.27	.24
35F770 35F771 35F772	491 491 491	Red Black Green	Short tip type 1. Nylon handle.	.28	.23	.21	.19
39F963 39F964	235 235	Red Black	meter type Bakelite handle.	.42	.35	.32	.28
35F775 35F776 35F777 35F778	201 201 201 201	Red Black Green Yel.	Solderless insul. Threaded type. Bake-lite handle.	.30	.25	.23	.20
35F689 35F690	237 237	Red Black	Insulated tip plug Solder type	.12	.10	.09	.08
35F785 35F786	215 215	Red Black	Adapter. Banana to Tip plug	.32	.26	.24	.21
35F687 35F688	203 203	Red Black	Insulated short tip plug	.27	.22	.20	.18



INSULATED PHONE TIP JACKS—(Molded Phenolic)

Stk. No.	Type	Color	1-9	10-49	50-99	100-Up
39F856	202	Red				
39F857	202	Black				
39F858	202	Green	.29	.24	.22	.20
39F859	202	Yellow				

ALL NYLON TIP JACKS

Stk. No.	Type	Color	Description	1-9	10-49	50-99	100-Up
35F700 35F701 35F702 35F703 35F705	1501 1501 1501 1501 1501	White Red Black Green Yel.	Wrap around type. With metal shell. Meets MS-16108. Rev. C.	.44	.36	.33	.29
35F707 35F708	1502 1502	Red Black	Spade terminal type. With metal Shell. Meets 16108 Rev. C	.60	.50	.45	.40
35F750 35F751 35F752 35F755	1505 1505 1505 1505	White Red Black Yel.	Wrap around type. Fits all Standard phone tip plugs. Length 29/64".	.33	.27	.25	.22
35F757 35F758	1506 1506	Red Black	Spade terminal type. Fits all standard phone tip plugs Length 45/64"	.44	.36	.33	.29

NON-INSULATED BANANA JACKS

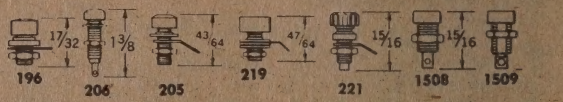
Stk. No.	Type	Description	1-9	10-49	50-99	100-Up
39F867	109	3/8" H.	.23	.19	.18	.16
35F865	101	1/2" H.				

NON INSULATED TIP PLUGS

Stk. No.	Type	Description	1-9	10-49	50-99	100-Up
39F850	105	Sr. type 1 7/32" l.	.26	.21	.19	.17
39F854	108	Ph. cord repl. tip	.08	.06	.06	.05

INSULATED BANANA PLUGS—NICKEL PLATED BRASS

Stk. No.	Type	Color	Description	1-9	10-49	50-99	100-Up
39F934 39F935 39F936 39F937 39F938 39F939	212 212 212 212 212 212	Red Black Yel. Green Blue White	Four leaved phosphor bronze, nickel-plated springs	.42	.35	.32	.28
39F844 39F845	242 242	Red Black	Same as 212 except 4 leaved beryl. copper	.50	.41	.37	.33
39F944 39F940 39F941 39F942	211 211 211 211	Red Black Yel. Green	Bakelite handles Phosphor bronze spring Nickel-plated	.36	.30	.27	.24
39F863 39F864 39F865 39F866	204 204 204 204	Red Black Green Yel.	With side wire locking set screw. 4 leaved phosphor bronze spring.	.36	.30	.27	.24
39F957 39F958	213 213	Red Black	Split type with side screw.	.34	.28	.26	.23
39F965 39F966	255 255	Red Black	Meter type Bakelite handle.	.58	.48	.44	.39
35F914 35F915	1511 1511	Red Black	Stack type plugs in top & side. 4 leaved phosphor bronze spring.	.78	.65	.59	.52
35F779 35F780 35F781 35F782 35F783 35F784	455 455 455 455 455 455	White Red Black Green Blue Yel.	Solderless. 1½" overall. Nylon handle. Phosphor bronze Nickel-plated spring	.38	.31	.28	.25
35F635 35F640	236 236	Red Black	Solderless. 4-leave phosphor bronze, nickel-plated. Hex. brass.	.75	.62	.56	.50



MINIATURE INSULATED BANANA JACKS

Stk. No.	Type	Color	Description	1-9	10-49	50-99	200-Up
35F867	196	Black	Machine Butyrate	.48	.40	.36	.32
35F868	196	Red	Brass nickel-plated body				

INSULATED BANANA JACKS

39F967 39F968	219 219	Red Black	Recessed Bakelite head Brass nickel-plated body W/lockwasher and brass tinned lug.	.34	.28	.26	.23
39F868 39F869 39F870 39F871	205 205 205 205	Red Black Green Yel.	W/brass tinned lug.	.24	.20	.18	.16
39F972 39F973 39F974 39F975	221 221 221 221	Red Black Yel. Green	Nylon head. Brass nickel-plated body. Mounts in ¼" hole in panels up to 5/16" thick.	.46	.38	.35	.31

ALL NYLON BANANA JACKS

35F712 35F713 35F714 35F715 35F716 35F717 35F869 35F870	1508* 1508 1508 1508 1508 1508 1509 1509†	White Red Black Green Blue Yel. Black Red	Accepts std. banana plug. Mounts in 5/16" hole in panels up to 5/16" thick 29/32" Length *Full round †double "D"	.18	.15	.14	.12

NON-INSULATED BANANA PLUGS

Stk. No.	Type	Description	1-9	10-49	50-99	100-Up
38F291	103	4 leaved spring hex brass nickel-plated	.35	.29	.27	.24
32F292	104	Split type cross slotted body	.27	.22	.20	.18

H. H. Smith Connectors

265

257

220-230

1517

BINDING POSTS

Molded bakelite head with molded in brass threaded insert. Complete with 8-32 threaded screw ½" long and nickel plated brass lockwasher. ½" head dia. Accepts phone tips up to #10 gauge wire. Head screws down to clamp wire in place.

Stk. No.	Type	Color	Description	1-9	10-49	50-99	100-Up
35F827	265	Red	Binding Post	.36	.30	.27	.24
35F832	265	Black	Binding Post	.36	.30	.27	.24

5-way captive, molded plastic head and nickel plated brass body. Accepts phone tip plug, spade lug, banana plug, alligator clip or wire strand. Insulating washer supplied. 2 hex nuts. † Supplied 8-32 x ½ long threades std. † 6/32x3/8 stud.

35F749	257	Blk.	Molded Lexan 5 way	.78	.65	.59	.52
	257	Yellow	with insul. washer	.78	.65	.59	.52
35F844	257	Red	Brass gold plated	.78	.65	.59	.52
38F296	†220	Red	5 way Grnd. Nickel plated				
38F297	†220	Blk.	5 way Grnd. Nickel plated	.41	.34	.31	.28
35F629	‡230	Red	Same as 220†				
35F630	‡230	Blk.	Same as 220†				
67F4000	*1517	Red	Molded Lexan. Brass				
67F4001	*1517	Blk.	gold plated insert and	.78	.65	.59	.52
39F841	*1517	White	body with insulating washers.				

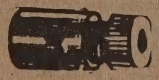
Miniature brass, gold plated bodies, rated for 5 amps. Mount in both ¼" round or "D" holes. All accept .080" phone tip #6 spade lug; miniature banana plug, alligator clip or wire.

3015

3016

Stk. No.	Type	Color	Description	1-9	10-49	50-99	100-Up
35F2745	3015	Red	5-way single post wrap around. Molded Nylon Head &				
39F1801	3015	Black	washer. Mil-P-20693A. Brass gold plated body. Mtgs. in ¼" round or "D" hole. 2 hex nuts.	.72	.60	.54	.48
35F2747	3016RB	Red-Black	Brass gold plated body. Mtgs. in two ¼" round or double "D" hole. ½" centers panels up to ¼" thick.	1.38	1.15	1.04	.92

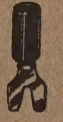
Type 136 Round head & body. Brass nickel plated. Rated 15 amps AC for 10°C. Temp. rise. Accepts std. phone tips or banana plug.


136

Stk. No.	Type	1-9	10-49	50-99	100-Up
38F293	136	.42	.35	.32	.28

1-11/16" INSULATED SPADE LUG

Accepts banana jack. .020" Electro tinned steel.



Stk. No.	Type	Color	Ea. 1-9	10-49	50-99	100-Up
39F977	218	Red	.12	.10	.09	.08
39F978	218	Black	.12	.10	.09	.08

TELEPHONE PLUGS AND JACKS

Type 226. Telephone plug Brass, nickel plated. Has tubular insulation. Tested at 1000 VAC. Fits 276 jack and all standard phone jacks. Solder terminals.

226

276

Type 276. Telephone jack. Brass, nickel plated bushing. Has Bakelite insulation. Comes with brass hex nut and with steel mounting washer, 2-conductor closed. Mounts in ⅜" hole in panels up to 5/32" thick.

Stk. No.	Type	Description	1-9	10-49	50-99	100-Up
35F787	276	2-Conductor Closed	.60	.50	.45	.40
35F788	226	2-Circuit Solder	1.23	1.02	.92	.82

DUAL ASSEMBLIES

Molded black styrene washer, cross slotted to accept std. phone tips in post either forward, or side ways. Mts. in two ½" holes on ¾" mtg. ctrs. in panels up to ¼" thick. Supplied with 4 hex nuts and 2 washers, 284,269 connectors have captive type nylon heads with brass insert. Both accept standard dual banana plug.

284

269

Stk. No.	Type	Color	1-9	10-49	50-99	100-Up
39F1654	284BB	2 black heads	1.14	.95	.86	.76
39F1656	284RB	1 black—1 red head	1.14	.95	.86	.76
35F845	269BB	2 black heads	1.38	1.15	1.04	.92
35F846	269RR	2 red heads	1.38	1.15	1.04	.92
35F847	269RB	1 black—1 red head	1.38	1.15	1.04	.92

DUAL BANANA PLUGS

1749 Rear-dual banana jacks on ½" center for stacking. Front-dual banana plug on ½" center. **210.** same as 1749 except ¾" centers.

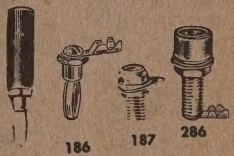
1749

210

Stk. No.	Type	Accepts	1-9	10-49	50-99	100-Up
35F2739	1749	dual banana jack	.90	.75	.68	.60
67F4002	210	Plug. Red	1.20	1.00	.90	.80
67F4003	210	Plug. Black	1.20	1.00	.90	.80

GIANT BANANA PLUGS AND JACKS

TYPE 285 AND 186 PLUGS. Hex brass, nickel plated body, 6 leaved, phosphor bronze, nickel plated spring.
TYPE 286 JACK. Supplied with hex nut fibre washer, lockwasher, screw and tinned copper lug. Mtgs. in ½" hole ¾" thick hex nut and brass tinned lug. Mtg. hole ⅜", ½" thick, ins. head.
Type 187 JACK. With hex nut and brass tinned lug, uninsulated.
(*) Standard size.


285 186 187 286

Stk. No.	Type	Color	Description	1-9	10-49	50-99	100-Up
32F829	285	Red	Insul. plug	1.56	1.30	1.17	1.04
32F830	285	Black	Insul. plug	1.56	1.30	1.17	1.04
38F295	186	Nickl.	Screw and				
		Platd.	lug 1⅜2"	.96	.80	.72	.64
35F789	187	Brass	mts. in ⅜" hole	.72	.60	.54	.48
35F946	286	Black	ins., ⅜" hole	1.14	.95	.86	.76
35F947	286	Red	mts. in ⅜" hole	1.14	.95	.86	.76
67F4007	404*	Brass	5/32 x ¼	.40	.33	.30	.27
67F4008	405*	Brass	5/32 x ⅜	.34	.28	.26	.23

BINDING POST TO DUAL BANANA ½" CENTERS

Front-Dual bannana plugs on ½" centers. Rear-Insulated 5 way binding post, red and black heads. ½" centers. Side holes for stacking.

1755

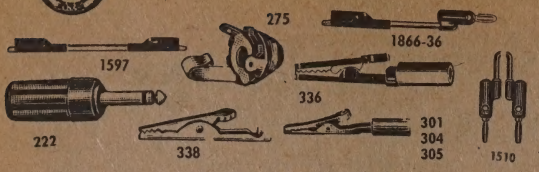
Stk. No.	Type	Description	1-9	10-49	50-99	100-Up
35F2742	*1755	binding post jack	2.70	2.25	2.03	1.80

RIGHT ANGLE PRINTED CIRCUIT TEST JACK

Molded Nylon Body. Berylium copper spring. Silver underplate, gold over plate. Mounts in .052 holes, .400 centers in boards up to 3/16" thick. Double entry. Accepts probes .074-.084. (*) For Boards 1/16" thick (†) For Boards up to ⅛" thick.

Stk. No.	Type	Color	1-9	10-49	50-99	100-100-Up
35F672	430	Black	.18	.15	.14	.12
39F1800	430	Red	.18	.15	.14	.12
39F842	430	Green	.18	.15	.14	.12
39F843	325*	Red	.18	.15	.14	.12
39F862	325*	Black	.18	.15	.14	.12
39F875	321†	Red	.18	.15	.14	.12
39F876	321†	Black	.18	.15	.14	.12

H. H. Smith Connectors and Test Leads



MINIATURE PATCH CORDS

Min. Alligator clips both ends. Black or red vinyl boots.

Stk. No. Red	Stk. No. Black	Type	L.	1-9	10-49	50-99	100-Up
35F893	35F894	1597-12	12″	.72	.60	.54	.48
35F895	35F896	1597-18	18″	.78	.65	.59	.52
35F897	35F898	1597-24	24″	.84	.70	.63	.56
35F899	35F900	1597-36	36″	.96	.80	.72	.64
35F901	35F902	1597-48	48″	1.06	.88	.80	.71
35F903	35F904	1597-60	60″	1.17	.97	.88	.78

STANDAR PHONE PLUG AND JACK

Stk. No.	Type	Description	EACH 1-9	10-49	50-99	100-Up
35F404	222	Phone Plug (Black)	.90	.75	.68	.60
35F405	222	Phone Plug (Red)	.90	.75	.68	.60
35F406	275	Std. Phone Jack	.51	.42	.38	.34

INSULATED JUMBO ALLIGATOR CLIPS

Solder connection with plastic handle. ⅝″ jaw opening. Copper.

Stk. No.	Type	Color	1-9	10-49	50-99	100-Up
35F848	397	Red	.39	.32	.29	.26
35F849	397	Black	.39	.32	.29	.26

MINIATURE ALLIGATOR CLIPS

9/16″ jaw openings Solder conn. & ears for crimp. Steel.

35F670	338	.....	.08	.06	.06	.05

STANDARD ALLIGATOR CLIPS

Plastic handle. Accepts std. banana plug in rear. Solder conn. steel.

35F671	301	Red	.16	.13	.12	.11
35F683	301	Blk.	.16	.13	.12	.11

ALLIGATOR CLIP ADAPTERS

Plastic handle. ½″ jaw opening.

Stk. No.	Type	Color	Description	EACH 1-9	10-49	50-99	100-Up
28F604	304	Red	Adapts to phone				
28F605	304	Blk.	tip plug	.51	.42	.38	.34
35F948	305	Red	Adapts to std.				
35F949	305	Blk.	phone tip or banana plug	.60	.50	.45	.40
39F1652	336	Red	As 304 except				
39F1653	336	Blk.	all insulated	.54	.45	.41	.36
39F1650	337	Red	As 336 but				
39F1651	337	Blk.	insulated clip only.	.36	.30	.27	.24

BANANA PLUG MOLDED CROSS-PATCH CORDS

Consist of 10,000 V. black PVC flexible wire cabled to two molded cross-patch banana plugs. Interconnects unlimited number of multiple circuits. Contacts for banana plugs on top and side. (*) With 13/32″ or (†) 13/32″ spring plug.

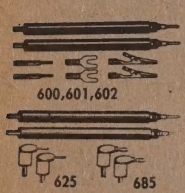
Red	Black	Type	Lt.	1-9	10-49	50-99	100-Up
35F910	35F911	1510-8*	8″	1.68	1.40	1.26	1.12
35F833	35F834	1510-12*	12″	1.68	1.40	1.26	1.12
35F791	35F792	1510-24*	24″	1.80	1.50	1.35	1.20
35F795	35F796	1510-36*	36″	1.92	1.60	1.44	1.28

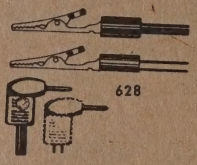
JUMPERS (STD. INS. ALLIGATOR CLIPS BOTH ENDS)

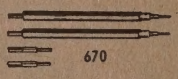
Stk. No.	Type	Color	Length	1-9	10-49	50-99	100-Up
35F677	1596-12	Red	12″	.72	.60	.54	.48
35F684	1596-12	Black	12″	.72	.60	.54	.48
35F678	1596-36	Red	36″	.96	.80	.72	.64
35F685	1596-36	Black	36″	.96	.80	.72	.64

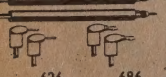
STANDARD INS. ALLIGATOR CLIP TO BANANA PLUG

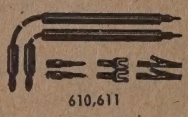
Red	Black	Type	1-9	10-49	50-99	100-Up
35F722	35F723	1866-36	1.20	1.00	.90	.80











SOLDERLESS TIP TEST LEADS

Type 600, 601, 602. Molded Butyrate handles, red and black, 4″ lgth. Brass, nickel plated tip. 50″ leads. Shpg. wt. 3 oz.

Stk. No.	Type	Desc.	1-9	10-Up
39F872	600	Phone tips	2.04	1.70
39F873	601	Spade lugs	1.98	1.65
39F874	602	Alligator clips	2.10	1.75

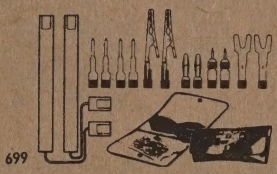
METER TEST LEADS

Type 625, 685. Solderless prod. Molded Butyrate handle. Brass nickel plated tip and body. Plastic elbow, red and black. Four leaved, phospher bronze, nickel plated spring. 50″ leads.

Stk. No.	Type	Desc.	1-9	10-Up
35F932	625	Phone Tip	2.46	2.05
35F862	685	Banana Tip	2.52	2.10

Type 626, 686. Same as 625, 685 except steel nickel plated needle prods.

Stk. No.	Type	Desc.	1-9	10-Up
35F933	626	Phone Tip	2.40	2.00
35F402	686	Banana Tip	2.52	2.10



ALLIGATOR CLIP TEST LEAD

Type 628. Molded Butyrate, red and black handles. Red and black plastic elbows, phone tip. Steel, cadmium plated clips. Brass, nickel plated tips.

Stk. No.	Type	1-9	10-Up
35F403	628	2.10	1.75

ALLIGATOR CLIP TEST LEAD PAIR

Steel, cadmium plated clips on both ends. Prices per pair. Shpg. Wt., 4 oz.

Stk. No.	Type	Length	1-9	10-Up
35F942	604	12″	1.02	.85
35F943	605	24″	1.08	.90
35F944	606	36″	1.20	1.00
35F945	607	48″	1.32	1.10

SLIM HANDLE TEST LEADS

Type 670. Machined Butyrate, red and black, 9/16″ O.D., handles. Solder type phone tips. 50″ lead.

Stk. No.	Type	1-9	10-Up
35F937	670	2.16	1.80

"UNIVERSAL" TEST LEAD

Type 699. Fifty leads in one. All parts adapt into prod or tip handle. With plastic folding case. Shpg. Wt., 3 oz.

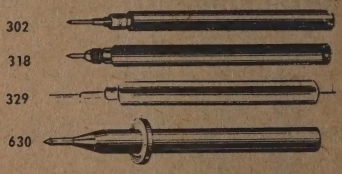
Stk. No.	Type	1-9	10-Up
35F1655	699	6.00	5.00

TEST LEAD KITS

Type 610, 611. Supplied with pair of leads, one end tests prods, other end ins. banana plugs. Two each phone tips, alligator clips, spade lugs. 50″, 5000 volt rubber covered test lead wire. Shpg. Wt., 6 oz.

Stk. No.	Type	Prods	1-9	10-Up
35F929	610	*Phone Tip	3.00	2.50
35F682	611	Needle Tip	3.12	2.60

(*) Solderless



SOLDERLESS TEST PROD THREADED TYPE

Type 302. Molded Butyrate handle. Brass, nickel plated plug. 12 Amps AC for 10° temp. rise. 4″ handle. Shpg. wt., 3 oz.
Type 303. As above except 5½″ handle.

Stk. No.	Type	Color	1-9	10-49
35F930	302R	Red	.40	.33
35F638	302B	Black	.40	.33
35F680	303R	Red	.44	.36
35F681	303B	Black	.44	.36

PHONO NEEDLE TEST PRODS

Type 317. Molded Butyrate handle. Brass, nickel plated plug. 12 Amps AC for 10° temp. rise. Removable chuck for needle replacement. 4″ handle. Shpg. wt., 3 oz.
Type 318. As above except 5½″ handle.

Stk. No.	Type	Color	1-9	10-49
35F939	317B	Black	.44	.36
35F940	317R	Red	.44	.36
35F906	318B	Black	.51	.42
35F907	318R	Red	.51	.42

HEAVY DUTY TEST PRODS

Type 319. Molded Butyrate handle. Brass, nickel plated plug. 12 Amps AC for 10° temp. rise. 4″ handle. Shpg. wt., 3 oz.
Type 329. As above except 5½″ handle.

Stk. No.	Type	Color	1-9	10-49
35F908	319R	Red	.40	.33
35F909	319B	Black	.40	.33
35F842	329R	Red	.44	.36
35F843	329B	Black	.44	.36

HIGH VOLTAGE TEST PROBE

Type 630. Rating 12 amps. AC for 10° temp. rise. Cont. duty 15 KV 60 cycle AC. Shpg. wt., 3 oz.

Stk. No.	Type	Color	1-9	10-49
35F931	630R	Red	1.50	1.25
35F639	630B	Black	1.50	1.25

Plugs, Jacks and Electronic Hardware

E. F. JOHNSON

HORIZONTAL JACKS

Design accepts 0.080" diameter tip plug in either end. Silver-plated and irridited beryllium-copper formed contact. Two common terminals. Channel on underside for air-flow cooling during soldering. 5 amps.

Stk. No.	Type	Color	1-99	100-499	500-999
39F1739	105-1101-001	White	.15	.12	.09
39F1740	105-1102-001	Red			
39F1741	105-1103-001	Black			

Horizontal jacks accept .080" dia. tip plug in either end, or from top or bottom. Cross-hole accepts hook-type oscilloscope probe. Channel on underside for air-flow cooling during soldering. Silver-plated and irridited beryllium copper formed contact. Two common terminals.

Stk. No.	Type	Color	1-99	100-499	500-999
39F1742	105-0751-001	White	.15	.11	.09
39F1743	105-0752-001	Red			
39F1744	105-0753-001	Black			
39F1745	105-0754-001	Green			
39F1746	105-0756-001	Orange			
39F1747	105-0757-001	Yellow			
39F1748	105-0758-001	Brown			
39F1749	105-0760-001	Blue			
39F1750	105-0762-001	Violet			

SUB-MINIATURE TIP PLUG

For use with miniature jacks, .080" dia. tip. Nickel-plated machined brass body, solder lead connection. Current rating: 5 amps.

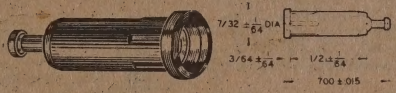
Stk. No.	Type	Color	1-99	100-499	500-999
39F1751	105-0773-001	Black	.32	.24	.19

VERTICAL JACKS

Mounts through single .052" hole, requires minimum mounting area. Accepts .080" dia. tip plug. Silver-plated, machined beryllium copper contact. 5 amps.

Stk. No.	Type	Color	1-99	100-499	500-999
39F1752	105-0851-001	White	.24	.18	.14
39F1753	105-0852-001	Red			
39F1754	105-0853-001	Black			
39F1755	105-0854-001	Green			
39F1756	105-0857-001	Yellow			
39F1757	105-0860-001	Blue			

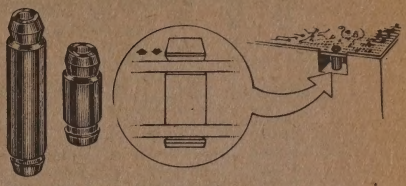
RIB-LOC PRESS-IN TIP JACKS



Permits substantial production line savings, no mounting hardware to handle and assemble. Install by pressing into proper size chassis hole. Rejects larger plugs to prevent accidental contact damage. 10 amps, 5000 volts.

Stk. No.	Type	Color	1-99	100-499	500-999
39F1758	105-1041-001	White	.28	.20	.17
39F1759	105-1042-001	Red			
39F1760	105-1043-001	Black			

POLYAMIDE SPACERS



Makes it possible to snap PC boards to a chassis and provide a choice of stand-off heights from .125" to .750". Nylon design provides permanent snap-in insertion. Other end of spacer snaps in or out of PC board for removal.

Stk. No.	Type	1-499	500-4999
39F1761	115-0260-003	.03	.02
39F1762	115-0260-005		
39F1763	115-0260-009		

DUAL SOLDERLESS BANANA PLUGS

Molded body incorporates polarity indication and strain relief for wire leads. Machined brass studs extend length of pins. Voltage breakdown: 10,000 volts DC. Capacity plug to plug: 1.3 pf. Current carrying capacity: 15 amps.

Stk. No.	Type 108-	Color	1-99	100-499	500-999
39F895	0202-001	Red	1.46	1.06	.86
39F896	0203-001	Black	1.46	1.06	.86

INSULATED BANANA PLUGS

Standard size. Plastic handles, nickel-plated bodies, nickel-silver springs. 2⅛" L x 7/16" dia. 15 amps.

Stk. No.	Type 108-	Color	1-99	100-499	500-999
39F897	0752-001	Black	.54	.39	.32
39F898	0752-002	Red	.54	.39	.32

SUPERIOR ELECTRIC

SUPERCON ELECTRICAL CONNECTORS

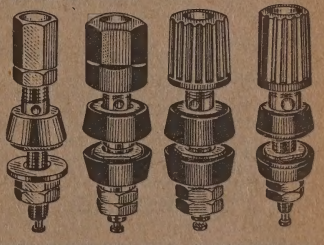
Supercon flexible soldered or solderless plugs and receptacles

Nylon plastic parts; brass current carrying parts. Wiring connections to the same plug can be either soldered or solderless. 25, 50, and 100 ampere types are listed by UL.

	Key	1-19	20-99	100-199	200-Up
Prices	A	3.90	3.30	3.00	2.80
	B	4.90	4.15	3.75	3.40
	C	6.50	5.50	5.00	4.55
	D	10.75	9.15	8.25	7.50

Color	Stk. No.	Type	Desc.	Stk. No.	Type	Desc.	Key
black	06F054	RP25GB	25 amp	06F066	PS25GB	25 amp	A
red	06F056	RP25GR	Recep.	06F068	PS25GR	Plugs	A
black	06F048	RS25GB	25 amp	06F060	PP25GB	25 amp	A
yellow	06F049	RS25GY	Socket	06F061	PP25GY	Pin	A
red	06F050	RS25GR	Recep.	06F062	PP25GR	Plugs	A
green	06F052	RS25GGN		06F064	PP25GGN		A
white	06F053	RS25GWT		06F065	PP25GWT		A
black	06F024	PS50GB	50 amp	06F006	RP50GB	50 amp	B
red	06F026	PS50GR	Plugs	06F008	RP50GR	Recep.	B
black	06F000	RS50GB	50 amp	06F030	PP50GB	50 amp	B
red	06F002	RS50GR	Recp.	06F032	PP50GR	Plug	B
black	06F012	RS100GB	100 amp	06F042	PP100GB	100 amp	C
red	06F014	RS100GR	Recep.	06F044	PP100GR	Plugs	C
white	06F017	RS100GWT		06F047	PP100GWT		C
black	06F036	PS100GB	100 amp	06F018	RP100GB	100 amp	C
red	06F038	PS100GR	Plugs	06F020	RP100GR	Recep.	C
white	06F041	PS100GWT		06F023	RP100GWT		C
black	06F675	RP250GB	250 amp	06F672	PS250GB	250 amp	D
red	06F677	RP250GR	Recep.	06F674	PS250GR	Plugs	D
black	06F095	RS250GB	250 amp	06F097	PP250GB	250 amp	D
red	06F096	RS250GR	Socket	06F098	PP250GR	Pin	D

5-WAY BINDING POSTS



Plastic and gold plated brass parts. Hex. and fluted nut rated at 30 amps. Mini at 15 amps, all 1000 working volts. Mini and hex. Mil-P-20693A, Type IV.

Color	Mini. Stk. No.	Mini. Type	Hex. Nut Stk. No.	Hex. Nut Type	Fluted Stk. No.	Fluted Type
red	06F079	DF21RC	05F762	DF30RC	06F088	DF31RC
white	06F080	DF21WTC	05F764	DF30WTC	06F091	DF31WTC
black	06F081	DF21BC	05F760	DF30BC	06F092	DF31BC
blue	06F082	DF21BLC	05F761	DF30BLC	06F089	DF31BLC
yellow	06F083	DF21YC	05F765	DF30YC	06F093	DF31YC
green	06F084	DF21GNC	05F763	DF30GNC	06F090	DF31GNC

Prices: 1-24 . . . . . .65 25-99 . . . . .60 100-up 50

DOUBLE ASSEMBLY 5-WAY BINDING POST

For instrument and equipment panels requiring ¾" centers. Rated for a current capacity of 30 amps and working voltage of 1000 V. Gold plated brass parts. 5 ways to make connections. 0.098" dia. wire holes. Color coded captive thumbnuts.

Stk. No.	Type	Thumbnut	1-19	20-99	100-499
06F087	DF30-2-BRC	Red & Black	1.75	1.40	1.05

E. F. Johnson Plugs and Jacks

BANANA PLUGS AND JACKS

Complete selection. Banana plugs have nickel silver springs. Jacks are nickeled brass. Type 108-740 is 5/8" long, 108-760 is 1" long. Studs extend full length of sleeves for added support. With nuts and lugs. Shpg. wt. 2 oz.

Stk. No.	Type	Fig.	Descriptions	1-99	100-499	500-999	1000-4999
39F888	108-0750-001	A	Plug, 3/8" stud	.36	.27	.22	.18
39F889	108-0750-002	A	Plug, 3/4" stud	.36	.27	.22	.18
39F890	108-0753-001	B	Plug, 6-32 screw	.40	.29	.24	.20
39F891	108-0770-001	A	Jumbo type plug	.88	.64	.52	.45
39F892	108-0771-001	B	Jumbo type plug	1.17	.86	.69	.59
39F893	108-0740-001	C	Standard jack	.28	.20	.17	.14
39F894	108-0760-001	C	Jumbo jack	.87	.64	.52	.44

NYLON SIX-WAY BINDING POST

Compact, completely insulated, pre-assembled 6-way binding post. Molded nylon body. Silver-plated brass shank. Current capacity 15 amps. Voltage breakdown 8000 V. Single 5/16"-32 nut furnished for mounting—no auxiliary hardware needed. Shpg. wt. 3 oz.

Stk. No.	Type	Color	1-99	100-499	500-999	1000-4999
39F1545	111-0101-001	White	.72	.52	.42	.36
39F1546	111-0102-001	Red				
39F1547	111-0103-001	Black				
39F1548	111-0104-001	Green				
39F1550	111-0106-001	Orange				
39F1551	111-0107-001	Yellow				
39F1552	111-0108-001	Brown				
39F1554	111-0110-001	Blue				
39F1556	111-0112-001	Violet				
39F1557	111-0113-001	Gray				

SOLDERLESS INSULATED BANANA PLUGS

High voltage insulated plug for a wide variety of applications. Connection of up to 16 gauge stranded wire. Polyamide insulating sleeve retains strength and low loss characteristics over wide range of temperatures. 15 amp. Shpg. wt. 3 oz.

Stk. No.	Type	Color	1-99	100-499	500-999	1000-4999
39F1530	108-0301-001	White	.41	.30	.24	.21
39F1531	108-0302-001	Red				
39F1532	108-0303-001	Black				
39F1533	108-0304-001	Green				
39F1535	108-0306-001	Orange				
39F1536	108-0307-001	Yellow				
39F1537	108-0308-001	Brown				
39F1539	108-0310-001	Blue				
39F1541	108-0312-001	Violet				
39F1542	108-0313-001	Gray				

LOW COST NYLON TIP JACKS

Low cost nylon tip jacks with formed silver-plated phosphor bronze contact. Current rating: 10 amps. Voltage breakdown: 9000 volts DC. Capacity to 1/8" panel, 2.0 pf. 1/4"-32 nut furnished; mounts in 17/64" hole. Shpg. wt. 2 oz.

Stk. No.	Type	Color	1-99	100-499	500-999	1000-4999
39F1560	105-0801-001	White	.22	.16	.13	.11
39F1561	105-0802-001	Red				
39F1562	105-0803-001	Black				
39F1563	105-0804-001	Green				
39F1565	105-0806-001	Orange				
39F1566	105-0807-001	Yellow				
39F1567	105-0808-001	Brown				
39F1569	105-0810-001	Blue				
39F1571	105-0812-001	Violet				
39F1572	105-0813-001	Gray				

METAL-CLAD NYLON TIP JACK TIPS

Shock-proof nylon and metal construction. Nickel-plated machined brass jacket protects nylon body—assures positive fastening to mounting surface.

Accommodates tip plugs of nominal .081" diameter. 1/4"-32 nut furnished. Mounts in 17/64" diameter hole. Capacity to 1/8" metal is 4.8 Mmf. Variations of two available grades listed below. Av. shpg. wt. 3 oz.

STANDARD TYPE

These low cost metal-clad jacks have nylon tips for extremely long wear. Each is provided with formed silver-plated phosphor-bronze contact to insure optimal performance. Voltage breakdown is 7,000 volts DC. 3.8 pf. 10 amp.

Stk. No.	Type	Color	1-99	100-499	500-999	1000-4999
39F1700	105-0251-001	White	.35	.26	.21	.18
39F1701	105-0252-001	Red				
39F1702	105-0253-001	Black				
39F1703	105-0254-001	Green				
39F1705	105-0256-001	Orange				
39F1706	105-0257-001	Yellow				
39F1707	105-0258-001	Brown				
39F1709	105-0260-001	Blue				
39F1711	105-0262-001	Violet				
39F1712	105-0263-001	Gray				

MILITARY TYPE

Military type designed to comply with MS-16108 Rev. F of MIL-STD-242A. Heavy nickel plated brass jacket. High insulation resistance of nylon body. Gold plated beryllium copper contact spring. Voltage breakdown: 8,000 volts DC. 3.8 pf 5 amp.

Stk. No.	Type	Color	1-99	100-499	500-999	1000-4999
39F1726	105-0201-200	White	.54	.40	.32	.27
39F1727	105-0202-200	Red				
39F1728	105-0203-200	Black				
39F1729	105-0204-200	Green				
39F1731	105-0206-200	Orange				
39F1732	105-0207-200	Yellow				
39F1733	105-0208-200	Brown				
39F1735	105-0210-200	Blue				
39F1737	105-0212-200	Violet				
39F1738	105-0213-200	Gray				

NYLON INSULATED SOLDERLESS TIP PLUG

Durable molded nylon insulating sleeves designed so no metal surfaces are exposed when plug is inserted in jack. Connection of up to 16 gauge stranded wire. Withstands extremely high voltages and a wide temperature range. Current rating is 10 amperes. Standard .081 inch diameter pin fits all standard tip jacks. Size: 1 3/16"x3/8". Shpg. wt. 2 oz.

Stk. No.	Type	Color	1-99	100-499	500-999	1000-4999
39F1513	105-0301-001	White	.30	.23	.19	.16
39F1514	105-0302-001	Red				
39F1515	105-0303-001	Black				
39F1516	105-0304-001	Green				
39F1518	105-0306-001	Orange				
39F1519	105-0307-001	Yellow				
39F1520	105-0308-001	Brown				
39F1522	105-0310-001	Blue				
39F1524	105-0312-001	Violet				
39F1525	105-0313-001	Gray				

BANANA JACKS

Completely insulated banana jack. Retains low-loss characteristics through wide temp. range and high rel. humidity conditions. Voltage breakdown: 10,000 V DC. For banana plugs of nom. .175" diam. Shpg. wt. 2 oz.

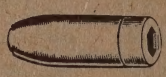
Stk. No.	Type	Color	1-99	100-499	500-999	1000-4999
39F1573	108-0901-001	White	.22	.16	.13	.12
39F1574	108-0902-001	Red				
39F1575	108-0903-001	Black				
39F1576	108-0904-001	Green				
39F1578	108-0906-001	Orange				
39F1579	108-0907-001	Yellow				
39F1580	108-0908-001	Brown				
39F1582	108-0910-001	Blue				
39F1584	108-0912-001	Violet				
39F1585	108-0913-001	Gray				

NYLON TIP JACKS

Molded of tough, low-loss nylon. DC breakdown 11,000 volts. Capacity to panel, 2.0 pf. Recessed silver plated beryllium copper contacts. Mating pin .081" diameter. Mtg. hole reg. 17/32". Head diam. 3/8". Body threaded 1/4"-32. Shpg. wt. 1 oz.

Stk. No.	Type	Color	1-99	100-499	500-999	1000-4999
39F878	105-0601-001	White	.38	.28	.23	.20
39F879	105-0602-001	Red				
39F880	105-0603-001	Black				
39F881	105-0604-001	Green				
39F882	105-0606-001	Orange				
39F883	105-0607-001	Yellow				
39F884	105-0608-001	Brown				
39F885	105-0610-001	Blue				
39F1558	105-0612-001	Violet				
39F1559	105-0613-001	Gray				

NYLON JACKS AND SLEEVE ASSEMBLIES



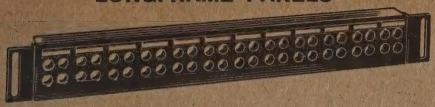
Nylon tip jack with inside thread. Molded nylon insul. sleeve. Shpg. wt. 3 oz.

Stk. No.	Type	Color	1-99	100-499	500-999	1000-4999
39F1500	105-0701-001	White	.42	.31	.25	.21
39F1501	105-0702-001	Red				
39F1502	105-0703-001	Black				
39F1503	105-0704-001	Green				
39F1506	105-0707-001	Yellow				
39F1509	105-0710-001	Blue				

Jacks, Plugs, Panels, Terminal Blocks

ADC

LONGFRAME PANELS



Molded of solid phenolic, reinforced with steel for added strength. Equipped with mounting brackets and designation strips. Designed for 19″ mounting.

Stock No.	Type	Height	Positions	Each
57F108	PJ-30	1¾″	52	13.65
57F106	PJ-31	2⅛″	48	18.53
57F110	PJ-33	2⅛″	24	17.88

LONGFRAME JACKS

One piece frame. WE #1 gold crossbar contacts welded to nickel silver springs. Insulation of XXXP phenolic. 6-32 mounting screws included. *Double with normals tied.

Stock No.	Type	Schematic	Stack Height	Each
57F126	PJ-123	A	7/16	.99
57F112	PJ-238	B	9/16	1.14
57F113	PJ-240	C	¾	2.01
57F114	PJ-241	D	¾	1.50
57F119	PJ-318	E	½	1.17
57F116	PJ-339	F	9/16	1.47
57F068	PJ-482	F*	...	3.30

LONGFRAME JACK PANELS

Jacks accept ADC standard 2- and 3-conductor plugs. Jacks are spaced permitting use of double plugs with standard ⅝″ centers.

Stock No.	Type	Equipped With	Each
57F069	PJ-390	52—PJ-339	84.50
57F107	PJ-341	48—PJ-318	68.25
57F070	PJ-391	48—PJ-339	87.75
57F111	PJ-343	24—PJ-318	44.20
57F071	PJ-393	24—PJ-339	58.50

LONGFRAME PLUGS

ADC standard ¼″ 2- and 3-conductor plugs are manufactured in accordance with stringent WE and military requirements.

Stock No.	Type	WE/MIL Equiv.	Description	Each
57F130	PJ-1	WE-241	2-conductor dual common sleeves.	6.50
57F163	PJ-327	WE-327	Two independent 2-conductor plugs.	7.15
57F072	PJ-047R	WE-347 & 642/1-2	2-conductor designed for T-S jacks.	3.25
57F131	PJ-051R	642/2-2	3-conductor for use with T-R-S jacks.	2.57
57F073	PJ-7	WE-425	Twin T-R-S conductors on ⅝″ centers.	6.50
57F074	PJ-310	WE-310	Standard T-R-S ¼″ plug.	2.44
57F075	PJ-055B	642/4-1	.207 dia. sleeve 3-conductors.	2.08

PATCH CORDS

Cords provide tinsel wire conductors plus a braided shield. Overall jacket is black braided nylon; PJ-470 series is red.

Stock No.	Type	Length	Plugs Used	Each
57F140	PJ-11	1′	PJ-1	17.97
57F141	PJ-12	2′	PJ-1	18.62
57F142	PJ-13	3′	PJ-1	19.27
57F144	PJ-14	4′	PJ-1	19.92
57F145	PJ-16	6′	PJ-1	20.80
57F133	PJ-82	2′	PJ-051R	11.05
57F134	PJ-84	4′	PJ-051R	12.35
57F135	PJ-86	6′	PJ-051R	13.00
57F076	PJ-172	2′	PJ-7	20.80
57F077	PJ-174	4′	PJ-7	22.10
57F214	PJ-472	2′	PJ-047R	11.05
57F216	PJ-474	4′	PJ-047R	11.86

TERMINAL BLOCKS

20 PIN

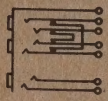
Stock No.	Type	No. of Rows	Height	Each
57F102	PJ-103	3	2.59″	9.75
57F103	PJ-104	4	2.94″	11.38
57F104	PJ-105	5	3.28″	13.00
57F105	PJ-106	6	3.63″	14.63
26 PIN				
57F078	PJ-660-5	5	3.06″	8.90
57F079	PJ-660-6	6	3.38″	9.90

BANTAM JACK PANELS

Stock No.	Type	Holds	Each
57F173	PJ-731	96 jacks, less jacks	26.65
57F1188	PJ-737	96 PJ-818 jacks	104.00
57F1189	PJ-739	96 PJ-839 jacks	104.00
57F080	PJ-789	48 PJ-889 Back-to-Back jacks	162.50
57F081	PJ-721	48 PJ-831 2+1 jacks	175.50

BANTAM JACKS

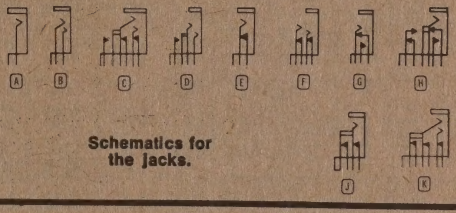
Back-to-Back



2+1

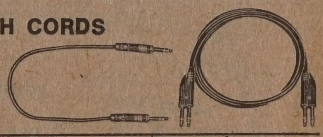
These space saving Bantam jacks provide the same reliable service as the regular size telephone jacks and are constructed of the same materials including WE #1 gold contacts. 3-48 mounting screws included.

Stock No.	Type	Schematic	Stack Height	Each
57F1194	PJ-803	G	.406	1.17
57F082	PJ-805	C	.671	1.50
57F083	PJ-808	H	.671	1.83
57F084	PJ-816	I	.546	1.20
57F1195	PJ-818	E	.406	.93
57F1196	PJ-823	A	.421	.75
57F085	PJ-824	J	.671	1.50
57F1197	PJ-838	B	.500	.84
57F1198	PJ-839	F	.500	1.14
57F1199	PJ-841	D	.656	1.26



Schematics for the jacks.

BANTAM PATCH CORDS



Cords are plastic jacketed, overall shielded and molded on plugs.

Stock No.	Type	Description	Length	Each
57F086	PJ-702	Single 2 Conductor	12″	4.32
57F187	PJ-704	Single 2 Conductor	24″	4.55
57F188	PJ-706	Single 2 Conductor	36″	4.78
57F087	PJ-708	Single 2 Conductor	48″	5.01
57F196	PJ-712	Single 3 Conductor	12″	5.56
57F197	PJ-714	Single 3 Conductor	24″	5.82
57F198	PJ-716	Single 3 Conductor	36″	6.08
57F199	PJ-718	Single 3 Conductor	48″	6.21
57F088	PJ-720	Single 3 Conductor	60″	6.34
57F1190	PJ-762	Double 3 Conductor	12″	8.78
57F1191	PJ-764	Double 3 Conductor	24″	9.10
57F1192	PJ-766	Double 3 Conductor	36″	9.75
57F1193	PJ-768	Double 3 Conductor	48″	10.08
57F089	PJ-770	Double 3 Conductor	60″	10.40

BANTAM ACCESSORIES

Stock No.	Type	Description	Each
57F090	PJ-850	Lamp Holder	1.17
57F091	PJ-859-24R	Red LED Module (24V)	2.28
57F092	PJ-859-48R	Red LED Module (48V)	2.28
57F093	PJ-862	Lamp, 24V	1.63
57F094	PJ-729W	White Lens Cap	.39
57F095	PJ-729R	Red Lens Cap	.39
57F096	PJ-729G	Green Lens Cap	.39
57F097	PJ-729B	Hole Plug	.13
57F098	PJ-743	Terminal Plug 600	3.09
57F099	PJ-748R	Dummy Plug	.33

SPC technology — VOLTREX brand Solderless Terminals and Connectors

One-piece Construction

Pure Electrolytic Copper, Electro-Tin Plated

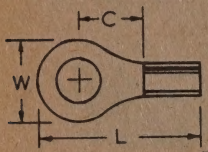
V Grooves in Barrel Provide Extra Holding Power

Barrel to Pad Design Insures High Strength

Special styles with extra quality features including sure-grip double crimp barrel for extra strength & wire guide barrel for faster wire insertion.

UL LISTED 313-R

CSA LISTED LR22190-6M



RING TONGUE TERMINALS — NON-INSULATED

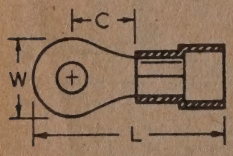
TYPE CRS. Available in butted or brazed seam barrels.

BUTTED SEAM BARREL

Stock No.	Wire Range	Stud Size	Size, In. L	W	C	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-Up
31N546		2	.60	.25	.23	100			
31N547	22-18	4	.60	.25	.23	100	2.95	2.11	1.65
31N548	Barrel	6	.60	.25	.23	100			
31N549	I.D.-	8	.74	.31	.33	100			
31N550	.075	10	.74	.31	.33	100			
31N551		¼	.89	.47	.40	100	4.08	2.91	2.27
31N555	16-14	6	.60	.25	.23	100	3.13	2.21	1.74
31N556	Barrel	8	.74	.31	.33	100			
31N557	I.D.-	10	.74	.31	.33	100			
31N558	.095	¼	.89	.47	.40	100	4.08	2.91	2.27
31N562	12-10	10	.73	.38	.29	50	4.49	3.20	2.51
31N563	Barrel	¼	.96	.54	.44	50	3.13	2.24	1.75
31N564	I.D.-	5/16	.96	.54	.44	50			
31N565	.135	⅜	.96	.54	.44	50			

BRAZED SEAM BARREL

							1-9	10-49	50-99
31N121	22-18	4	.60	.25	.23	100			
31N200	Barrel	6	.60	.25	.23	100	6.13	3.62	2.77
31N201	I.D.-	8	.74	.31	.33	100			
31N202	.075	10	.74	.31	.33	100			
31N122		4	.60	.25	.23	100			
31N204	16-14	6	.60	.25	.23	100	6.13	3.62	2.77
31N205	Barrel	8	.74	.31	.33	100			
31N206	I.D.-	10	.74	.31	.33	100			
31N207	.095	¼	.89	.47	.40	100	8.28	4.88	3.73
							1-19	20-99	100-199
31N208	12-10	6	.69	.28	.29	50	4.47	2.62	2.01
31N209	Barrel	8	.69	.28	.29	50			
31N210	I.D.-	10	.73	.38	.29	50			
31N211	.135	¼	.96	.54	.44	50	5.08	3.00	2.31



RING TONGUE TERMINALS — DOUBLE CRIMP BARREL

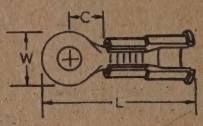
TYPE CRS. Sure-grip double-crimp barrel avail. in nylon insul. or non-insul. Colors: 26-24 & 12-10 yellow, 22-18 red, 16-14 blue.

NYLON INSULATED

Stock No.	Wire Range	Stud Size	Size, In. L	W	C	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-Up
31N100	26-24	2	.46	.14	.11	100			
31N101	Bbl I.D.-	4	.60	.20	.21	100	13.78	8.10	6.22
31N104	.035	10	.68	.25	.27	100			
31N105		4	.80	.25	.23	100			
31N219	22-18	6	.80	.25	.23	100			
31N220	Barrel	8	.94	.31	.33	100			
31N221	I.D.-	10	.94	.31	.33	100	13.78	8.10	6.22
31N222	.075	¼	1.09	.47	.40	100			
31N223	16-14	6	.90	.33	.29	100			
31N224	Barrel	8	.94	.31	.33	100			
31N225	I.D.-	10	.94	.31	.33	100			
31N226	.095	¼	1.09	.47	.40	100	15.56	9.17	7.04
							1-19	20-99	100-Up
31N228	12-10	8	1.03	.38	.29	50	8.60	5.07	3.88
31N229	Bbl I.D.-	10	1.03	.38	.29	50			
31N230	.135	¼	1.26	.54	.44	50			

NON-INSULATED

							1-9	10-49	50-99
31N212	16-14	6	.86	.31	.33	100	10.54	6.21	4.78
31N123	Bbl I.D.-	8	.86	.31	.33	100			
31N213	.095	10	.86	.31	.33	100			



RING-TONGUE VINYL INSULATED TERMINALS

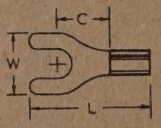
TYPE CRS. Wire guide butted or brazed seam barrel. Colors: 22-18 red, 16-14 blue, 12-10 yellow.

BUTTED SEAM BARREL

Stock No.	Wire Range	Stud Size	Size, In. L	W	C	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-Up
31N569		2	.80	.25	.23	100			
31N570	22-18	4	.80	.25	.23	100	6.08	4.49	3.51
31N571	Barrel	6	.80	.25	.23	100			
31N572	I.D.-	8	.94	.31	.33	100			
31N573	.075	10	.94	.31	.33	100			
31N574		¼	1.09	.47	.40	100	7.91	5.81	4.54
31N578	16-14	6	.80	.25	.23	100	6.08	4.49	3.51
31N579	Barrel	8	.94	.31	.33	100			
31N580	I.D.-	10	.94	.31	.33	100			
31N581	5/16	¼	1.09	.47	.40	100	7.91	5.81	4.54
							1-19	20-99	100-Up
31N585	12-10	10	1.03	.38	.29	50	1.98	1.46	1.14
31N586	Barrel	¼	1.26	.54	.44	50	2.32	1.72	1.34
31N587	I.D.-	5/16	1.26	.54	.44	50	4.63	3.42	2.67
31N588	.135	⅜	1.26	.54	.44	50	4.63	3.42	2.67

BRAZED SEAM BARREL

							1-9	10-49	50-99
31N107	22-18	4	.80	.25	.23	100	9.52	5.61	4.31
31N108	Bbl I.D.-	6	.80	.25	.23	100			
31N109	.075	8	.94	.31	.33	100			
31N113	16-14	6	.90	.33	.29	100	9.52	5.61	4.31
31N114	Barrel	8	.94	.31	.33	100			
31N115	I.D.-	10	.94	.31	.33	100			
31N116	.095	¼	1.09	.47	.40	100	12.42	7.31	5.61
							1-19	20-99	100-Up
31N117	12-10	6	.99	.28	.29	50	6.11	3.59	2.77
31N119	Bbl I.D.-	10	1.03	.38	.29	50	6.11	3.59	2.77
31N120	.135	¼	1.26	.54	.44	50	10.50	6.30	4.73
							1-9	10-49	50-Up
31N670		10	1.26	.47	.38	25	7.05	4.65	3.76
31N671	8 AWG	¼	1.26	.47	.38	25	7.05	4.65	3.76
31N672	Barrel	5/16	1.37	.59	.44	25	8.81	5.81	4.70
31N673	I.D.-	⅜	1.37	.59	.44	25	8.81	5.81	4.70
31N674	.185	½	1.72	.81	.68	20	8.46	5.57	4.51
31N675		10	1.50	.47	.52	20	7.95	5.23	4.24
31N676	6 AWG	¼	1.50	.47	.52	20	7.95	5.23	4.24
31N677	Barrel	5/16	1.58	.63	.54	20	8.02	5.28	4.28
31N678	I.D.-	⅜	1.58	.63	.54	20	8.02	5.28	4.28
31N679	.255	½	1.77	.81	.60	10	4.77	3.14	2.54
31N680		10	1.74	.68	.44	10			
31N681	4 AWG	¼	1.74	.68	.44	10	5.37	3.54	2.86
31N682	Barrel	5/16	1.74	.68	.44	10			
31N683	I.D.-	⅜	1.74	.68	.44	10			
31N684	.285	½	1.74	.68	.44	10			



SPADE TONGUE TERMINALS — NON-INSULATED

TYPE CSS. Avail. in brazed or butted seam barrel.

BUTTED SEAM BARREL

Stock No.	Wire Range	Stud Size	Size, In. L	W	C	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-Up
32N056	26-24	0	.32	.13	.11	100	2.95	2.11	1.65
32N058	.035 Bbl	6	.54	.25	.27	100	2.95	2.11	1.65
31N524	16-14 .095 Bbl.	10	.72	.35	.33	100	3.13	2.21	1.74
31N525	12-10 .135 Bbl.	10	.73	.38	.29	50	2.16	1.54	1.21

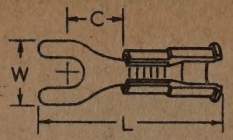
BRAZED SEAM BARREL

							1-9	10-49	50-99
31N217	16-14 .095 Bbl.	10	.65	.30	.25	100	6.13	3.62	2.77
							1-19	20-99	100-Up
31N143	12-10	8	.73	.38	.29	50	4.45	2.62	2.01
31N218	.135 Bbl.	10	.73	.38	.29	50	4.47	2.62	2.01

VOLTREX brand Solderless Terminals and Connectors

SPC technology

SPADE TONGUE VINYL INSULATED TERMINALS



Type CSS. Wire guide barrel prevents wire hangup during insertion. Colors: 16-14 blue, 12-10 yellow.

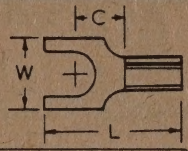
BUTTED SEAM BARREL

Stock No.	Wire Range	Stud Size	Size, In. L	W	C	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-Up
31N538	16-14 .095 Bbl.	10	.92	.35	.33	100	6.08	4.49	3.51
							1-19	20-99	100-Up
31N539	12-10 .135 Bbl.	10	1.03	.38	.29	50	3.96	2.91	2.27

BRAZED SEAM BARREL

							1-19	20-99	100-Up
31N136	12-10 .135 Bbl.	10	1.03	.38	.29	50	6.12	3.60	2.77

BLOCK SPADE NON-INSULATED TERMINALS



Type CBS. Available in butted or brazed seam barrel. Designed to fit terminal blocks.

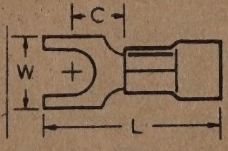
BUTTED SEAM BARREL

Stock No.	Wire Range	Stud Size	Size, In. L	W	C	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-Up
31N518	22-18	4	.65	.25	.25	100			
31N519	Barrel	6	.65	.30	.25	100	2.95	2.11	1.65
31N520	I.D.-	8	.65	.30	.25	100			
31N521	.075	10	.65	.30	.25	100			
31N522	16-14	6	.65	.30	.25	100	3.13	2.21	1.74
31N523	.095 Bbl.	8	.65	.30	.25	100	3.13	2.21	1.74

BRAZED SEAM BARREL

							1-9	10-49	50-99
31N214	22-18	6	.65	.25	.25	100			
31N138	.075	8	.65	.30	.25	100	6.13	3.62	2.77
31N215	Barrel	10	.65	.30	.25	100			
31N216	16-14	6	.65	.30	.25	100			
31N140	.095 Bbl.	8	.65	.30	.25	100			
							1-19	20-99	100-Up
31N142	12-10 .135 Bbl.	6	.73	.32	.29	50	5.49	3.66	3.05

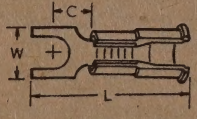
BLOCK SPADE DOUBLE CRIMP TERMINALS BRAZED SEAM BARREL



Type CBS. Sure-grip barrel provides for double crimping.

31N145	16-14	6	.77	.30	.25	100	10.54	6.21	4.78
31N146	.095 Bbl.	8	.77	.30	.25	100	10.54	6.21	4.78

BLOCK SPADE VINYL INSULATED TERMINALS



Type CBS. Wire guide barrel prevents wire hangup during insertion. Colors: 22-18 red, 16-14 blue.

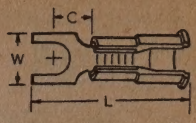
BUTTED SEAM BARREL

Stock No.	Wire Range	Stud Size	Size, In. L	W	C	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-Up
31N532	22-18	4	.85	.25	.25	100			
31N533	Barrel	6	.85	.30	.25	100	6.08	4.49	3.51
31N534	I.D.-	8	.85	.30	.25	100			
31N535	.075	10	.85	.30	.25	100			
31N536	16-14	6	.85	.30	.25	100			
31N537	.095 Bbl.	8	.85	.30	.25	100			

BRAZED SEAM BARREL

							1-9	10-49	50-99
31N129	22-18	6	.85	.25	.25	100			
31N130	.075	8	.85	.30	.25	100	9.52	5.61	4.31
31N131	Barrel	10	.85	.30	.25	100			
31N132	16-14	6	.85	.30	.25	100			
31N133	.095	8	.85	.30	.25	100			
31N134	Barrel	10	.85	.30	.25	100			

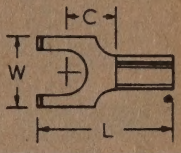
BLOCK SPADE TERMS. NYLON INSULATED DOUBLE CRIMP BARREL



Type CBS. Sure-grip barrel provides for double crimping. Colors: 22-18 red, 16-14 blue, 12-10 yellow.

Stock No.	Wire Range	Stud Size	Size, In. L	W	C	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-Up
31N236	22-18	6	.85	.25	.25	100			
31N237	.075	8	.85	.30	.25	100			
31N238	Barrel	10	.85	.30	.25	100	13.87	8.18	6.26
31N231	16-14	6	.85	.30	.25	100			
31N232	.095	8	.85	.30	.25	100			
31N233	Barrel	10	.85	.30	.25	100			
							1-19	20-99	100-Up
31N127	12-10	6	1.03	.32	.29	50	9.62	6.09	4.91
31N234	.135 Bbl.	10	1.03	.32	.29	50	8.60	5.07	3.89

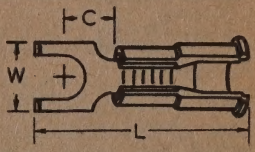
BLOCK SPADE-FLANGED TERMS. BUTTED SEAM BARREL, NON-INSUL.



Type CGS. Flanged tips for secure locking. Ideal for terminal blocks.

31N526	22-18	6	.65	.30	.25	100	2.95	2.11	1.65
31N527	.075	8	.65	.30	.25	100			
31N528	Barrel	10	.65	.30	.25	100			
31N529	16-14	6	.65	.30	.25	100	3.13	2.21	1.74
31N530	.095	8	.65	.30	.25	100			
31N531	Barrel	10	.65	.30	.25	100			

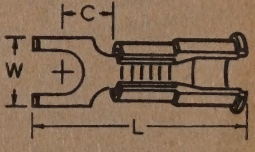
BLOCK SPADE-FLANGED TERMS. BUTTED SEAM BARREL, VINYL INSUL.



Type CGS. Wire guide barrel prevents wire hangup during insertion. Colors: 22-18 red, 16-14 blue.

31N540	22-18	6	.85	.30	.25	100	6.08	4.49	3.51
31N541	.075	8	.85	.30	.25	100			
31N542	Barrel	10	.85	.30	.25	100			
31N543	16-14	6	.85	.30	.25	100			
31N544	.095	8	.85	.30	.25	100			
31N545	Barrel	10	.85	.30	.25	100			

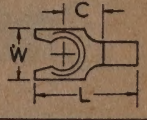
BLOCK SPADE-FLANGED TERMS. DOUBLE CRIMP BARREL, NYLON INSUL.



Type CGS. Sure-grip barrel provides for double-crimping. Colors: 22-18 red, 16-14 blue.

31N150	22-18 .075 Bbl.	8	.85	.30	.25	100	13.87	8.18	
31N153	16-14 .095 Bbl.	8	.85	.30	.25	100			

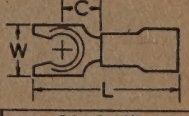
SNAP-LOK SPADE TERMINALS BRAZED SEAM BARREL, NON-INSUL.



Type CLS. Snap lock action offers advantages of ring tongue terminal without removing screw.

Stock No.	Wire Range	Stud Size	Size, In. L	W	C	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-Up
31N141	16-14 .095 Bbl.	¼	.90	.43	.40	100	6.08	4.49	3.51
31N144	12-10 .135 Bbl.	¼	.94	.43	.44	50	4.92	3.64	2.85

SNAP-LOK SPADE TERMINALS DOUBLE CRIMP BARREL, NON-INSUL.



Type CLS. Combines snap lock action with sure-grip double-crimp barrel design.

Stock No.	Wire Range	Stud Size	Size, In. L	W	C	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-Up
31N148	16-14 .095 Bbl.	10	.80	.32	.25	100	12.15	8.97	7.01

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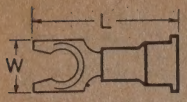
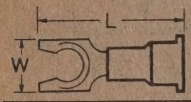
SNAP-LOK SPADE TERMS. NYLON INSUL., DOUBLE CRIMP BARREL



Type CLS. Sure-grip barrel with snap lock action. Insulation colors: 16-14 blue, 12-10 yellow.

Stock No.	Wire Range	Stud Size	Size, In. L	W	C	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-99
31N126	16-14 .095 Bbl.	¼	1.10	.43	.40	100	17.11	10.08	7.74
31N235	12-10 .135 Bbl.	¼	1.24	.43	.44	50	22.90	13.40	10.37

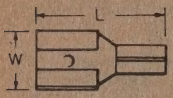
SNAP-LOK SPADE TERMS. VINYL INSUL., BUTTED SEAM BARREL



Type CLS. Combines snap lock action with wire guide barrel. Colors: 22-18 red, 16-14 blue, 12-10 yellow.

Stock No.	Wire Range	Stud Size	Size, In. L	W	C	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-99
31N2550	22-18	6	.88	.25	.25	100	14.01	8.26	6.35
31N2552	.075	8	.88	.30	.25	100			
31N2553	Bbl.	10	.88	.32	.25	100			
31N2554	16-14	6	.88	.25	.25	100	14.01	8.26	6.35
31N2556	.095	8	.88	.30	.25	100			
31N2557	Bbl.	10	.88	.32	.25	100			
							1-19	20-99	100-199
31N666	12-10	8	1.03	.32	.28	50	8.12	4.78	3.69
31N667	.135	10	1.03	.32	.28	50	8.12	4.78	3.69
31N668	Bbl.	¼	1.24	.43	.44	50	8.96	5.28	4.12

QUICK DISCONNECT FEMALE TERMS. BUTTED SEAM BBL., NON-INSUL.

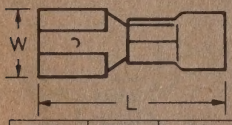


Type CFS. Dbl. barrel crimp on 22-18 for stronger crimp. Holds male tab tight after repeated disconnecting.

Stock No.	Wire Range	Tab Size "W"	Tab Thick.	L	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-Up
31N2513	22-18*	.250	.030	.64	100	8.49	5.00	3.84
30N070	18-14	.187-.205	.016	.47	100	3.43	2.44	1.90
30N071	18-14	.110-.125	.016	.54	100	3.43	2.44	1.90
31N593	18-14	.250	.030	.64	100	3.43	2.46	1.90

(*) Double barrel thickness.

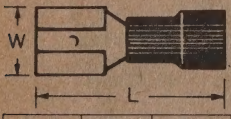
QUICK DISCONNECT FEMALE TERMS. DOUBLE CRIMP BBL., NON-INSUL.



Type CFS. Combines reliability after repeated disconnects with strength of sure-grip double-crimp barrel.

Stock No.	Wire Range	Tab Size "W"	Tab Thick.	L	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-99
31N2627	22-18	.187	.016	.67	100	14.07	8.29	6.37
31N2629	22-18	.205	.016	.67	100	14.07	8.29	6.37
31N2630	18-14	.187	.030	.67	100	14.07	8.29	6.37
31N2517	18-14	.110-.125	.030	.71	100	15.11	8.90	6.83
31N2601	18-14	.250	.030	.77	100	10.54	6.21	4.78
31N2515	12-8	.250	.030	.85	50	10.55	6.22	4.77

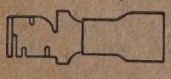
QUICK DISCONNECT FEMALE TERMS. DBL. CRIMP BBL., NYLON INSUL.



Type CFS. High-reliability disconnect, nylon insulation, sure-grip barrel. Colors: 22-18 red, 18-14 and 16-14 blue. Double barrel thickness.

Stock No.	Wire Range	Tab Size "W"	Tab Thick.	L	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-99
31N2617	22-18	.187	.016	.77	100	19.70	11.63	8.94
31N110	22-18	.250	.030	.86	100	19.70	11.63	8.94
31N175	18-14	.250	.030	.86	100	14.98	8.82	6.77
31N2621	18-14	.187	.030	.77	100	14.98	8.82	6.77
31N2625	18-14	.110-.125	.030	.80	100	21.32	12.56	9.63
31N2622	16-14*	.187-.205	.016	.77	100	19.70	11.63	8.94

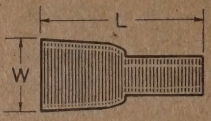
SELF-MATING SWING-LOK QUICK DISCONNECT DBL. CRIMP BBL.



Type CSL. Self-locking and self-mating. Sure-grip double-crimp barrel. Double barrel thickness.

Stock No.	Wire Range	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-99
31N2603	16-14	100	19.70	11.63	8.94

QUICK DISCONNECT FEMALE FULL INSUL. NYLON, DBL. CRIMP BBL.

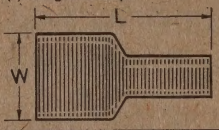


Type CFS. (††) mates with (†) on this page. Colors: 26-20 yellow, 16-14 and 18-14 blue. Sure-grip barrel. Full nylon insulation.

Stock No.	Wire Range	Tab Style "W"	Tab Thick	L	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-99
16N1119	18-14††	.250	.030	.89	50	9.85	5.82	4.47
16N1120	26-20	.110	.016	.69	100	25.08	14.77	11.35
16N1121	18-14	.110	.030	.82	100	25.08	14.77	11.35
16N1122	18-14	.187	.016	.82	100	25.08	14.77	11.35
16N1123	18-14††	.250	.030	.89	50	13.64	8.06	6.19
16N1124	16-14	.250	.030	.86	50	13.64	8.06	6.19

(*) Single Crimp.

QUICK DISCONNECT MALE FULLY INSUL. NYLON TIP TO TIP



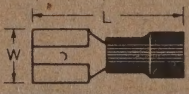
Type CMS. Insulation color: blue. Mates with items marked with (††) listed on this page. Double barrel thickness.

Stock No.	Wire Range	Tab Size "W"	Tab Thick.	L	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-99
16N1125	16-14†	.250	.030	.95	50	9.85	5.82	4.47

QUICK DISCONNECT MALE FULLY INSUL. NYLON, DBL. CRIMP BBL.

Stock No.	Wire Range	Tab Size "W"	Tab Thick.	L	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-99
16N1126	16-14†	.250	.030	.95	50	13.64	8.06	6.19

QUICK DISCONNECT FEMALE VINYL INSULATED TERMINALS

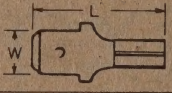


Type CFS. Wire guide prevents wire strand hangup. Colors: 18-14 and 16-14* blue, 22-18* red, 12-10 yellow.

Stock No.	Wire Range	Tab Size "W"	Tab Thick.	L	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-Up
30N072	18-14	.187-.205	.016	.77	100	6.26	4.61	3.60
30N073	18-14	.110-.125	.016	.80	100	6.26	4.61	3.60
31N595	18-14	.250	.030	.86	100	7.20	5.30	4.15
31N2510	22-18*	.250	.030	.86	100	12.97	7.64	5.87
31N2511	16-14*	.250	.030	.86	100	12.97	7.64	5.87
31N2512	12-10	.250	.030	.96	50	10.78	6.33	4.88

(*) Double barrel thickness

QUICK DISCONNECT MALE TERMINALS NON-INSULATED

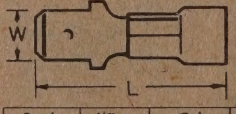


Type CMS. Mates with quick-disconnect female having .250 width tab.

Stock No.	Wire Range	Tab Size "W"	Tab Thick.	L	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-Up
31N592	18-14	.250	.030	.73	100	3.43	2.44	1.90
31N2635	16-14*	.250	.030	.73	100	3.43	2.44	1.90

(*) Double barrel thickness.

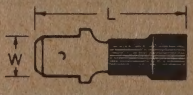
QUICK DISCONNECT MALE NON-INSULATED, DOUBLE CRIMP BARREL



Type CMS. Mates with quick-disconnect female having .250 width tab. Sure-grip double-crimp barrel.

Stock No.	Wire Range	Tab Size "W"	Tab Thick.	L	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-99
31N2602	18-14	.250	.030	.85	100	8.49	5.00	3.84

QUICK DISCONNECT MALE VINYL INSULATED



Type CMS. Mates with quick-disconnect female having .250 width tab. Colors: 18-14 and 16-14 blue, 12-10 yellow.

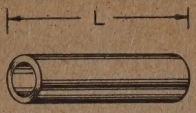
Stock No.	Wire Range	Tab Size "W"	Tab Thick.	L	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-Up
31N594	18-14	.250	.030	.93	100	7.20	5.30	4.15
31N098	16-14*	.250	.030	.93	100	7.20	5.30	4.15
31N2637	12-10	.250	.030	1.05	50	4.27	3.14	2.46

(*) Double barrel thickness.

VOLTREX brand Solderless Terminals and Connectors

SPC technology

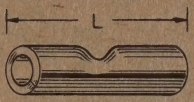
ARALLEL CONNECTORS NON-INSULATED



ype CCP. Permits wire overlap om each end before crimping.

Stk. No.	Wire Range	L	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-99
1N163	22-18	.32	100	5.73	3.37	2.58
1N164	16-14	.32	100	5.73	3.37	2.58
1N165	12-10	.32	100	6.84	4.02	3.08

UTT CONNECTORS NON-INSULATED, EAMLESS BARREL



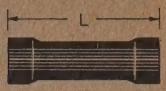
ype CCS. One piece construction or strongest crimp on butted wire nds.

Stk. No.	Wire Range	L	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-99
1N247	22-18	.63	100	7.29	4.30	3.31
1N248	16-14	.66	100	7.29	4.30	3.31
1N249	12-10	.81	50	6.00	4.01	2.51

UTT CONNECTORS—NON-INSULATED, BUTTED SEAM BARREL

Stk. No.	Wire Range	L	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-Up
1N566	22-18	.56	100	3.21	2.27	1.76
1N567	16-14	.66	100	3.21	2.27	1.76
1N568	12-10	.56	50	2.64	1.89	1.49

BUTT CONNECTORS —VINYL INSULATED



Type CCS. Available in butted seam or one piece seamless styles.

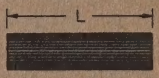
BUTTED SEAM BARREL

Stk. No.	Wire Range	L	Insul.	Std. Pkg.	Price Per Pkg. 1-9	10-49	50-Up
31N589	22-18	1.00	Red	100	7.20	5.30	4.15
31N590	16-14	1.00	Blue	50	3.60	2.65	2.07
					1-19	20-99	100-Up
31N591	12-10	1.04	Yellow	50	4.90	3.62	2.84

SEAMLESS BARREL

					1-9	10-24	25-99
31N250	22-18	1.05	Red	100	11.04	6.52	5.00
31N251	16-14	1.05	Blue	50	5.52	3.26	2.49
					1-19	20-49	50-199
31N252	12-10	1.20	Yellow	50	8.38	4.94	3.79

PARALLEL CONNECTORS —VINYL INSULATED



Type CCP. Permits wire overlap from each end before crimping.

					1-9	10-49	50-99
31N260	22-18	.67	Red	100	9.27	5.46	4.18
31N261	16-14	.67	Blue	100	9.27	5.46	4.18

MISCELLANEOUS CONNECTORS

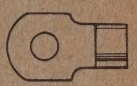
QUICK DISCONNECT ADAPTER

hree-way adapter consists of two male tabs nd one female tab. The ale tabs are in an overnd-under arrangement. kg. of 100.
1N2519. 1-9 .....7.58
0-24.....5.77 25-99.....4.33

INSULATED MALE DOUBLE QUICK-DISCONNECT

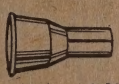
Has ¼" male terminals on both ends. Accepts female quick-disconnects. Vinyl sleeve. Pkg. of 25.
31N2518. 1-39.....2.35
40-99.....1.38 100-399.....1.06

BLOCK RING FLAG TERMINAL



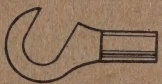
For right angle applications. Simply insert wire in barrel and crimp. For wire sizes from #16 to #14. Stud size, #6. Non-insul. Pkg. of 100.
31N241. 1-9.....7.56
10-24.....4.45 25-99.....3.41

INSULATED WIRE NUTS



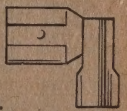
rimp-type wire nuts ave Nylon insulation. imply insert the two ires to be connected, nd crimp. Pkg. of 50.
1N239. For #22-18. 1-19.....2.68
0-49.....1.57 50-199.....1.21
1N240. For #16-10. 1-19.....4.54
0-49.....2.67 50-199.....2.05

HOOK TONGUE TERMINAL



Non-insulated crimp-type terminal with familiar hook tongue terminal. For wire sizes from #22 to #18, Stud size, #6. Simply insert wire in barrel and crimp, for a strong, secure connection. Pkg. of 100.
30N626. 1-9.....2.50
10-49.....1.78 50-Up.....1.39

QUICK DISCONNECT FEMALE FLAG WITH SURE-GRIP BARREL



For right angle applications. For #18-24 wire. Crimp wire and insulation. Non-insulated. Accepts male quick-disconnect terminals. Pkg. of 100.
31N2600. 1-9.....Each 8.43
10-24.....4.97 25-99.....3.81

NON-INSULATED SOLDERLESS TERMINAL ASST.

lastic box with 12 compartments contains 5 each of 12 different styles plus one 5N1267 multi-purpose crimp tool. See age 452 for detailed list of contents.
1N004. NET 27.95

"SURE GRIP" SOLDERLESS TERMINAL ASST.

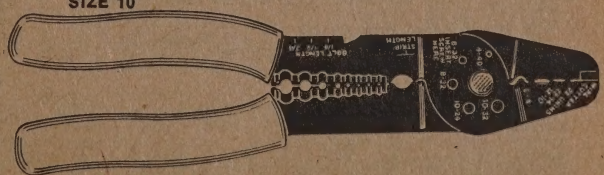
Plastic box with 12 compartments contains 25 each of 12 different styles, 10 nylon insulated and non-insulated plus 35N1267 multi-purpose crimp tool. See page 452 for detailed list of contents.
31N006. NET 37.95

VINYL INSULATED SOLDERLESS TERMINAL ASST.

Plastic box with 12 compartments contains 25 each of 12 different styles plus one 35N1267 multi-purpose crimp tool. See page 452 for detailed list of contents.
31N005. NET 31.95

VOLTREX MULTI-PURPOSE CRIMP TOOL

- CRIMPS INSULATED & NON-INSULATED TERMINALS
- CUTS WIRE
- STRIPS WIRE FROM #22 TO #6
- CUTS BOLTS FROM SIZE 4 THRU SIZE 10

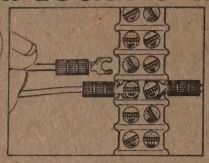


Versatile crimp tool handles a variety of wiring jobs with ease. Crimps both insulated and non-insulated solderless erminals, 22 to 8 gauge wire. Also handles 7 and 8 mm ignition terminals. Nose-mounted wire cutter gets into tight places. Cuts five bolt sizes: 4-40, 6-32, 8-32, 10-24, and 0-32. Stripping dies handle from 22 to 6 gauge wire. Measuring guides for strip length and bolt length. Jumbo cushion grip handles for more comfort and power.
5N1267. NET.....9.85

Ask Your Newark Salesman for a Free SPC Technology Terminal Catalog

Thomas & Betts Terminals and Connectors

MINI-LOCKING INSULATED FORK



Designed to prevent overlapping of terminals in compact terminal strips and closely mounted studs. Snaps on to stay, does not slip while terminal screw is tightened. Stud size stamped on for easy identification. Sold in pkg. of 100.

Stk. No.	Type	Screw Size	Wire Size	Net Price Per Pkg. 1-9	10-49	50-99	100-249
31F2664	RV2207	4	26-24	8.61	5.06	3.89	3.71
31F2665	RV2217	6	26-24				
31F2666	RV2237	8	26-24				
31F2667	RAV2217	6	22-16				
31F2668	RAV2237	8	22-16				
31F2669	RAV2257	10	22-16				
31F2670	RAV2197	5	22-16				
31F2671	RBV2217	6	18-14				
31F2672	RBV2237	8	18-14				
31F2673	RBV2257	10	18-14				
31F2674	RCV2217	6	12-10	11.14	6.57	5.04	4.80
31F2675	RCV2237	8	12-10				
31F2676	RCV2257	10	12-10				
31F2677	RCV2267	¼	12-10	14.07	8.27	6.36	6. 6

STANDARD VINYL INSULATED FORK TERMINALS

Brazed Seam, Serrated Barrel

Stk. No.	Type	Screw Size	Wire Size	Net Price per Pkg. 1-9	10-49	50-99	100-249
31F129	RA1167	6	22-16	10.66	6.29	4.83	4.59
31F130	RA1147	8	22-16				
31F131	RA1157	10	22-16				
31F132	RB647	6	18-14				
31F133	RB657	8	18-14				
31F134	RB297	10	18-14				
31F136	RC1157	10	12-10	13.70	8.06	6.20	5.87

NYLON INSULATED FORK TERMINALS

Military Barrel with Insulation Grip

Stk. No.	Type	Screw Size	Wire Size	Net Price per Pkg. 1-9	10-49	50-99	100-249
31F236	RA1103	6	22-16	15.56	9.17	7.02	6.66
31F237	RA1123	8	22-16				
31F238	RA1153	10	22-16				
31F231	RB1103	6	18-14				
31F232	RB1123	8	18-14				
31F233	RB1153	10	18-14				
31F2687	RC1123	8	12-10	19.26	11.36	8.70	8.26
31F234	RC1153	10	12-10				
31F2688	RC1163	¼	12-10	19.48	11.45	8.80	8.37

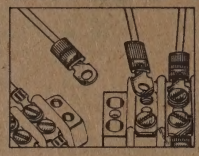
UNINSULATED MINI-LOCKING FORKS

Stk. No.	Type	Screw Size	Wire Size	Net Price per Pkg. 1-9	10-49	50-99	100-249
31F2678	AV220	4	22-16	4.95	2.91	2.22	2.13
31F2679	AV221	6	22-16				
31F2680	AV223	8	22-16				
31F2681	BV221	6	18-14				
31F2682	BV223	8	18-14				
31F2683	BV225	10	18-14				
31F2684	CV223	8	12-10	7.14	4.22	3.23	3.08
31F2685	CV225	10	12-10				
31F2686	CV226	¼	12-10	8.97	5.28	4.06	3.87

STANDARD UNINSULATED FORK

Stk. No.	Type	Screw Size	Wire Size	Net Price per Pkg. 1-9	10-49	50-99	100-249
31F214	A116	6	22-16	6.87	4.05	3.10	2.97
31F138	A114	8	22-16				
31F215	A29	10	22-16				
31F216	B64	6	18-14				
31F140	B65	8	18-14				
31F217	B115	10	18-14				
31F143	C114	8	12-10	8.33	5.87	7.05	4.28
31F218	C115	10	12-10				
31F144	C116	¼	12-10	11.38	6.72	5.14	4.86

INSULATED MINI-RINGS



Designed to prevent overlapping with compact terminal strips and closely mounted studs. Anti-rotational design eliminates movement of the terminal as hold-down screw or nut is tightened. Vinyl insulated. Sold in pkg. of 100.

Stk. No.	Type	Screw Size	Wire Size	Net Price per Pkg. 1-9	10-49	50-99	100-249
31F2689	RV547	4	26-24	8.10	4.77	3.66	3.48
31F2690	RV567	6	26-24				
31F2691	RV587	8	26-24				
31F2692	RA567	6	22-16	8.06	4.76	3.64	3.47
31F2693	RA587	8	22-16				
31F2694	RA5107	10	22-16				
31F2695	RB567	6	18-14				
31F2696	RB587	8	18-14				
31F2697	RB5107	10	18-14				
31F2698	RC567	6	12-10	10.61	6.26	4.80	4.58
31F2699	RC587	8	12-10				
31F2700	RC5107	10	12-10				
31F2701	RC5147	¼	12-10	13.26	7.82	6.02	5.73

STANDARD VINYL INSULATED RING TERMINALS

Brazed Seam, Serrated Barrel

Stk. No.	Type	Screw Size	Wire Size	Net Price per Pkg. 1-9	10-49	50-99	100-249
31F107	RA77	4	22-16	10.66	6.29	4.83	4.59
31F108	RA857	6	22-16				
31F109	RA867	8	22-16				
31F113	RB857	6	18-14				
31F114	RB867	8	18-14				
31F115	RB877	10	18-14				
31F2702	RC777	8	12-10	13.70	8.06	6.20	5.87
31F119	RC367	10	12-10				
31F120	RC717	¼	12-10	15.26	8.99	6.89	6.57

NYLON INSULATED RING TERMINALS

Military Barrel with Insulation Grip

Stk. No.	Type	Screw Size	Wire Size	MS 25036 Dash No.	Net Price per Pkg. 1-9	10-49	50-99	100-249
31F100	RZ23	2	26-22	—143	15.44	9.08	6.98	6.62
31F101	RZ43	4	26-22	—144				
31F105	RA323	4	22-16	—148	15.56	9.17	7.02	6.66
31F219	RA853	6	22-16	—102				
31F220	RA863	8	22-16	—149				
31F223	RB853	6	18-14	—107				
31F224	RB863	8	18-14	—153				
31F225	RB873	10	18-14	—108				
31F228	RC863	8	12-10	—156	19.26	11.36	8.70	8.26
31F229	RC363	10	12-10	—112				
31F230	RC713	¼	12-10	—157	19.48	11.45	8.80	8.37

UNINSULATED MINI-RING

Stk. No.	Type	Screw Size	Wire Size	Net Price per Pkg. 1-9	10-49	50-99	100-249
31F2703	A547	4	22-16	4.59	2.70	2.08	1.97
31F2704	A567	6	22-16				
31F2705	A587	8	22-16				
31F2706	B567	6	18-14				
31F2707	B587	8	18-14				
31F2708	B5107	10	18-14				
31F2709	C587	8	12-10	6.71	3.95	3.03	2.88
31F2710	C5107	10	12-10				
31F2711	C5147	¼	12-10	8.43	4.97	3.81	3.63

STANDARD UNINSULATED RING

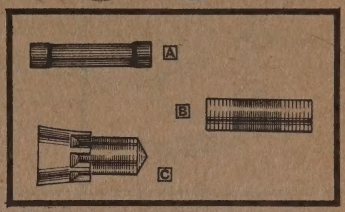
Stk. No.	Type	Screw Size	Wire Size	Net Price per Pkg. 1-9	10-49	50-99	100-249
31F200	A85	6	22-16	6.87	4.05	3.10	2.97
31F201	A86	8	22-16				
31F202	A87	10	22-16				
31F2712	B85	6	18-14				
31F205	B86	8	18-14				
31F206	B87	10	18-14				
31F209	C77	8	12-10	10.00	5.87	4.50	4.28
31F210	C26	10	12-10				
31F211	C71	¼	12-10	11.38	6.72	5.14	4.86

Thomas & Betts STA-KONS and Tools

INSULATED SPLICES

Sold and priced in quantities of 100.

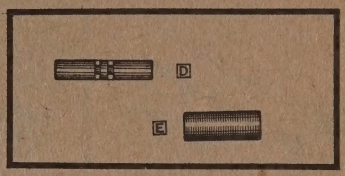
Stock No.	Type	Fig.	Wire Range	Insul. Mat.	Price Per 100			
					100-900	1000-4900	5000-9900	10M
31F250	RAA-217	A	22-18	Vinyl	12.38	7.31	5.60	5.34
31F251	RBB-217	A	16-14	Vinyl	12.38	7.31	5.60	5.34
31F252	RCC-217	A	12-10	Vinyl	18.80	11.07	8.50	8.09
31F260	RAA-24	B	22-18	Nylon	10.38	6.11	4.70	4.47
31F261	RBB-25	B	20-16	Nylon	10.38	6.11	4.70	4.47
31F2725	RCC-26	B	18-12	Nylon	13.92	8.20	6.29	5.98
31F239	RB-4	C	2#16/2#18	Nylon	7.66	4.50	3.46	3.28
31F240	RC-6	C	2#12/4#18	Nylon	13.00	7.65	5.87	5.57



NON-INSULATED SPLICES

Sold and priced in quantities of 100.

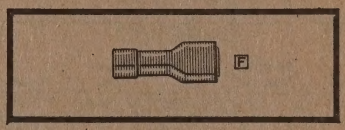
Stock No.	Type	Fig.	Wire Range	Price Per 100			
				100-900	1000-4900	5000-9900	10M
31F247	AA2	D	22-18	8.16	4.82	3.71	3.51
31F248	BB2	D	16-14	8.16	4.82	3.71	3.51
31F249	CC2	D	12-10	11.82	6.96	5.36	5.08
31F163	A1A	E	22-20	6.41	3.77	2.88	2.74
31F164	B1B	E	18-16	6.41	3.77	2.88	2.74
31F165	C1C	E	14-12	7.66	4.50	3.46	3.28



FULLY INSULATED FEMALE DISCONNECTS

Sold and priced in quantities of 100.

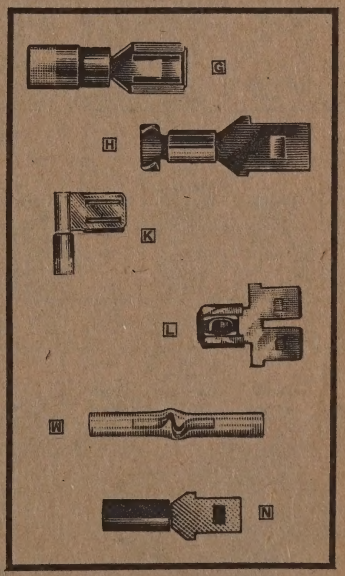
Stock No.	Type	Tab Size	Fig.	Wire Range	Price Per 100			
					100-900	1000-4900	5000-9900	10M
31F2726	RA2573	.250 x .032"	F	22-18	23.78	14.00	10.77	10.25
31F2727	RB2573	.250 x .032"	F	16-14	23.78	14.00	10.77	10.25
31F2729	RC2573	.250 x .032"	F	12-10	29.26	17.20	13.24	12.62



FEMALE AND MALE SELF-INSULATED DISCONNECTS

Sold and priced in quantities of 100.

Stock No.	Type	Fig.	Tab Size	Wire Range	Price Per 100			
					100-900	1000-4900	5000-9900	10M
31F2518	*RBB250	M	.250 x .032"	Coupler	13.44	7.91	6.09	5.78
31F2519	FTA250	L	.250 x .032"	Adapter	10.84	8.25	6.20	5.18
31F110	*RA250	G	.250 x .032"	22-18	16.73	9.84	7.58	7.20
31F175	*RB250	G	.250 x .032"	16-14	16.79	9.88	7.59	7.20
31F098	RB2517	N	.250 x .032"	16-14	11.92	7.02	5.39	5.14
31F2637	RC2517	N	.250 x .032"	12-10	13.08	8.18	7.79	7.42
31F2510	*RA257	G	.250 x .032"	22-18	14.55	8.56	6.58	6.26
31F2511	*RB257	G	.250 x .032"	16-14	14.55	8.56	6.58	6.26
31F2512	*RC257	G	.250 x .032"	12-10	24.15	14.19	10.91	10.40
31F2616	RA187	G	.187 x .032"	22-18	22.08	13.02	10.02	9.09
31F2617	RA187-020	G	.187 x .020"	22-18	22.08	13.04	10.02	9.09
31F2618	RA205	G	.205 x .032"	22-18	22.08	13.04	10.02	9.09
31F2619	RA205-020	G	.205 x .020"	22-18	22.08	13.04	10.02	9.09
31F2620	RA10	G	.110 x .032"	22-18	23.90	14.08	10.80	10.24
31F2621	RB187	G	.187 x .032"	16-14	22.08	13.04	10.02	9.09
31F2622	RB187-020	G	.187 x .020"	16-14	22.08	13.04	10.02	9.09
31F2623	RB205	G	.205 x .032"	16-14	22.08	13.04	10.02	9.09
31F2624	RB205-020	G	.205 x .020"	16-14	22.08	13.04	10.02	9.09
31F2625	RB10	G	.110 x .032"	16-14	23.90	14.08	10.80	10.24



FEMALE AND MALE NON-INSULATED DISCONNECTS

Sold and priced in quantities of 100.

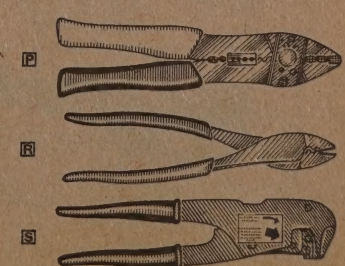
Stock No.	Type	Fig.	Tab Size	Wire Range	Price Per 100			
					100-900	1000-4900	5000-9900	10M
31F2635	B251	N	.250 x .032"	16-14	6.77	3.99	3.06	2.92
31F2636	C251	N	.250 x .032"	12-10	10.97	6.46	4.98	4.73
31F2513	*A-250	G	.250 x .032"	22-18	9.52	5.60	4.30	4.08
31F2514	*B-250	G	.250 x .032"	16-14	9.52	5.60	4.30	4.08
31F2515	*C-250	G	.250 x .032"	12-10	23.66	13.94	10.67	10.17
31F2516	A-10	G	.110 x .032"	22-18	16.94	9.99	7.65	7.29
31F2517	B-10	G	.110 x .032"	16-14	16.94	9.99	7.65	7.29
31F2600	B252G	K	.250 x .032"	16-14	12.05	7.11	5.45	5.20
31F2601	*B250G	G	.250 x .032"	16-14	11.82	6.96	5.36	5.08
31F2602	B251G	H	.250 x .032"	16-14	9.52	5.60	4.30	4.08

*U/L Component Listing.

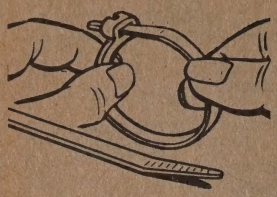
INSTALLING TOOLS

Used for installing STA-KON both insulated and non-insulated solderless disconnects, splices and terminals onto wire. (†) Indicates SURE-STAKE Ratchet Action Tool which assures reliable, uniform crimp every time.

Stock No.	Type	Fig.	For Use With STA-KON Type	Net Each
31F2604	WT1000	P	A, B, C, AB, RA, RB, RC, PT	11.50
31F265	WT111M	R	A, B, C, PT	9.50
31F266	†WT145C	S	RA, RB, RC, RAA, RBB, RCC	112.08
31F267	†WT130A	S	A, B, C	92.88

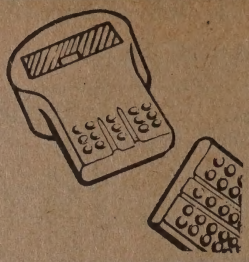


Ty-Rap Cable Ties, Straps and Clamps



- **Quick application**
- **Self oriented**
- **Minimum insertion force**

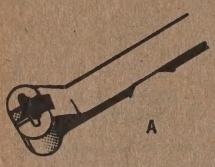
Can be applied quickly. Easy to handle. Self-oriented to the tying direction. Tail slips into head with minimum insertion force.

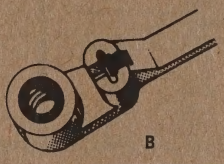


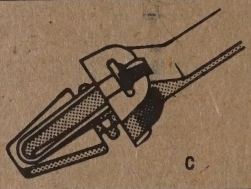
- **Wide cross section**
- **Stippled finish back**
- **Non-slip, wide bearing surface**

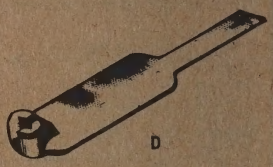
Wide cross section and stippled finish back provides a non-slip, wide bearing surface resulting in fewer ties per foot. Protects wire insulation from thinning.

NOTE: Sold in standard packages only









SELF LOCKING TY-RAP TIES

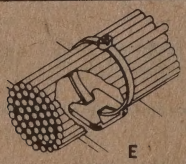
Fig.	Bundle Range	Unlocking Strength (Min.)	Stock No.	Type	Pkg. of	Per Pkg. 1-4	Per Pkg. 5-Up	Stock No.	Type	Pkg. of	Price Per Pkg. 1-9	10-24	25-49	50-99
A	1/16" x 5/8"	18 lbs.	**31F2658**	TY523M	100	**4.64**	**3.63**	**31F2654**	TY23M	1000	**19.00**	**17.50**	**16.30**	**15.20**
A	1/16" x 2"	18 lbs.	**31F2713**	TY5232M	100	**5.12**	**4.00**	**31F2650**	TY232M	1000	**22.84**	**21.30**	**19.85**	**18.49**
A	1/16" x 4"	18 lbs.	**31F2714**	TY5234M	100	**8.64**	**6.75**	**31F2651**	TY234M	1000	**38.33**	**35.75**	**33.30**	**31.04**
A	1/16" x 1 1/4"	30 lbs.	**31F2659**	TY524M	100	**5.12**	**4.00**	**31F2524**	TY24M	1000	**24.40**	**22.75**	**21.20**	**19.75**
A	1/16" x 2"	30 lbs.	**31F2715**	TY5242M	100	**6.24**	**4.88**	**31F2652**	TY242M	1000	**26.60**	**24.80**	**23.10**	**21.54**
A	1/16" x 3"	40 lbs.	**31F2716**	TY526M	100	**10.72**	**8.38**	**31F2605**	TY26M	1000	**52.80**	**51.00**	**48.90**	**45.80**
A	1/16" x 4"	40 lbs.	**31F2717**	TY5244M	100	**13.60**	**10.63**	**31F2653**	TY244M	1000	**66.25**	**62.93**	**57.12**	**51.92**
A	1/16" x 1 3/4"	50 lbs.	**31F2660**	TY525M	100	**6.56**	**5.13**	**31F269**	TY25M	1000	**29.40**	**27.40**	**25.55**	**23.80**
A	1/16" x 4"	50 lbs.	**31F2718**	TY528M	100	**15.04**	**11.75**	**31F2502**	TY28M	1000	**66.78**	**63.44**	**60.08**	**57.02**
A	3/16" x 3 1/2"	120 lbs.	**31F2719**	TY527M	50	**10.72**	**8.38**	**31F2501**	TY27M	500	**55.50**	**53.00**	**50.50**	**47.90**
A	1 1/2" x 9"	120 lbs.	**31F2720**	TY529M	50	**22.16**	**17.32**	**31F2721**	TY29M	500	**116.77**	**110.93**	**100.83**	**92.77**

SELF LOCKING TY-RAP CABLE STRAPS

Fig.	Bundle Range	Unlocking Strength (Min.)	Screw Size	Stock No.	Type	Pkg. of	Per Pkg. 1-4	Per Pkg. 5-Up	Stock No.	Type	Pkg. of	Price Per Pkg. 1-9	10-24	25-49	50-99
B	1/16" x 5/8"	18 lbs.	4	**31F2722**	TY533M	100	**7.68**	**6.00**	**31F2526**	TY33M	1000	**45.60**	**35.89**	**34.40**	**32.95**
B	1/16" x 1 1/8"	40 lbs.	10	**31F2661**	TY534M	100	**8.80**	**6.88**	**31F2527**	TY34M	1000	**49.90**	**42.50**	**37.70**	**36.20**
B	1/16" x 1 3/4"	50 lbs.	4	**31F2662**	TY535M	100	**9.92**	**7.75**	**31F2528**	TY35M	1000	**54.73**	**48.60**	**43.80**	**41.35**
C	1/16" x 1 3/4"	50 lbs.	10	**31F2723**	TY538M	100	**10.72**	**8.38**	**31F2529**	TY38M	1000	**60.75**	**48.65**	**43.80**	**41.35**

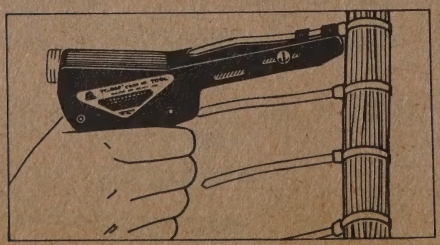
SELF LOCKING IDENTIFICATION TIES

Fig.	Bundle Range	Unlocking Strength (Min.)	Stock No.	Type	Pkg. of	Per Pkg. 1-4	Per Pkg. 5-Up	Stock No.	Type	Pkg. of	Price Per Pkg. 1-9	10-24	25-49	50-99
D	5/8" x 1 3/4"	50 lbs.	**31F2663**	TY546M	100	**20.00**	**15.63**	**31F2504**	TY46M	1000	**104.30**	**71.70**	**64.50**	**61.05**
D	3/16" x 5/8"	18 lbs.	**31F2724**	TY551M	100	**9.92**	**7.75**	**31F2530**	TY51M	1000	**54.75**	**48.65**	**43.80**	**41.35**



TY-RAP PREMOUNTABLE ADHESIVE CLAMPS

Fig.	Bundle Range	Stock No.	Type	Price Per 100 100-400	500-900	1M-Up
E	Up to 50 lb. Tie	**31F2613**	TC342A	**15.06**	**13.45**	**12.37**
F	1/16" x 1/16"	**31F2656**	TC354A	**17.37**	**15.19**	**13.99**



TY-RAP INSTALLING HAND TOOL

- **Ties to preset tension**
- **Cuts off excess tail**
- **Low insertion force design**

Model WT193. Quickly cinches up tie to preset tension, locks and cuts off excess tail. Low insertion force design allows tapered tip of Ty-Rap slip into head easily. Insures uniform tension on all ties.
31F2657. NET **44.00**

Strippers and Boards

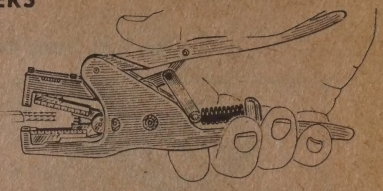
circuit-stik®

THOMAS AND BETTS WIRE STRIPPERS

Type ABMK-1. Weighs 8½ ozs. Strips from #30AWG to #12AWG. Stranded or solid; aluminum or copper.
31F2606. NET **31.00**

Type ABMK-3. Self-adjusting wire stripper, strips insulation from #10AWG to #18AWG. Stranded or solid; aluminum or copper.
31F2632. NET **40.00**

Type HS1. Easily adjustable stripper features locking slide selector. Cuts and strips 22-12 stranded and 22-10 solid. Set selector to conductor size, place wire in stripping jaw, squeeze handles, and pull off insulation. Right angle stripping jaw is especially convenient for working in confined spaces.
31F2568. NET **3.99**

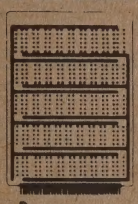


CIRCUIT STIK BOARDS

CIRCUIT-STIK GP BOARDS are designed for use in micro-processor, memory, and interface assembly breadboarding; ideal for general digital and analog circuits and micro-computer expansion.

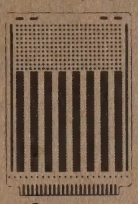
GP BOARD FEATURES: Pre-drilled holes; pre-routed contours; RFI shielding on component side; mounting and interconnection versatility; gold-nickel edge contacts; card cage compatibility.

A- Universal Wire Wrap Socket Board

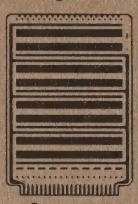


B- High Density Dip Wire Wrap Socket Board

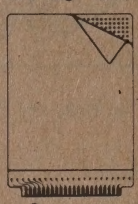
C- Universal Dual-In-Line GP Board



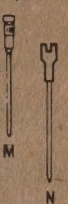
D- Universal Dip With Discrete Conditioning Area



E- Universal Dip With Pwr. & Grd.



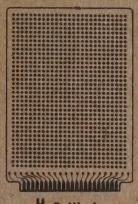
F- Cut & Peel On Drilled .100" Grid



M

N

G- Cut & Peel On Undrilled GP Board

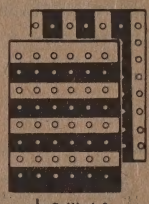


H- Drilled .100" Grid GP Board

I - GP Board Extender With Mounted Connector

J- Cut & Peel Board Material — Drilled

K- Cut & Peel Board Material — Undrilled



L- Drilled & Etched X-Y Grid Material

O

P

PRE-ROUTED GP BOARDS

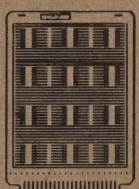
Stk. No.	Type No.	Fig.	Edge Contacts	Size L" x W"	Hole Dia.	Price
38F1700	8002	A	36/72	4.5x4.5	.035"	12.95
38F1701	8102	A	36/72	6.5x4.5	.035"	15.95
38F1702	8004	B	36/72	4.5x4.5	.035"	12.95
38F1703	8104	B	36/72	6.5x4.5	.035"	15.95
38F1704	8006	C	22/44	4.5x4.5	.035"	12.95
38F1705	8106	C	22/44	6.5x4.5	.035"	15.95
38F1706	8008	D	22/44	4.5x4.5	.035"	12.95
38F1707	8108	D	22/44	6.5x4.5	.035"	15.95
38F1708	8112	E	22/44	6.5x4.5	.035"	15.95
38F1709	8024	F	22/44	4.5x4.5	.042"	13.95
38F1710	8124	F	22/44	6.5x4.5	.042"	16.95
38F1711	8026	G	22/44	4.5x4.5	.042"	10.95
38F1712	8126	G	22/44	6.5x4.5	.042"	13.95
38F1713	8028	H	22/44	4.5x4.5	.042"	11.95
38F1714	8128	H	22/44	6.5x4.5	.042"	14.95
38F1715	8128-1	H	22/44	9.6x4.5	.042"	17.95

Stk. No.	Type No.	Fig.	Edge Contacts	Size L" x W"	Hole Dia.	Price
38F1716	8128-EP*	H	22/44	6.5x4.5	.042"	8.95
38F1717	8136	H	36/72	6.5x4.5	.042"	14.95
38F1718	8040	I	22/44	4.5x4.5	—	16.95
38F1719	8140	I	22/44	6.5x4.5	—	17.95
38F1720	8142	I	36/72	6.5x4.5	—	19.95
38F1721	004-7307	J	—	4.5x6.5	.042"	4.20
38F1722	004-7305	J	—	4.5x17.0	.042"	7.55
38F1723	004-7353	K	—	4.0x6.0	.042"	2.55
38F1724	004-7351	K	—	6.0x12.0	.042"	5.75
38F1725	007-7307	L	—	4.5x6.5	.042"	5.40
38F1726	007-7305	L	—	4.5x17.0	.042"	9.75
	*EP = Epoxy-paper board material					
38F1727	7543-100	M	W/W socket pin		.054"	16.00
38F1728	7542-100	N	W/W slotted pin		.042"	4.50
38F1729	7544-100	O	Wire wrap post		.035"	5.00
38F1730	7541-100	P	Round flanged pin		.042"	3.25

INTERCHANGEABLE POPULAR PC BOARDS

Q- Universal Dual-In-Line Circuit Board

R- Universal Wire Wrap Socket Board



S- X-Y Matrix Dual-In-Line Circuit Board

T- Drilled .100" Alternate Grid Circuit Board

Stk. No.	Type No.	Fig.	Edge Contacts	Size L" x W"	Hole Dia.	Price
38F1733	8114	Q	22/44	6.5x4.5	.035"	9.23
38F1734	8114-1	Q	22/44	9.6x4.5	.035"	10.33
38F1735	8116	R	22/44	6.5x4.5	.035"	9.76
38F1736	8116-1	R	22/44	9.6x4.5	.035"	10.92
38F1737	8020	S	22/44	4.5x4.5	.035"	9.95
38F1738	8120	S	22/44	6.5x4.5	.035"	11.95
38F1739	8132	T	22/44	6.5x4.5	.062"	8.95

SOCKET GP BOARDS

U- 8102 GP Board With Mounted w/w Socket Strips

V- 8104 GP Board With Mounted w/w Sockets

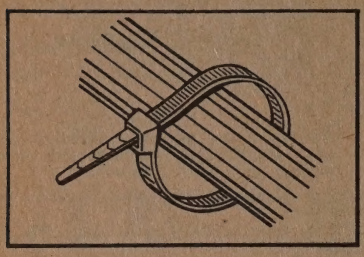
Stk. No.	Type No.	Fig.	Edge Contacts	Size L" x W"	No. of Sockets	Price
38F1731	001-8102	U	36/72	6.5x4.5	Cont. Strips	99.50
38F1732	002-8104	V	36/72	6.5x4.5	50 ea.16 Pin	94.50

NEWARK can supply all your PC needs.

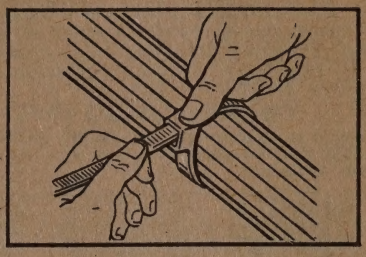
SPC technology — VOLTREX brand Wiring Accessories

VOLTREX WIRE TIES

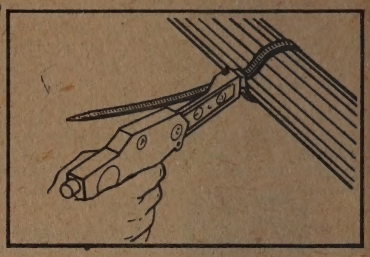
The Fast, Neat, And Professional System For Permanent Bundling Of Wire & Cable



Place VOLTREX Tie around Wire/cable bundle.



Pull VOLTREX Tie through locking head, down to bundle. Serrated tip is easy to grip.



Tension tightening, final locking and flush trimming is automatic with a squeeze of the finger.

FEATURES:

- Serrated ties with self-locking head
- Miniature ties have bent tip for easy insertion
- Manufactured from the finest virgin Nylon
- One piece construction
- Tens-N-Cut Hand Gun assures a better wire/cable tying system

Flexible ties — precision molded of high strength, self-extinguishing, fungus inert virgin Nylon — wrap easily around wire/cable bundles. The tapered tail is inserted by hand into the ties self-locking head. Uniform gripping serrations allow convenient "pull-through" down to the bundle where the straps lock to eliminate slippage. The last step is final tensioning and excess trimming — automatically accomplished by the Tens-N-Cut tensioning hand gun, or, if the assembler chooses, a pair of pliers. Ties are available in either regular or screw-mount design. Ties are serviceable at temperatures to 275° F., maximum life and strength is attained at temperatures below 185° F.

REGULAR

Type	Maximum Bundle Diameter	Tensile Strength	Overall Length	Screw Size	Stock No.	Package of 100		Stock No.	Package of 1000		
						1-9	10-Up		1-9	10-24	25-49
VRT-06M	¾"	18#	4¾6"	—	78N506	3.58	2.86	78N536	19.00	17.50	16.30
VRT-11M	1⅜"	18#	5¾"	—	78N517	3.76	3.01	78N530	21.00	19.60	18.26
VRT-101	1¼"	30#	5¾"	—	78N507	3.99	3.19	78N537	24.40	22.75	21.20
VRT-161	2"	30#	7½"	—	78N518	4.82	3.85	78N531	26.60	24.80	23.10
VRT-16S	2"	50#	8"	—	78N508	5.09	4.07	78N538	29.40	27.40	25.55
VRT-22S	2¾"	50#	10¾"	—	78N509	9.97	7.98	78N539	60.23	57.22	54.67
VRT-36S	4½"	50#	15½"	—	78N510	11.69	9.35	78N540	66.78	63.44	60.08
VRT-34H	4¼"	120#	15"	—	78N511**	16.78	13.42	78N541*	111.00	106.00	101.00

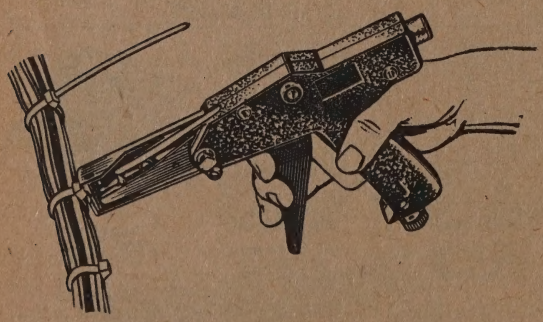
MOUNTABLE

VMT-12S	1½"	50#	6¾"	#10	78N512	7.02	5.61	78N542	54.73	48.60	43.80
VMT-32H	4"	120#	15⅜"	¼"	78N526**	22.42	17.93	78N503*	164.10	152.00	137.35

*Pkg. of 500. **Pkg. of 50.

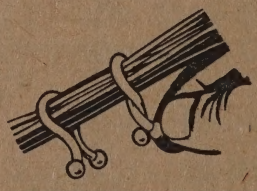
TENS-N-CUT

Automatic Hand Gun Tightens Ties to Pre-Set Tension and Trims Off Excess



Rugged, long-life construction — yet lightweight to prevent user fatigue. Adjustable tension permits drawing ties to required tightness — automatically. Trims ties flush for neat installations. Deposits waste when trigger is released.

Stock No.	Type	Description	Each
78N547	8408-001	Tens-N-Cut Hand Gun	51.95



TWIST TYPE WIRE TIES

You are bound to save money by using these twist type Nylon ties for wire bundles, or other applications. The time saved is substantial, they're easy to use, and reusable! Just twist the ends together. Another flick of the fingers releases the tie instantly. Color: White.

Stock No.	Type	Bundle Dia.	Approx. Height	Package of 100				
				1-9	10-49	50-99	100-249	250-Up
78N594	TWT-3	.2-.3"	.900"	2.12	1.48	1.19	1.03	.91
78N595	TWT-4	.3-.4"	1.032"	2.29	1.62	1.29	1.12	.98
78N596	TWT-5	.4-.5"	1.200"	2.44	1.72	1.37	1.19	1.03
78N597	TWT-8	.7-.8"	1.550"	2.95	2.08	1.66	1.44	1.26

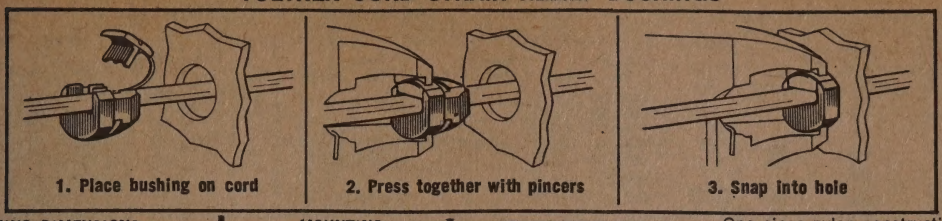
BEADED WIRE TIES

Efficient, cost-cutting binding method. Unique beaded design provides a positive fastening action yet allows release should it become necessary. Ties are 4" long. Color ties are of high dielectric polyethylene, white tie is Nylon.

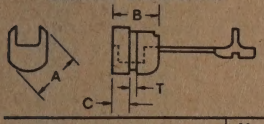
Stock No.	Type	Color	Package of 100				
			1-9	10-49	50-99	100-249	250-Up
32N692	BTP-4-RED	Red	1.68	1.19	.96	.82	.74
32N1250	BTP-4-YEL	Yellow	1.68	1.19	.96	.82	.74
32N1251	BTP-4-BLU	Blue	1.68	1.19	.96	.82	.74
32N1267	BTN-4-WHT	White	3.65	2.57	2.05	1.77	1.56

VOLTREX brand Wiring Accessories SPC technology

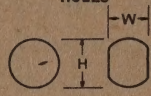
VOLTREX CORD STRAIN RELIEF BUSHINGS



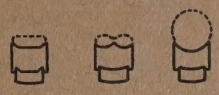
BUSHING DIMENSIONS



MOUNTING HOLES



KEY-CONTOUR STYLES

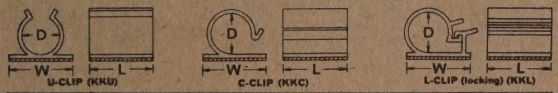


One-piece nylon-construction bushings withstand temperatures to 300°F. Easily installed with specially designed pincers or an ordinary pliers. Locked in place until deliberately removed for servicing. Eliminates strain that tears cords loose from contacts or connections. Won't injure insulation.

Cords Accommodated		Max. Panel Thick. "T"	Dia. "H"	"W"	Key Contour	"A"	"B"	"C"	Stock No.	Type	Packages of 100			
Wires	Cord Type										1-9	10-49	50-99	100-249
2-#18	SP-1; SPT-1	.062	.437	.395	Dual	.460	.410	.160	16N1041	SRD-10	2.77	1.95	1.54	1.36
2-#18	SP-1; SPT-1; XT	.062	.375	.345	Flat	.425	.410	.155	16N1042	SRF-10	2.15	1.52	1.20	1.05
2-#18	SP-1; SPT-1; XT	.125	.375	.345	Flat	.425	.410	.155	16N1043	SRF-20	2.15	1.52	1.20	1.05
2-#18	SP-2; SPT-2; HPN	.100	.500	.465	Flat	.570	.500	.171	16N1044	SRF-30	3.53	2.49	1.99	1.73
2-#16	SP-2; SPT-2; HPN	.100	.515	.465	Flat	.570	.500	.171	16N1044	SRF-30				
2-#18	SPT-3	.130	.562	.530	Flat	.610	.600	.240	16N1045	SRF-40	5.07	3.57	3.06	2.47
3-#18	SPT-2	.130	.562	.530	Flat	.610	.600	.240	16N1045	SRF-40				
2-#16	SPT-3	.130	.562	.530	Flat	.610	.600	.240	16N1045	SRF-40				
3-#16	HPN	.130	.562	.530	Flat	.610	.600	.240	16N1045	SRF-40				
2-#18	SPT-3	.125	.730	.560	Flat	.775	.680	.275	16N1046	SRF-50	5.58	3.92	3.13	2.72
3-#18	SPT-3	.125	.730	.560	Flat	.775	.680	.275	16N1046	SRF-50				
2-#16	SPT-3	.125	.730	.560	Flat	.775	.680	.275	16N1046	SRF-50				
3-#16	SPT-3	.125	.730	.560	Flat	.775	.680	.275	16N1046	SRF-50				
2-#18	HPD; SV; SVT	.100	.500	.465	Round	.560	.430	.165	16N1047	SRR-10	3.53	2.49	1.99	1.73
3-#18	SV; SVT	.100	.515	.465	Round	.560	.430	.165	16N1047	SRR-10				
2-#16	HPD	.100	.515	.465	Round	.560	.430	.165	16N1047	SRR-10				
2-#18	SJ; SST; SJO	.125	.625	.570	Round	.678	.585	.225	16N1048	SRR-20	5.91	4.15	3.30	2.88
3-#18	SJ; SJT; SJO	.125	.625	.570	Round	.678	.585	.225	16N1048	SRR-20				
4-#18	SJ; SJT; SJO	.125	.625	.570	Round	.678	.585	.225	16N1048	SRR-20				
2-#16	SJ; SJT; SJO	.125	.625	.570	Round	.678	.585	.225	16N1048	SRR-20				
3-#16	SJ; SJT; SJO	.125	.625	.570	Round	.678	.585	.225	16N1048	SRR-20				

KWIK-KLIP ADHESIVE HOLDERS

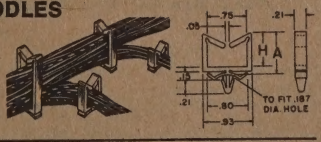
Stays in place permanently when adhesive mtd. For anchoring cable, tubing, pipe or rod up to ½" in diameter. Made from strong resilient CPVC plastic, elastic enough to receive components, firm enough to hold them securely.



Stk. No.	Type	Cable Dia. "D"	Clamp Width "W"	Clamp Length "L"	Desc.	Pkg. of 100 1-9	Pkg. of 100 10-49
16N1049	AUC-1	⅛	¾	¾	U-Clamp	10.87	7.65
16N1050	AUC-2	¼	¾	¾	U-Clamp	12.37	8.70
16N1051	AUC-3	⅜	¾	¾	U-Clamp	13.83	9.71
16N1052	AUC-4	½	1	1	U-Clamp	15.33	10.79
16N1053	AUC-6	¾	1	1	U-Clamp	21.85	15.40
16N1054	ACC-1	⅛	¾	¾	C-Clamp	10.90	7.67
16N1055	ACC-2	¼	¾	¾	C-Clamp	12.35	8.66
16N1056	ACC-3	⅜	¾	¾	C-Clamp	13.79	9.68
16N1057	ACC-4	½	1	1	C-Clamp	15.33	10.79
16N1058	ACC-6	¾	1	1	C-Clamp	21.85	15.40
32N689	ALC-2	¼	¾	¾	Locking	13.08	9.19
32N684	ALC-4	½	1	1	Locking	16.48	11.59
32N682	ALC-6	¾	1	1	Locking	23.69	16.69

SNAP-IN WIRE SADDLES

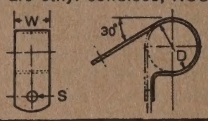
Nylon saddles to harness bundles of wire up to ¾" wide. Locking tip snaps into .187" dia. hole, expands to lock permanently in any position. No special tools required.



Stk. No.	Type	Wire Bundle Ht. "H"	"A"	Package of 100 1-9	10-49	50-99	100-249
16N1059	WS-10	.19"	.46"	3.21	2.25	1.80	1.56
16N1060	WS-20	.50"	.77"	3.71	2.62	2.09	1.81
16N1061	WS-30	.85"	1.12"	4.13	2.90	2.30	2.01

CABLE CLAMPS

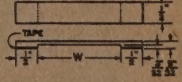
ECC types are ethyl cellulose, NCC are nylon



Stock No.	Type	Cable Dia. "D"	Clamp Width "W"	Screw Size "S"	A	Pkg. of 100 1-9	Pkg. of 100 10-Up
32N1269	ECC-2	⅛	½	#10	21/64	2.56	2.18
32N1270	ECC-3	3/16	½	#10	25/64	2.64	2.19
32N1271	ECC-4	¼	½	#10	27/64	2.83	2.42
32N1272	ECC-5	5/16	½	#10	29/64	3.13	2.67
32N1273	ECC-6	⅜	½	#10	31/64	3.30	2.81
32N1275	ECC-8	½	½	#10	9/16	3.96	3.26
32N1277	ECC-10	⅝	½	#10	⅜	4.95	3.96
32N1279	ECC-12	¾	½	#10	49/64	5.61	4.49
32N1281	ECC-16	1	½	#10	29/32	6.27	5.02
32N1284	NCC-2	⅛	⅜	#8	21/64	3.96	3.17
32N1285	NCC-3	3/16	⅜	#8	25/64	4.29	3.43
32N1286	NCC-4	¼	⅜	#8	27/64	4.62	3.70
32N1287	NCC-5	5/16	⅜	#8	29/64	5.11	4.09
32N1288	NCC-6	⅜	⅜	#8	31/64	5.28	4.22
32N1290	NCC-8	½	⅜	#8	9/16	5.94	4.75
32N1292	NCC-10	⅝	½	#10	⅝	7.92	6.34
32N1294	NCC-12	¾	½	#10	49/64	8.91	7.13
32N1296	NCC-16	1	½	#10	29/32	11.22	8.98

FLAT CABLE CLAMPS

Designed expressly for holding flat conductors: flat flexible cable, ribbon cable, etc. Clamp's self-adhesive backing holds harness permanently in position. Made of high dielectric, self-extinguishing CPVC.

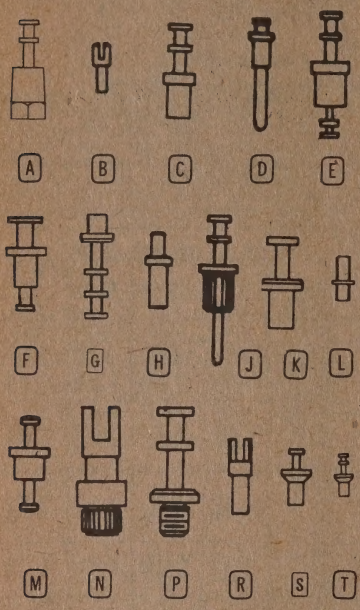


Stock No.	Type	Cable Width "W"	Package of 100 1-9	10-49	50-99	*100-249
16N1062	FCC-1	½	12.64	8.90	7.08	6.17
16N1063	FCC-2	1	13.86	9.75	7.75	6.75
16N1064	FCC-4	2	14.44	10.15	8.08	7.04
16N1065	FCC-6	3	14.85	10.48	8.32	7.25

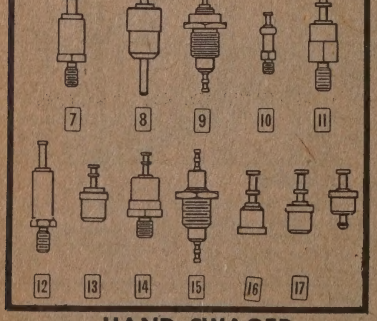
CAMBION

Solder Terminals

Suffix in type number indicates board thickness size: —01, 1/32"; —02, 1/16"; —03, 3/32"; —04, 1/8". Number in plating column indicates finish; 01 is silverplate, 04 is electro-tin plate and 05 is electro-solder. **Sold in pkg. of 100 only.**



Types 1503, 1504, 1510; 1511 and 1947 are Teflon; 1581 and 1795 are phenolic; 4810-4899 are molded diallyl; others ceramic. Last suffix in Type No. indicates color; —19 white; —16 blue; —00 no color choice. Next-to-last suffix indicates terminal plating: —01 silver; —05 electro solder; —03 gold. Studs are cadmium plus colored chromate. (*) meets MIL-T-55155. All are double turret except (†) single turret, (**) fork terminal. **Sold in pkg. of 50 only.**



HAND SWAGER

Stk. No.	Type	Description	Each
40F1500	3802-1	2½" Throat	65.50
40F1570	3803-1	5" Throat	104.50

UNINSULATED TERMINALS

Stock No.	Type	Stock No.	Type	Stock No.	Type	Fig.	Plating	Mtg. Dia.	Net per Pkg. of 100 1-9	10-49	50-99	100-249
13F2190	1019-02					B	01	.047	4.03	3.77	3.29	2.93
13F2192	1018-02					B	01	.047	3.63	3.39	2.97	2.64
40F6003	1025-02					B	01	.112	12.61	11.79	10.32	9.17
40F6004	1026-02	13F2193	1026-03	13F2194	1026-04	C	01	.090	2.90	2.71	2.38	2.11
13F2195	1032-02			40F6006	1032-01	D	01	.062	3.63	3.39	2.97	2.64
40F6007	1035-02					E	01	.125	4.92	4.60	4.03	3.58
40F6010	1043-02			13F3000	1043-04	E	01	.090	5.30	4.95	4.33	3.85
				13F3002	1081-04	E	01	.201	9.56	8.94	7.82	6.96
40F6012	1131-02					H	04	.060	3.90	3.65	3.19	2.84
40F6015	1245-02					K	01	.112	4.00	3.74	3.27	2.91
		13F3005	1457-03			K	01	.078	2.57	2.40	2.10	1.87
40F6021	1463-02					M	01	.116	3.55	3.32	2.90	2.58
				13F3009	1548-04	C	01	.112	3.61	3.38	2.95	2.63
40F6023	1558-02	13F3010	1558-03			C	01	.090	2.63	2.46	2.15	1.92
				13F3015	1579-04	N	01	.202	7.68	7.19	6.29	5.59
40F6026	1582-02					P	01	4-40 Trd.	7.55	7.06	6.17	5.49
40F6029	1724-02	13F3018	1724-03	13F3019	1724-04	C	01	.112	4.08	3.82	3.34	2.97
		13F3020	1784-03			N	01	.112	6.25	5.85	5.12	4.55
40F6032	1785-02			13F3023	1785-04	R	01	.062	3.45	3.23	2.82	2.51
40F6038	1941-02					R_1	01	.071	3.52	3.29	2.88	2.56
40F6039	1969-02					R	01	.112	5.05	4.72	4.13	3.67
40F6043	2027-02	13F3037	2027-03			C	01	.071	3.45	3.23	2.82	2.51
40F6044	2034-02	13F3039	2034-03			E	01	.090	4.07	3.80	3.33	2.96
40F6045	2040-02					K	01	.072	4.15	3.88	3.40	3.02
40F6047	2042-02					F	01	.072	2.84	2.66	2.32	2.07
40F6048	2043-02	13F3046	2043-03			C	01	.072	2.72	2.54	2.22	1.98
40F6049	2044-02					P	01	.072	3.00	2.80	2.45	2.18
40F6053	2084-02					G	01	.112	6.82	6.38	5.58	4.96
40F6054	2085-02					K	01	.047	2.26	2.11	1.85	1.64
40F6056	2089-02					B	01	.047	4.38	4.10	3.58	3.19
				40F6067	2381-01	A	05	4-40 Trd.	14.51	13.56	11.87	10.55
40F6071	2753-02					S	05	.060	3.49	3.26	2.85	2.54
				13F3078	2754-04	T	05	.060	3.49	3.26	2.85	2.54
13F3080	3653-02					C	01	.062	2.86	2.67	2.34	2.08

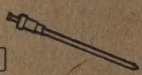
STUD, TAPPED AND RIVET-MOUNT TYPES

Stk. No.	Type 570-	Fig.	Mtg.	Per Pkg. Ea.	2-9	Stk. No.	Type 570-(§572)	Fig.	Mtg.	Per Pkg. Ea.	2-9
40F6200	1503-01-05-19*	1	4-40 thd.	.56	.43	40F1781	3648-01-01-00		4-40 tap	.61	.47
40F6201	1504-01-05-19*	11	6-32 thd.	.56	.43	40F1782	3648-02-01-00		6-32 tap	.61	.47
40F6202	1510-01-05-19*	2	4-40 thd.	.56	.43	40F1762	3650-01-01-00		4-40 tap	.61	.47
40F6203	1511-01-05-19*	2	6-32 thd.	.56	.43	40F6224	§4810-01-05-16	7	14-40 thd	.44	.34
40F1821	1581-01-01-00	14	6-32 thd.	.56	.43	40F6225	§4814-01-05-16*		14-40 tap	.50	.39
40F1831	1795-01-01-00	15	¼-28 thd.	.97	.75	40F6226	§4815-01-05-16		6-32 tap	.50	.39
40F1773	1942-01-05-00*		6-32 thd.	.61	.47	40F6227	§4820-01-05-16*		4-40 tap	.57	.44
40F1774	1942-02-05-00*		6-32 thd.	.61	.47	40F6228	§4826-01-05-16		4-40 tap	.50	.39
40F1841	1947-01-05-19		4-40 tap	.88	.68	40F6229	4827-01-05-16		6-32 tap	.50	.39
40F1842	1947-02-05-19		6-32 tap	.88	.68	40F6230	§4838-01-05-16*†		4-40 tap	.50	.39
40F1737	1980-03-01-00†		3-48 thd.	.58	.45	40F6231	§4862-01-05-16**		4-40 tap	.56	.43
40F1805	1990-01-05-00	9	¼-28 thd.	1.17	.90	40F6233	§4870-01-05-16†	12	2-56 thd	.41	.32
40F6213	1994-02-01-00		6-32 thd.	.58	.45	40F6234	§4872-01-05-16†		2-56 tap	.44	.34
40F6217	2045-01-01-00		4-40 thd.	.61	.47	40F6236	§4884-01-05-16		2-56 tap	.44	.34
40F1700	2255-01-03-00†	10	2-56 thd.	.74	.57	40F6237	§4894-01-05-16*†	12	2-56 thd	.41	.32
40F1701	2255-02-03-00†	10	2-56 thd.	.74	.57						

TEFLON PRESS-MOUNT INSULATED TERMINALS

Stock No.	Type 571-	Fig.	Description	Panel Thick.	Mtg. Dia.	Ht. Above Board	Per Pkg. Ea.	2-9	10-19
40F6239	4015-01-05-19	17	Double turret	To .062"	.093"	.140"	.33	.23	.21
40F1847	4025-01-05-19	13	Double turret	To .062"	.148"	.210"	.30	.21	.19
40F6248	4029-01-05-19	4	Pin term.	To .062"	.148"	.210"	.28	.19	.18
40F6251	4034-01-05-19	16	Double turret	To .062"	.148"	.210"	.33	.23	.21
40F6258	4152-02-05-19*	3	Pin term. Standoff	To 0.62"	.093"	.165"	.36	.25	.23
40F5150	4176-01-05-19*	8	Pin/pin feed-thru	To .062"	.148"	.210"	.33	.23	.21
40F1947	4182-02-05-19	5	Dbl. tur. feed-thru	To .085"	.148"	.210"	.33	.23	.21
40F6261	4182-03-05-19	5	Dbl. tur. feed-thru	To .125"	.148"	.210"	.33	.23	.21
40F5152	4197-01-05-19*	6	Dbl. tur. feed-thru	To .190"	.148"	.250"	.33	.23	.21
40F1812	4263-01-05-19	18	Dbl. tur. feed-thru	To .125"	.216"	.228"	.53	.37	.34
40F6266	4281-01-05-19	8	Pin/pin feed-thru	To .109"	.165"	.325"	.33	.23	.21

WIRE WRAP TERMINALS



Type 3748-02-04. For board 1/16" thick, .090 mtg. dia.; .045 sq. wire-wrap pin with turret.
Type 3848-01-03. Board .062-.125" thk., .056 dia.; .025 sq. wire-wrap pin, turret.
Type 3854-01-03. Board .052-.188" thk., .058 dia.; .025 sq. wire-wrap pin, turret.
Type 3866-01-03. For board .062" thick only, .058 mtg. dia.; .025 sq. wire-wrap pin, turret.

Stock No.	Type	Fig.	Description	Price Per Pkg. of 100 1-9	10-49	50-99	100-249
40F4010	3748-02-04	EE	Turret	13.58	10.46	9.78	8.56
40F4011	3848-01-03	DD	Turret	20.75	15.98	14.94	13.07
40F4012	3854-01-03		Press Mount	21.39	16.47	15.40	13.48
40F4013	3866-01-03		Turret	17.34	13.35	12.48	10.92

Boards, Connectors and Handles

CAMBION

MINIATURE PLUG/JACK CONNECTORS AND PATCH CORDS

Gold plating. Types listed are most commonly used items. Ask Newark for Cambion Plug-Jack brochure for complete listing of many other types. For prices on Larger quantities contact your nearest Newark facility.

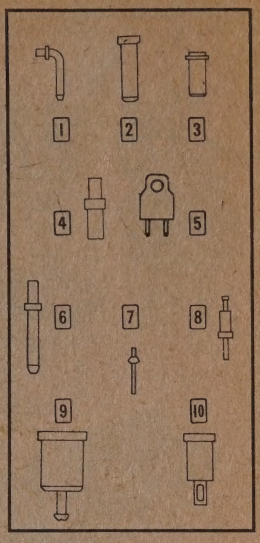
(*) Jack I/D-.016/.019.

Order by number of packages required.

Stk. No.	Type	I/D	Fig.	Description	Board Thk.	Pkgs. of 100
39F2911	450-3268-01-03-00	.016*	2	PC Jack for Transistor Leads	.031/.156	23.00
39F2912	450-3286-01-03-00	.040	3	PC Jack-Dip Sold.-Thru-hole	.031/.156	23.00
40F6119	450-3388-01-03-00	.040	3	PC Jack-Dip Sold.	.031/.156	23.00
39F2973	450-3394-04-03-00	.025	4	PC. Jack-Swage Type	1/8"	56.00
39F2974	450-3398-01-03-00	.080	3	PC Jack-Dip Sold.	.031/.250	37.00
40F6125	450-3703-01-03-00	.025	.....	PC Jack-Dip Sold.	.031/.094	28.00
40F6303	450-3704-01-03-00	.040	.....	PC Jack-Dip Sold.	.031/.156	28.00
40F6301	450-3745-01-03-00	.022	.....	Jack/Wire-Wrap Term.-Knurl Mt.	.062/.188	51.00
39F2922	450-3772-01-03-00	.016*	2	PC Jack-for Trans. Leads	.031/.188	28.00
40F6302	450-3844-01-03-00	.018	.....	Jack/Wire-Wrap Pin-Knurl Mt.	.062/.188	51.00
40F6309	450-4351-01-03-10	.047	9	Blk. Teflon-Jack/Term-.185 Mt. Dia.	To .094	102.00
39F2927	450-4352-01-03-19	.040	9	White Teflon-Jack/Term-.148 Mt. Dia.	To .094	56.00
39F2949	450-4355-01-03-19	.080	10	White Teflon-Jack/Eye Term-.185 Mt. Dia.	To .125	40.00
39F2961	450-4355-01-03-12	.080	10	Red Teflon-Jack/Eye Term-.185 Mt. Dia.	To .125	40.00

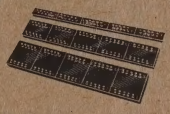
Stk. No.	Type	O/D	Fig.	Description	Lgt.	Board Thk.	Pkgs. of 100
40F6090	460-1521-01-03-00	.040	1	PC Right Angle, Bent Pin	.257"	1/32"	16.84
39F2967	460-2970-02-03-00	.040	6	PC Pin-.040" Mtg. Dia.	.300"	1/16"	9.02
40F6097	460-2970-01-03-00	.040	6	PC Pin-.040" Mtg. Dia.	.300"	1/32"	9.02
39F2968	460-2970-03-03-00	.040	6	PC Pin-.040" Mtg. Dia.	.300"	3/32"	9.02
40F6098	460-2971-01-03-00	.040	6	PC Pin-.040" Mtg. Dia.	.150"	1/32"	7.61
40F6099	460-3202-01-03-00	.025	6	Comb. Term/Pin-.025" Mtg. Dia.	.025"	1/32"	7.48
39F2940	460-3231-02-03-00	.025	6	PC Pin-.040" Mtg. Dia.	.125"	1/16"	10.91
39F2945	460-3232-03-03-00	.040	6	PC Pin-.040" Mtg. Dia.Thru Hole	.300"	3/32"	10.45
39F2946	460-3233-02-03-00	.040	6	PC Pin-.040" Mtg. Dia. Thru Hole	.150"	1/16"	8.80

Stk. No.	Type	O/D	Fig.	Description	Board Thk.	Pkg. of 100
40F6308	460-3889-01-03-00	.025	7	PC Pin-.031" Mtg. Dia.	1/32"	8.46
39F2985	461-2871-01-03-10	.040	5	Insulated Shorting Plug-Black Pins .200" Ctrs.		47.00



TERMINAL BOARDS

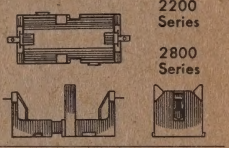
Each section drilled for 14 terminals, with 10 mounted (except type 1401 drilled for 7 with 5 mtd.). Materials: FBE, cotton fabric phenolic per MIL-P-15035B; GEE, epoxy glass cloth, MIL-P-18177B; NPG, nylon fabric phenolic, MIL-P-15047B.



Stock No.	Type 200-	Material	Thickness x Width	Each 1-9	Each 10-99	Each 100-499
40F2000	1401-35-01-01	FBE	3/32" x 1/2"	3.20	2.30	2.02
40F2006	1402-35-01-01	FBE	3/32" x 2"	7.05	5.10	4.45
40F5138	1402-35-01-03	NPG	3/32" x 2"	8.40	6.05	5.30
40F2007	1402-45-01-01	FBE	1/8" x 2"	7.05	5.10	4.45
40F5139	1402-45-01-02	GEE	1/8" x 2"	14.60	10.50	9.20
40F2013	1403-45-01-01	FBE	1/8" x 2 1/2"	7.45	5.35	4.70
40F2018	1404-35-01-01	FBE	3/32" x 3"	7.70	5.55	4.85
40F2024	1405-35-01-01	FBE	3/32" x 1 1/16"	6.50	4.70	4.10
40F2028	1406-35-01-01	FBE	3/32" x 1 1/2"	6.75	4.85	4.25

BATTERY HOLDERS

Snap-in holders with locking strap to hold mercury or zinc batteries under extreme vibration and shock. Phosphor bronze body. Can be interlocked. New 2800 and 2801 are glass-filled nylon molded holders. Shock and vibration retainers; tinned phosphor bronze contacts.

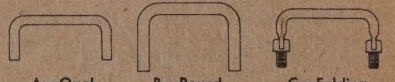


Stock No.	Type 400-	Battery Type and Size	Each—Multiples of 10 10-90	Each—Multiples of 10 100-500
40F2128	2233-01-02-00	Mercury .655"Dx.650"L	.72	.61
40F2129	2234-01-02-00	Mercury .655"Dx1.305"L	.90	.77
13F3155	2800-01-00-00	"C" size, 1.19x1.19x2.40"	.40	.34
13F3156	2801-01-00-00	"D" size, 1.60x1.38x2.90"	.40	.34
40F2133	2870-01-02-00	"D" mercury, 1.190x2.375"	2.40	2.05
40F2135	2890-01-02-00	"D" zinc, 1.344x2.406"	2.40	2.05
40F2136	2895-01-02-00	"D" zinc, 1.344x2.436"	1.67	1.42

HANDLES AND FERRULES

Stk. No.	Type	Mtg. Cntr.	Ht. (in.)	Fig.	1-9	10-99	100-499
40F2204	415-1075-01-02	4.56	1	B	3.50	2.52	2.21
40F2311	415-1220-01-02	1.25	1	B	2.66	2.41	2.11
40F2181	415-1280-03-02	4.0	1.50	B	3.65	2.63	2.30
40F2527	415-1900-01-02	4.0	1.85	C	8.45	6.10	5.30
40F2220	415-2062-01-02	4.0	1.85	C	8.25	5.95	5.20
40F2208	415-2111-01-02	3.0	1.281	A	4.95	3.55	3.10
40F2211	415-2111-02-02	4.56	1.50	A	5.55	4.00	3.50
40F2316	415-2111-03-02	6.43	1.75	A	6.20	4.45	3.90

All handle types meet or exceed military and federal specifications. Brass and nickel finish, except (*) aluminum with black oxide.



FERRULES

Stk. No.	Type 416-	Handle Series	Lots of 10 10-90	Lots of 10 100-490	Lots of 10 500-1000
40F2302	1212-01-14*	1290	.47	.42	.40
40F2304	1952-01-02	1220	.25	.22	.21
40F2224	1988-01-02	1075	.34	.30	.28

HIGH DENSITY WIRE-WRAP CAMBI-CARDS®

PC boards accept dual-in-line IC sockets, in-line IC's and discrete components in a tightly arranged package for Wire-Wrap interconnections. Each socket position on **715 Series** (on every other row on **714 Series**) has two auxiliary pins to permit connecting each IC to power and ground planes. Cards with sockets affixed; with sockets and spaces for discretes; for all discretes; copper-clad and blank cards; card extenders and general purpose cards without sockets but with grid patterns permitting mixing any combination of in-line ICs in any mounting pattern. All cards have edge connectors which plug into standard Cambion card files, available with or without mating power planes. Board material—.062" thick, double clad copper, epoxy glass cloth type FL-GE per MIL-P-13949. Pin plating, gold over phosphor bronze material. **715** Cards, 4.5" wide. **714** Cards, 9.75" wide.

715 SERIES—70 PIN INPUT/OUTPUT CONNECTORS

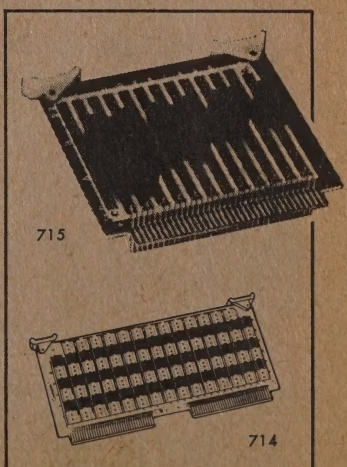
Stock No.	Type 715-	Card Lgth. In.	No. Sockets per card	†	Net Each 1-4	Net Each 5-9	Net Each 10-24
13F3200	1000-01	4.5	Card extender	.....	49.30	44.40	39.40
40F1449	1011-01	4.5	24	16	94.80	85.30	75.80
13F3206	1015-01	4.5	Gen'l purpose (w/o sockets)	.....	38.70	34.80	31.00
13F3208	1100-01	9.25	Card extender	.....	49.30	44.40	39.40
13F3214	1115-01	9.25	Gen'l purpose (w/o sockets)	.....	51.30	46.20	41.00

†No. of Pins/Socket.

714 SERIES—140 PIN INPUT/OUTPUT

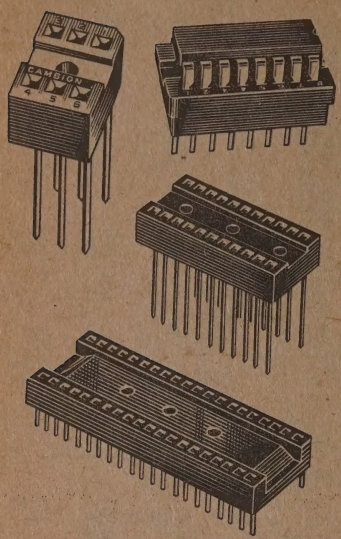
Stock No.	Type 714-	Card Lgth. In.	No. Sockets per card	†	Net Each 1-4	Net Each 5-9	Net Each 10-24
13F3222	1115-01	9.25	Gen'l purpose (w/o sockets)	.....	98.30	88.50	78.60

†No. of Pins/Socket.



CAMBION®

IC Sockets & Accessories

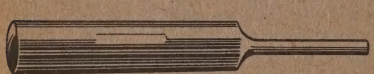


For 6, 8, 14, 16, 18, 22, 24, 36 and 40 pin dual-in-line IC's with either Wire-Wrap* or solder-tab terminations. One-piece molded diallyl insulators withstand high temp. and provide excellent mechanical stability (Nos. -3777 and -3778 are one-piece molded glass-filled nylon with anti-moisture bosses). Phosphor bronze contacts accept flat or round pins up to .024" dia. Standard terminal plating is **-03** gold for all Wire-Wrap; **-04** electro-tin for all solder tab sockets. Sockets can be supplied with electro-tin plating or Wire-Wrap pins or with gold plating on solder tab pins—prices on request. May be permanently mounted individually (rivet or screw) or press-mounted in PC boards or panels for production or breadboarding. Metric dimensional sockets for standard 14 and 16 pin DIP's are also available. *Reg. Gardner-Denver Co. TM.

Stock No.	Type 703-	No. Contacts	Terminals	Inches: Overall Length	Inches: Term. Grid	Net Each: 1-9	Net Each: 10-99	Net Each: 100-499	Net Each: 500-999
13F3160	3771-01-04-16	6	Solder tab	.334	.100 x	.95	.91	.64	.58
13F3161	3881-01-03-16	6	Wire-Wrap	.334	.300	1.31	1.26	.88	.80
13F3162	3772-01-04-16	8	Solder tab	.434	.....	1.00	.96	.67	.61
13F3163	3882-01-03-16	8	Wire-Wrap	.434	.....	1.38	1.32	.92	.84
13F3164	3777-01-04-12	14	Solder tab	.780	.....	.91	.87	.61	.56
40F4014	3788-01-04-16	14	Solder tab	.784	.....	1.13	1.08	.76	.69
40F4020	3897-01-03-16	14	Wire-Wrap	.784	.....	1.54	1.48	1.03	.94
13F3165	3778-01-04-12	16	Solder tab	.834	.....	.99	.95	.66	.60
40F4015	3789-01-04-16	16	Solder tab	.884	.....	1.21	1.16	.81	.74
40F4009	3898-01-03-16	16	Wire-Wrap	.884	.....	1.70	1.63	1.14	1.04
13F3166	3787-01-04-16	18	Solder tab	.934	.....	1.39	1.33	.93	.85
13F3167	3895-01-03-16	18	Wire-Wrap	.934	.....	2.04	1.96	1.37	1.24
13F3168	3785-01-04-16	22	Solder tab	1.180	.100 x	1.95	1.87	1.31	1.19
13F3169	3892-01-03-16	22	Wire-Wrap	1.180	.400	2.42	2.32	1.62	1.48
40F4016	3790-01-04-16	24	Solder tab	1.280	.100 x	2.26	2.17	1.51	1.38
40F4019	3896-01-03-16	24	Wire-Wrap	1.280	.600	2.64	2.53	1.77	1.61
13F3170	3783-01-04-16	28	Solder tab	1.480	.....	2.52	2.42	1.69	1.54
13F3171	3890-01-03-16	28	Wire-Wrap	1.480	.....	3.10	2.98	2.08	1.89
40F4017	3791-01-04-16	36	Solder tab	1.880	.....	2.94	2.82	1.97	1.79
40F4018	3893-01-03-16	36	Wire-Wrap	1.880	.....	3.85	3.70	2.58	2.35
13F3172	3766-01-04-16	40	Solder tab	2.080	.....	3.20	3.05	2.14	1.95
13F3173	3885-01-03-16	40	Wire-Wrap	2.080	.....	4.15	4.00	2.78	2.53

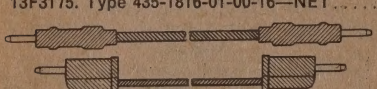
PRECUT AND STRIPPED WIRE KIT

For wire-wrapping. Solid copper 30 AWG white insulated Kynar® wire, silver plated, ends stripped to tolerance. Kit contains 13 pkgs. of varied lengths from 1" thru 9". Per pkg.: 1" thru 4.5", 100 pcs.; 5" thru 9", 50 pcs. Also available 1.0" thru 25.0" lengths in black, red and white insulation on request.
13F3174. Type 718-1010-01-01-19—NET **53.90**



HAND WIRE WRAP TOOL

For wrapping solid copper 30 AWG wire. Low cost alternative to power equipment. Molded glass filled nylon. Size, 3.225" x .480" dia.
13F3175. Type 435-1816-01-00-16—NET **2.46**



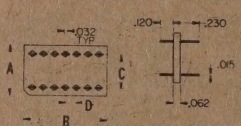
IC PATCH CORD KITS

Contains 100 pieces (48 pcs., Fig. A; 52 pcs., Fig B) pin patch cords .040" dia. Red, blue and black in 2", 4", 6" and 8" lengths.
40F6190. Type 446-3892-01-00-00 ..... Net **115.17**
Type 446-3991-01-00-00. Contains 73 pcs. stackable patch cords (Fig. B). Red, black and blue in 2", 4", 6" and 8" lengths.
13F3177 ..... Net **91.69**

SOCKET TYPE HIGH DENSITY BREADBOARDS

16 pin dual-in-line sockets. Socket terminals connected via printed wiring to .040" cage jacks. Use with Cambion IC patch boards. Power and ground planes included.
Type 705-1024-01-00-00. 16 socket board: 6.5" x 6.5".
13F3178. NET EACH. 1-4 ..... **69.00** 5-9 ..... **65.60**

COMPONENT SOCKET ADAPTERS



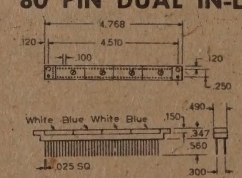
END VIEW

Plug into standard 14, 16, 24 or 36 pin dual in-line sockets or Cambion Integrated socket strip. Larger width sizes for wider components straddle two sockets or socket strips. Terminal pairs are on .100" or .200" grid centers; Terminal is phosphor bronze, spring tempered per QQ-B-750; Comp. A. Finish is hard gold plate. Board material, .062" type GEE glass epoxy per MIL-P-18177.

Stock No.	Type† 702-	Dimensions, In.: Board A	Dimensions, In.: Board B	Dimensions, In.: Term. Ctr. C	Dimensions, In.: Term. Ctr. D	*	Net Each: 1-9	Net Each: 10-49	Net Each: 50-99
13F3184	3723	.450	.750	.300	.200	8	.93	.84	.74
13F3185	3724	.950	.750	.800	.200	8	.93	.84	.74
13F3186	3725	.450	.750	.300	.100	14	1.40	1.26	1.12
13F3187	3726	.950	.750	.800	.100	14	1.40	1.26	1.12
13F3188	3728	.450	.850	.300	.100	16	1.68	1.51	1.34
13F3189	3730	.950	.850	.800	.100	16	1.68	1.51	1.34
13F3190	3732	.750	1.235	.600	.200	12	1.23	1.11	.98
13F3191	3734	.750	1.835	.600	.200	18	1.97	1.77	1.58

*No. of terminals. †Suffix is **-01-03-00.**

80 PIN DUAL IN-LINE SOCKET STRIP



Molded diallyl body .025" sq., Wire-Wrap posts and spring contacts. Electro-tin plated contacts standard. Mounts all dual-in-line devices without a PC board. For independent mounting or into Cambion mounting frame or relay rack drawers. Pins are replaced by removing the screw down covers. Socket strips accept five 14 pin DIP's, four or five 16 pin DIPs. Wider MSI or LSI DIPs can be mounted by bridging between two properly-spaced strips.
13F3192. Type 703-1000-01-04-00. Net Each, 1-9 ..... **4.80**
10-99 ..... **4.60; 100-499** ..... **3.20; 500-999** **2.93**

70 PIN CARD CONNECTOR

Stock No.	Type 706-	Terminals	Net Each: 1-9	Net Each: 10-24	Net Each: 25-49
40F1452	7029-01	Solder lug	6.80	6.45	6.10
40F1451	7015-01*	Wire-Wrap	5.95	5.65	5.35

*For use with CAMBION Power Planes

IC TESTERS

Provide easy test point access to 14 and 16 pin Dual-In-Line IC's under operating conditions. Tester is placed over top of IC and makes contact with the exposed portion of each lead.
13F3231. Type 706-1020-01-00-00. 14-Pin Tester.
1-4, Each **2.93**; 5-9, Each **2.64**; 10-24, Each **2.40**; 25-49, Ea. **2.34**
13F3232. Type 706-1019-01-00-00. 16-Pin Tester.
1-4, Each **3.20**; 5-9, Each **2.88**; 10-24, Each **2.62**; 25-49, Ea. **2.56**

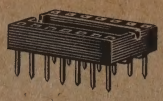
IC INSERTION-EXTRACTION TOOL

Handy tool properly positions integrated circuits for insertion or extraction by securely gripping the IC between the leads and under the body. Practically any IC with 14 or 16 leads aligned on 0.300" centers can easily be inserted or extracted regardless of tight packaging and without damage to the fragile IC leads. Basic material of insertion-extraction tool is plastic.
13F3230. Type 706-3739-01-00-00. ..... 1-4, Each **1.28**
5-9, Each **1.15**; 10-24, Each **1.05**; 25-49, Each **1.02**

Texas Instruments DIP Sockets

LOW PROFILE

SOLDER TAIL SOCKETS



Series C-93 and C-83. Low profile solder tail black sockets. Sockets feature protective Mylar wafer as solder guard. Accommodates standard IC leads up to .011 ±.003 x .018 ±.003. Operating temperature range −65°C to +125°C. Copper nickel alloy per AS TM B-122. Contact finish: C83, 200-400 micro-inch tin; C93, 75 micro-inch gold inlay. Contacts have redundant spring elements. Body is thermo-plastic material meeting UL specification 94VE-0. Sockets may be mounted end-to-end on .100" centers continuous line. Designed to prevent IC leads from contacting PC board. Contact oriented in plastic body to generate maximum possible contact pressure. Closed entry feature provided to facilitate automatic IC insertion and protects IC leads against damage.

GOLD INLAY

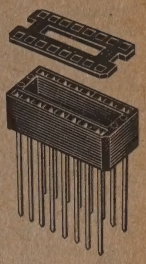
Stock No.	Type	Contacts	1-99	100-499	500-1999	1000-4999
57F1781	C93-08-02	8	.27	.24	.22	.20
57F1782	C93-14-02	14	.33	.30	.27	.24
57F1783	C93-16-02	16	.38	.35	.32	.29
57F1784	C93-18-02	18	.43	.39	.35	.32
57F1785	C93-24-02	24	.63	.56	.50	.45
57F1739	C93-20-02	20	.49	.44	.40	.36
57F1740	C93-22-02	22	.55	.49	.44	.40
57F1741	C93-28-02	28	.74	.64	.56	.50
57F1742	C93-40-02	40	.99	.91	.81	.72

TIN PLATE

57F1792	C83-08-02	8	.18	.14	.12	.12
57F1793	C83-14-02	14	.21	.17	.14	.14
57F1794	C83-16-02	16	.24	.19	.16	.15
57F1795	C83-18-02	18	.27	.22	.19	.19
57F1743	C83-20-02	20	.30	.25	.23	.21
57F1796	C83-22-02	22	.33	.27	.25	.24
57F1797	C83-24-02	24	.36	.30	.27	.25
57F1798	C83-28-02	28	.42	.35	.33	.30
57F1744	C83-40-02	40	.60	.51	.47	.43

STANDARD PROFILE

WIRE WRAP SOCKETS



Series C-81 and C-91. Wirewrap, black colored sockets. Sockets are copper-nickel alloy per AS TM B-122. Meets military specifications MIL-STD202C. Contact finish: 200-400 micro-inches tin at contact point, C-81; 50 micro-inches wrought gold metallurgically bonded at contact point, C-91. Replaceable contacts have redundant spring elements. Contact retention 7 pounds minimum. Accommodates standard IC leads up to .011 ± .003 x .018 ± .003. Removable closed entry cover protects IC leads against damage, facilitates automatic insertion. Operating temperature −65°C to +125°C. Designed and oriented to generate maximum contact pressure.

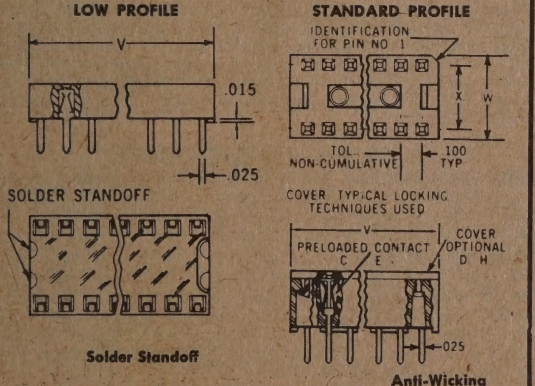
200-400 MICRO-INCH TIN

Stock No.	Type	Contacts	1-99	100-499	500-999	1000-4999
57F1745	C81-08-04	8	.34	.30	.26	.24
57F1746	C81-14-04	14	.62	.55	.49	.44
57F1747	C81-16-04	16	.67	.59	.53	.49
57F1748	C81-18-04	18	.70	.62	.57	.52
57F1749	C81-20-04	20	1.17	.98	.84	.74
57F1750	C81-24-04	24	1.80	1.52	1.27	1.05
57F1751	C81-28-04	28	2.15	1.68	1.38	1.12
57F1752	C81-36-04	36	2.35	2.05	1.75	1.55
57F1753	C81-40-04	40	2.45	2.17	1.94	1.73

50 MICRO-INCH GOLD INLAY

Stock No.	Type	Contacts	1-99	100-499	500-999	1000-4999
57F1774	C91-08-00	8	.35	.31	.27	.25
57F1775	C91-14-00	14	.60	.54	.49	.42
57F1776	C91-16-00	16	.64	.58	.53	.46
57F1777	C91-18-00	18	.68	.62	.57	.50
57F1778	C91-24-00	24	1.75	1.50	1.25	1.05
40F4031	C91-28-00	28	2.05	1.65	1.35	1.15
57F1779	C91-36-00	36	2.35	2.05	1.75	1.55
57F1780	C91-40-00	40	2.45	2.17	1.94	1.73

DIMENSIONS



LOW-PROFILE (Height .150)

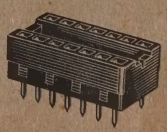
	8 Pin	14 Pin	16 Pin	18 Pin	20 Pin	22 Pin	24 Pin	28 Pin	40 Pin
Dimension X ±.005	.300	.300	.300	.300	.300	.400	.600	.600	.600
Dimension V ±.015	.400	.700	.800	.900	1.000	1.100	1.200	1.400	2.000
Dimension W (max.)	.400	.400	.400	.400	.400	.500	.700	.700	.700

STANDARD PROFILE (Height .280)

	8 Pin	14 Pin	16 Pin	18 Pin	20 Pin	24 Pin	28 Pin	36 Pin	40 Pin
Dimen. V ±.010	.465	.765	.865	.965	1.065	1.280	1.480	1.880	2.080
Dimen. W (max.)	.400	.400	.400	.400	.400	.700	.700	.700	.700
Dimen. X ±.005	.300	.300	.300	.300	.300	.600	.600	.600	.600

SOLDER TAIL SOCKETS

C92—C82 SERIES



- **Closed Entry—.280" High**
- **Glass Filled Nylon Insulation**

200-400 MICRO-INCH TIN

Stock No.	Type	Contacts	1-99	100-499	500-999	1000-4999
40F4030	C82-08-04	8	.31	.29	.27	.25
57F1767	C82-14-04	14	.40	.36	.33	.29
57F1768	C82-16-04	16	.46	.42	.39	.35
57F1769	C82-18-04	18	.52	.48	.45	.41
57F1770	C82-24-04	24	1.09	.88	.77	.65
57F1771	C82-28-04	28	1.42	1.11	.95	.81
57F1772	C82-36-04	36	1.62	1.37	1.22	1.08
57F1773	C82-40-04	40	1.75	1.48	1.30	1.15

75 MICRO-INCH GOLD INLAY

Stock No.	Type	Contacts	1-99	100-499	500-999	1000-4999
57F1754	C92-08-00	8	.30	.27	.25	.23
57F1755	C92-14-00	14	.40	.36	.33	.29
57F1756	C92-16-00	16	.46	.42	.39	.35
57F1757	C92-18-00	18	.52	.48	.45	.41
57F1758	C92-20-00	20	.97	.64	.58	.53
57F1759	C92-24-00	24	1.12	.90	.79	.67
57F1760	C92-28-00	28	1.42	1.11	.95	.81
57F1761	C92-36-00	36	1.62	1.37	1.22	1.08
57F1787	C92-40-00	40	1.75	1.48	1.30	1.15

PHOTOBLUE

PRE-SENSITIZED COPPER CLAD LAMINATES FOR ETCHED PC BOARDS

Photoblue is the latest innovation in the production of etched process, PC boards. Represents a major advance over standard sensitized boards. Reduce or eliminate many problems normally associated with PC board production. Sensitized surfaces protected from scratches or mishandling by plastic film not removed until developing step. Less sensitive to ordinary room light, can be handled in incandescent lighting for short periods without affecting its ability to receive circuit pattern. All solutions are aqueous, eliminating drying step between developing and etching. Each production step is highly visible, from exposure on. After exposure, circuit pattern appears lighter blue on deep blue background. After developing, circuit pattern is highly visible blue on copper making flaws easily detectible. After etching, no copper visible; after stripping, no blue visible. All boards are 1/16" thick, FR-4 glass epoxy. Pkgd. in moisture- and light-proof black plastic bags.

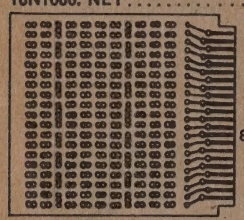
G-10 GLASS EPOXY BOARDS—1 OZ.

Copper Cladding	Board Size	1 Board		Pkg. of 5 Boards				
		Stk. No.	Each	Stk. No.	1-4	5-9	10-19	20-Up
1 side	3x6"	13N2023	1.96	13N2024	7.95	6.60	5.30	4.85
1 side	4x6"	13N2025	2.57	13N2026	10.60	8.80	7.05	6.45
1 side	6x6"	13N2027	3.83	13N2028	15.90	13.25	10.60	9.70
1 side	7x10"	13N2029	6.83	13N2030	29.00	24.15	19.30	17.70
1 side	12x12"	13N2031	12.99	13N2032	56.40	47.00	37.60	34.45
2 sides	3x6"	13N2033	2.33	13N2034	9.50	7.90	6.30	5.80
2 sides	4x6"	13N2035	3.03	13N2036	12.65	10.55	8.40	7.70
2 sides	6x6"	13N2037	4.51	13N2038	18.95	15.80	12.65	11.60
2 sides	12x12"	13N2039	15.44	13N2040	67.40	56.15	44.95	41.20

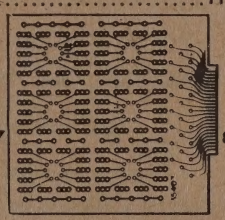
G-10 GLASS EPOXY BOARDS—2 OZ.

1 side	3x6"	13N2041	2.02	13N2042	8.10	6.75	5.40	4.95
1 side	4x6"	13N2043	2.62	13N2044	10.80	9.00	7.20	6.60
1 side	6x6"	13N2045	3.90	13N2046	16.20	13.50	10.80	9.90
1 side	7x10"	13N2047	6.97	13N2048	29.60	24.70	19.75	18.10
1 side	12x12"	13N2049	13.29	13N2050	57.65	48.05	38.45	35.25
2 sides	3x6"	13N2051	2.60	13N2052	10.70	8.90	7.15	6.55
2 sides	4x6"	13N2053	3.39	13N2054	14.25	11.90	9.50	8.70
2 sides	6x6"	13N2055	5.06	13N2056	21.40	17.80	14.25	13.05
2 sides	12x12"	13N2057	17.32	13N2058	75.80	63.20	50.55	46.35

Photoblue Trial Kit. Contains three 4 x 6" Photoblue boards, 2 oz. copper clad, 2 boards single-sided, one double-sided plus pkgs. of developer, etchant, and stripper. Type FB-Kit.
16N1066. NET.....11.95



02B857
8404-007



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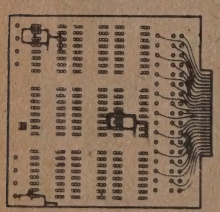

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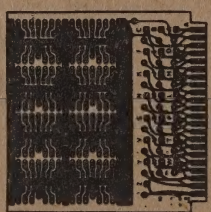
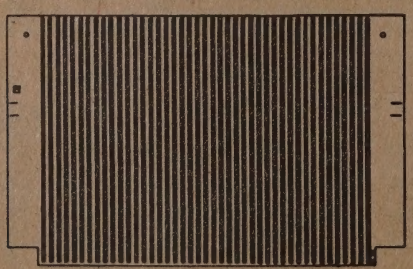


19N3441
8404-010



02B860
8404-010

CU-SKIN-062—UNSENSITIZED COPPER CLAD LAMINATES

Simply apply a manual resist (like the Voltrex resist marker or pressure sensitive patterns, terminal circles, or conductor strips) directly on the unsensitized copper surface. Agitate the board in etching solution. Any copper not covered by resist will be washed away, leaving the circuit pattern you design. Material, 1/16" thick. 1 oz. (.00135) or 2 oz. (.00270) copper clad.

G-10 GLASS EPOXY BOARDS—1 OZ.

Copper Cladding	Board Size	1 Board		Pkg. of 5 Boards				
		Stk. No.	Each	Stk. No.	1-4	5-9	10-19	20-Up
1 side	3x6"	19N2022	1.46	19N3216	5.60	4.65	3.75	3.40
1 side	4x6"	78N155	1.88	78N159	7.45	6.20	4.95	4.55
1 side	12x12"	19N2023	9.25	19N3217	39.55	32.95	26.35	24.15
2 sides	3x6"	19N3213	1.46	19N3218	5.60	4.65	3.75	3.40
2 sides	4x6"	78N156	1.88	78N160	7.45	6.20	4.95	4.55
2 sides	12x12"	19N2024	9.25	19N3219	39.55	32.95	26.35	24.15

G-10 GLASS EPOXY BOARDS—2 OZ.

1 side	3x6"	78N163	1.48	78N178	5.65	4.75	3.80	3.45
1 side	4x6"	78N164	1.90	78N179	7.55	6.30	5.05	4.60
1 side	12x12"	78N165	9.40	78N180	40.20	33.50	26.80	24.55
2 sides	3x6"	78N166	1.68	78N181	6.55	5.45	4.35	4.00
2 sides	4x6"	78N167	2.16	78N182	8.75	7.30	5.85	5.35
2 sides	6x6"	78N168	3.22	78N183	13.10	10.95	8.75	8.00
2 sides	12x12"	78N209	10.84	78N184	46.65	38.90	31.10	28.50

CHEMICAL SUPPLIES

Resist Marking Pen (MARK-3000) adds or touches-up circuitry on Cu-Skin or developed Photoblue boards. Etchant (ETCH-P128) dissolves in gallon of water tc make one gallon of etching solution, washes away undesired copper in forming circuit pattern. Photoblue Developer (FBD-128) dissolves in gallon of water to make one gallon of developer. Non-volatile and non-irritating to skin. Photoblue Stripper (FBS-128) dissolves in gallon of water to make one gallon of stripper. Blisters hardened Photoresist on etched board. Photoresist is washed away in warm water rinse.

Stk. No.	Type	Description	Each
19N2038	MARK-3000	Resist Marking Pen	1.25
13N2077	FBD-128	Photoblue Developer (makes 1 gal.)	3.50
13N2078	FBS-128	Photoblue Stripper (makes 1 gal.)	4.50
19N2039	ETCH-P128	Etchant (makes 1 gal.)	4.50

ETCHED CIRCUIT CARDS FOR CIRCUIT DESIGN, PROTOTYPE CONSTRUCTION

Experiment with circuit designs, test them, and make prototypes without the bother of making your own cards. Voltrex etched circuit cards are fabricated from top quality 2-oz. copper clad G-10 glass epoxy 1/16" thick. All copper is electroplated, to provide thick and uniform plating, with either gold or solder. These cards have double readout edge tabs. Eighteen and 22-position tabs are spaced on 0.156" centers. Twenty-five position tabs are spaced on 0.050" centers.

INTEGRATED CIRCUIT CARDS

02B976 (Type 8404-001). 25-contact double readout with pads for six 14-pin flat pack pads on one side and six 10-pin TO-5's on the other so that a total of six IC's of either type can be mounted. All circuitry and contact tabs gold plated. 3" x 3 1/16".

02B986 (Type 8404-005). 25-contact double readout for mtg. up to nine 14 or 16-pin dual-in-line packages. Holes are .030" to accept most flat or round leads. Circuitry and tabs are solder plated. 3x3 1/16"

19N3441 (Type 8404-011). 22-contact double readout for up to eight 14-pin dual-in-line packages. Circuitry provided for supplying power to the IC's from contacts #1 and #2. Solder plated circuits with gold plated contact tabs. 4 x 4".

UNIVERSAL CIRCUIT CARDS

02B857 (Type 8404-007). 22 double readout edge tabs. Circuits and contact tabs are solder plated.

Has 233 mounting pads of one or more holes each, with a total of 444 holes. Holes are .052" on a .1" grid design. 4 x 4 1/2".

EXTENDER CARD

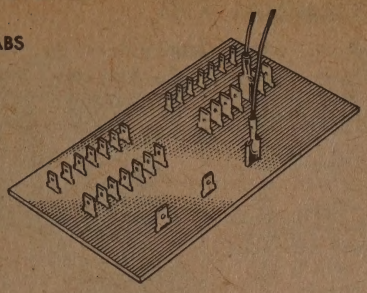
02B860 (Type 8404-010). Extends contact fingers of a card. Has 43 solder plated extender strips on .156" centers. 5 x 8".

Stk. No.	Type	1-9	10-24	25-49	50-99	100-Up
02B976	8404-001	9.53	8.69	7.04	6.55	6.15
02B986	8404-005	9.53	8.69	7.04	6.55	6.15
02B857	8404-007	9.53	8.69	7.04	6.55	6.15
02B860	8404-010	15.51	14.14	11.46	10.66	10.02
19N3441	8404-011	12.30	10.80	9.72	8.10	7.02

VOLTREX brand PC Board Supplies

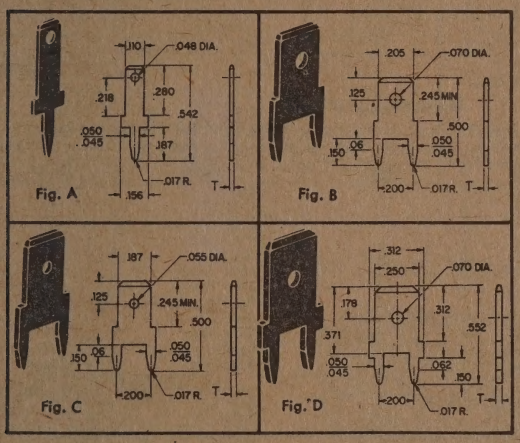
SPC technology

PC BOARD DISCONNECT TABS



- Mating tab portion designed in compliance with NEMA standards
- Mates with any standard female quick connect
- Tab configuration requires a minimum amount of space for mounting
- All tabs have a .000050 nickel pre-plate and .0001 min. eletro-tin plate on brass tab
- Same leg dimensions (portion of tab inserted in board) in both width & center to center of legs

Printed circuit tabs answer a long sought-after need for an economical space-saving tab concept for terminating wire leads to printed circuit boards. Cost less than special pin and socket contacts and provide standardization. Direct labor cost savings—no need to top-solder the board. Male, quick-disconnect. All tab sizes are interchangeable in pre-drilled boards. Recommended mounting hole .046" dia., #56 drill.

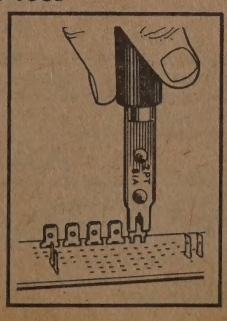


Stk. No.	Type	Fig.	Thickness	PER PKG.—100 1-9	10-24	25-49	50-99
16N1000	PCT-1102	A	.020	2.25	2.00	1.85	1.75
16N1001	PCT-1103	A	.032	2.25	2.00	1.85	1.75
16N1002	PCT-1802	B	.020	2.25	2.00	1.85	1.75
16N1003	PCT-1803	B	.032	2.25	2.00	1.85	1.75
16N1004	PCT-2002	C	.020	2.25	2.00	1.85	1.75
16N1005	PCT-2003	C	.032	2.25	2.00	1.85	1.75
16N1006	PCT-2503	D	.032	2.25	2.00	1.85	1.75

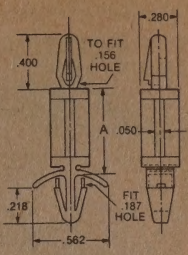
UNIVERSAL HAND TOOL

Type 8404-500. For small-quantity jobs. Inserts advanced-design P.C. board disconnect male tabs in staple form into pre-drilled boards. Tabs can be inserted straight or beened over for greater retention. Close spacing is possible. One tool accommodates all tab sizes: .110", .187", .205", and .250", in all thicknesses.

16N1007, NET 24.00



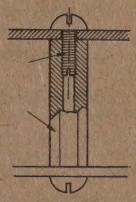
SNAP-IN CIRCUIT BOARD SUPPORT/SPACER



Provide ample clearance from the chassis for assembled boards. An arrow-type locking head snaps into a .187" dia. hole in chassis where it expands to lock permanently in position. Finger grip insertion eliminates need for tools. Circuit board is held firmly in position by locking tension flange which, compressed upon entry, springs out to lap over and secure board. A squeeze of the fingers permits removal of board from support for repair or replacement.

Stk. No.	Type	Spacing Dist.	PER PK.—100 1-9	10-24	25-49	50-99
16N1008	PCS-3	3/16"	3.49	2.47	1.96	1.71
16N1009	PCS-4	1/4"	3.74	2.63	2.09	1.83
16N1010	PCS-6	3/8"	3.90	2.75	2.19	1.91
16N1011	PCS-8	1/2"	4.20	2.95	2.34	2.04
16N1012	PCS-10	5/8"	4.48	3.15	2.52	2.19
16N1013	PCS-12	3/4"	4.77	3.37	2.67	2.33
16N1014	PCS-14	7/8"	5.04	3.55	2.82	2.45
16N1015	PCS-16	1"	11.73	8.40	6.68	5.82
16N1016	PCS-18	1 1/8"	12.20	8.52	6.86	5.96
16N1017	PCS-20	1 1/4"	12.50	8.82	7.01	6.12
16N1018	PCS-22	1 3/8"	12.77	9.03	6.70	6.25

HEX SPACER/STANDOFFS



- High dielectric, self-extinguishing
- Low moisture absorption
- Resistant to chemicals
- Use with self-tapping screws
- Made from gray CPVC

Stk. No.	Type	Screw	Hex	Length	PER PK.—100 1-9	10-24	25-49	50-99
16N1019	HSS-43	#4	3/16"	3/8"	2.54	1.80	1.43	1.24
16N1020	HSS-44	#4	3/16"	1/2"	3.07	2.15	1.72	1.49
16N1021	HSS-45	#4	3/16"	5/8"	3.26	2.28	1.82	1.59
16N1022	HSS-46	#4	3/16"	3/4"	3.43	2.42	1.93	1.67
16N1023	HSS-47	#4	3/16"	7/8"	3.60	2.53	2.01	1.76
16N1024	HSS-48	#4	3/16"	1"	3.79	2.67	2.13	1.85
16N1025	HSS-64	#6	1/4"	1/2"	3.48	2.44	1.94	1.69
16N1026	HSS-65	#6	1/4"	5/8"	3.71	2.62	2.09	1.81
16N1027	HSS-66	#6	1/4"	3/4"	3.98	2.80	2.23	1.93
16N1028	HSS-67	#6	1/4"	7/8"	4.25	3.00	2.39	2.08
16N1029	HSS-68	#6	1/4"	1"	4.52	3.18	2.53	2.20
16N1030	HSS-85	#8	3/8"	5/8"	4.93	3.47	2.76	2.40
16N1031	HSS-86	#8	3/8"	3/4"	5.43	3.82	3.04	2.63
16N1032	HSS-87	#8	3/8"	7/8"	5.94	4.18	3.33	2.89
16N1033	HSS-88	#8	3/8"	1"	6.44	4.53	3.62	3.15

COMPONENT CLAMPS

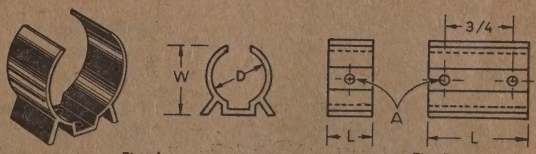


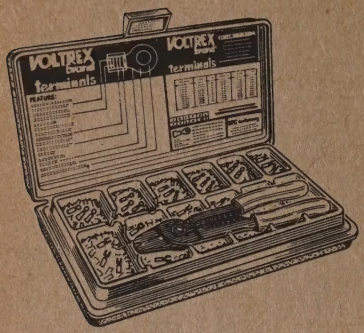
Fig. A Fig. B

Fasten, and where required, insulate a wide variety of electrical and electronic components, accessories, and parts. Permit quick insertion, allow easy removal. Typical applications are capacitors, resistors, lamps, batteries, and fuses. Made of strong black vinyl and have high dielectric strength. Floor of clip is pierced for screws or other fastening devices.

Stk. No.	Type	Component Dia. "D"	Clamp Lgt. "L"	Clamp Ht. "H"	Fig.	Hole Dia. "A"	PK-100 1-9
16N1034	CS-4	1/4	1/2	13/32	A	3/32	8.05
16N1035	CS-6	3/8	1/2	1/2	A	3/32	8.37
16N1036	CS-8	1/2	1/2	5/8	A	3/32	8.73
16N1037	CS-10	5/8	1/2	5/8	A	3/32	9.18
16N1038	CS-12	3/4	1/2	7/8	A	5/32	10.39
16N1039	CS-16	1	1 1/8	1 1/4	B	5/32	12.47
16N1040	CS-22	1 3/8	1 1/8	1 15/32	B	5/32	14.16

SPC technology Terminal & Connector Kits

LAB ASSORTMENT TERMINAL KITS



VOLTREX

TERMINAL FEATURES

- **Beveled terminal mouth to facilitate wire insertion**
- **Multiple "V" grooves for maximum holding power and minimum contact resistance**
- **Open barrel construction for visual inspection**
- **Barrel to pad transition designed to provide maximum resistance to flexing and bending**
- **Constructed from pure electrolytic copper annealed to facilitate proper flow for maximum installed strength**
- **One piece, burr free construction for economy, mechanical strength, and maximum electrical conductivity**
- **Uniform electro-tin plating for maximum corrosion protection**

These handy kits contain an assortment of 300 of our most popular electrical connectors in a durable plastic box. They are just right for on-the-job repairs or in the design lab. Each kit comes with a crimp tool and convenient identification chart.

SEE PAGES 436 THRU 439 FOR COMPLETE TERMINAL LINE

"SURE GRIP" KIT

Includes terminals listed below. Terminals grip wire and insulation. Features a nylon insulating sleeve for maximum insulation and resistance to harmful agents.

Type	Wire	Stud	Type	Insulation	Quan.
31N219	22-18	6	Ring	Nylon	25
31N221	22-18	10	Ring	Nylon	25
31N223	16-14	6	Ring	Nylon	25
31N225	16-14	10	Ring	Nylon	25
31N229	12-10	10	Ring	Nylon	25
31N2600	18-14	¼" Female	Quick Disc	None	25
31N2602	18-14	¼" Male	Quick Disc	None	25
31N175	18-14	¼" Female	Quick Disc	Nylon	25
31N153	16-14	8	Fig. Block Spade	Nylon	25
31N236	22-18	6	Block Spade	Nylon	25
31N231	16-14	6	Block Spade	Nylon	25
31N234	12-10	10	Block Spade	Nylon	25

31N006. NET.....37.95

VINYL INSULATED KIT

Terminals are pure electrolytic copper annealed for maximum strength and electro-tin plated for high conductivity. Vinyl insulation prevents short circuits.

Type	Wire	Stud	Type	Quan.
31N571	22-18	6	Ring	25
31N573	22-18	10	Ring	25
31N578	16-14	6	Ring	25
31N580	16-14	10	Ring	25
31N585	12-10	10	Ring	25
31N533	22-18	6	Block Spade	25
31N536	16-14	6	Block Spade	25
31N545	16-14	10	Fig. Block Spade	25
31N542	22-18	10	Fig. Block Spade	25
31N594	16-14	¼" Male	Quick Disc	25
31N595	16-14	¼" Female	Quick Disc	25
31N590	16-14	—	Butt. Conn	25

31N005. NET.....31.95

NON-INSULATED KIT

Terminals have one piece construction for maximum electrical conductivity and mechanical strength. Kit contains a wide variety of the most commonly used terminals.

Type	Wire	Stud	Type	Quan.
31N548	22-18	6	Ring	25
31N550	22-18	10	Ring	25
31N555	16-14	6	Ring	25
31N557	16-14	10	Ring	25
31N562	12-10	10	Ring	25
31N519	22-18	6	Block Spade	25
31N522	16-14	6	Block Spade	25
31N528	22-18	10	Fig. Block Spade	25
31N592	16-14	¼" Male	Quick Disc	25
31N593	16-14	¼" Female	Quick Disc	25
31N164	16-14	—	Parallel	25
31N567	16-14	—	Butt. Conn.	25

31N004. NET.....27.95

LAB ASSORTMENT A-MODE CONNECTOR KITS

A-Mode Connector Features

- **Self-mating**
- **Stackable**
- **Mountable**
- **Low contact resistance**
- **High dielectric**
- **Color coded housings**
- **UL recognized**
- **Snap action**
- **Self-cleaning**
- **High reliability**
- **Maximum conductivity**
- **High voltage protection**
- **Vibration Protected**
- **CSA listed**

These kits are an engineer's dream come true. Because of the unique features of the A-Mode, one kit covers all your lab and design needs. The kit contains 50 connectors, a crimp tool, and an insertion/extraction tool in a tough clear plastic box. **See page 428 for complete line of A-mode connectors.**

15 AMP KIT INCLUDES:

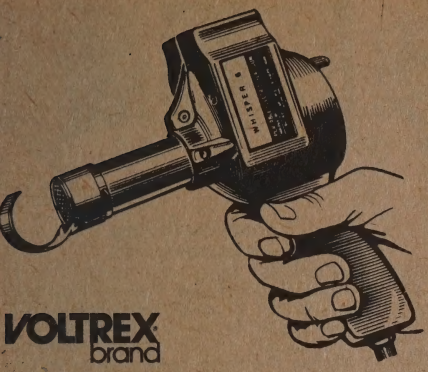
50—15 Amp Contacts
50—Housings In Assorted Colors of Red, Black, Green, White
1—Insertion/Extraction Tool
1—Crimp Tool

13N1988. NET.....69.95

30 AMP KIT INCLUDES:

50—30 Amp Contacts
50—Housings In Assorted Colors Of Red, Black, Green, White
1—Insertion/Extraction Tool
1—Crimp Tool

13N1989. NET.....69.95



VOLTREX brand

WHISPER 6" HIGH-TEMPERATURE HEAT GUN

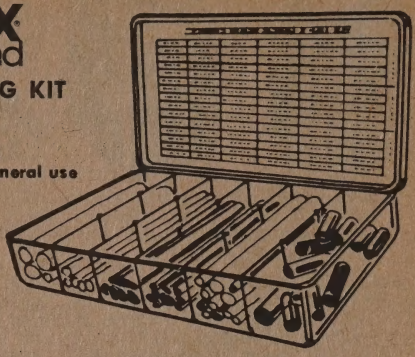
- **Flameless**
- **Whisper quiet**
- **Hi-temp—1000°F at nozzle**

Lightweight and whisper-quiet to reduce operator fatigue. Reaches 1000°F at the nozzle to shrink full range of tubing types, including Teflon. No extra nozzles to buy. No separate stands—(it stands self-supported in 5 basic positions plus hand-held mode.) Controlled heat path permits positioning hands close to nozzle without burning—assures precise control of shrinking process.

37N1447. NET **37.95**

VOLTREX brand

ENGINEER'S TUBING KIT



Including:
PVC: For production usage
Flexible Polyolefin: For general use
Semi-Rigid Polyolefin: For strain relief
Kynar: For critical applications
Teflon: For high temperature environments

This kit contains an assortment of sizes in each of the tubing types: PVC, Flexible Polyolefin, Semi-Rigid Polyolefin, Kynar, Teflon, and shrink caps. This enables the engineer to decide upon the best tubing in each application before putting his prototype into production. The deluxe model is the perfect starter kit since it includes our Whisper 6" Heat Gun. See pages 472, 476 for listings of the complete Voltrex tubing line.

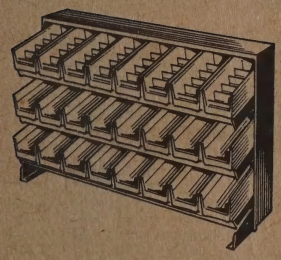
BASIC KIT INCLUDES:

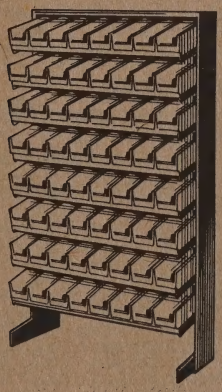
18—6" lengths PVC-105 in 9 sizes from 3/64" to 3/4" dia.
20—6" lengths Flexible Polyolefin in 9 sizes from 3/64" to 3/4" dia.
12—6" lengths Semi-Rigid Polyolefin in 7 sizes from 3/64" to 3/8" dia.
14—6" lengths Kynar in 7 sizes from 3/64" to 3/8" dia.
12—6" lengths Teflon in 9 sizes from #16 to #0 AWG.
20—Molded semi-rigid polyolefin caps in 4 sizes from 1/8" to 1/2" dia.
1—High-impact Polystyrene sectioned storage box with "Quick-Scan" chart.
37N1436. NET **29.95**

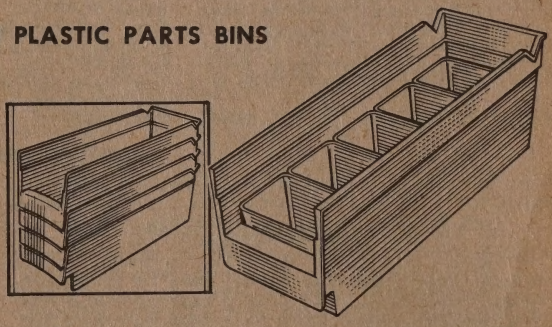
DELUXE KIT INCLUDES:

Basic Kit described above, plus Whisper "6" heat gun, designed for shrinking Voltrex brand tubing.
37N1449. NET **59.95**

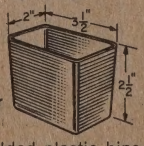
HEAVY-DUTY SEAMLESS PLASTIC PARTS BINS





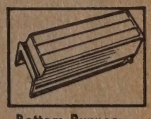


Plastic Bins Nest—Space saving storage



Plastic Mini-Bins fit into larger bins for "sub-storage"

Hanging Notch—Hang bins for easy access



Bottom Runners—Aid bin removal, Reduce friction

BENCH MODEL

Keep work materials close at hand. 24 plastic parts bins are conveniently displayed on a table or work bench. Unit is free standing or can be bolted to bench top. Comes with 24 4" x 4" x 12" bins.

FLOOR MODEL

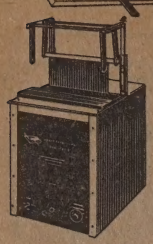
64 bin unit uses a small amount of floor space. Unit is free standing or may be bolted to floor or wall. Comes with 64 4" x 4" x 12" bins.

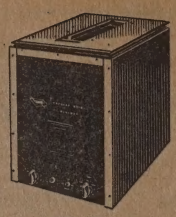
Stk. No.	Type	Description	Ship. Weight	Price ea.
80N356	RACK-01	3-shelf bench-top rack with 24 4"x4"x12 Plastic Parts Bins Set-up size: 22"x36"x13"	29	87.95
80N357	RACK-02	8-shelf rack with 64 4"x4"x12" Plastic Parts Bins Set-up size: 61"x35½"x12"	75	242.00

Injection-molded plastic bins are perfect for storing parts. High-density polyethylene resists the ravages of grease, chemicals, and wear like no other bins can! Pull "handle" makes removing from shelf easy . . . without disturbing adjacent bins. Optional Mini-Bins fit neatly inside larger bins to accommodate various size parts. Extra-high sides help prevent spills. In OSHA safety yellow, with convenient label area that accepts standard pressure-sensitive file folder labels (not included).

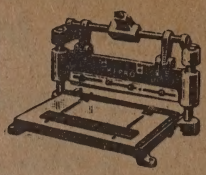
Stock No.	Type	Description	Pcs./ carton	Ship. wt.	Less than carton Price Ea.	Per carton
80N353	BIN-01	2½"x2"x3½" Mini-Bin	100	5	.55	47.15
80N354	BIN-05	4"x4"x12" Parts Bin	50	16½	2.45	101.75
80N355	BIN-10	4"x8"x12" Parts Bin	25	18	3.80	79.20

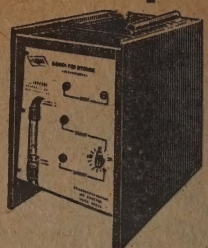
Bench Top Printed Circuit Components

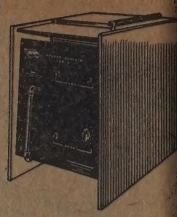

BTC-101


BTO-102

BTX-200


MS-6


BTD-201


BTE-202

CONTROL WITHDRAWAL DIP COATER

Type BTC-101. Photo-sensitive resists for pattern masking can be uniformly coated to a controlled thickness on copper clads or other flat sheet materials at speeds up to 12" per minute. Panels are supported vertically from the top edge and submerged, then smoothly withdrawn at a preset rate with a variable speed motor. Two 3½ quart stainless steel tanks are provided with lids, allowing different resists or coatings to be loaded and stored at the same time. Machine exterior is constructed of rugged stainless steel and polypropylene. 115V AC, 2 Amp. 60 Hz. 19"L x 14½"W x 24"H. Shipping weight 60 lbs.
79W100. NET.....495.00

RAPID CURE INFRA-RED OVEN

Type BTO-102. Cure of wet photo-resist and protective coatings can be accomplished in 1 to 1½ minutes. Panels are inserted vertically into the top opening of the oven on the same handling rack used for the dip coating operation. Cure is controlled by a timer which extinguishes I.R. elements at the end of the cure cycle. Equipped with a "standby" heating thermostat to maintain a "ready condition" if the oven is to be used on an intermittent basis. Two inch thick glass mat insulation is used to maintain a cool exterior of the oven. 22"L x 17"W x 21"H. Shpg. wt. 45 lbs.
79W101. NET.....340.00

ULTRA-VIOLET EXPOSURE FRAME

Type BTX-200. Exposure of photosensitive coatings in less than 2 minutes. An adjustable 5 minute timer extinguishes high output UV lamps at the end of the exposure cycle. Heavy foam padding provides excellent contact pressure between the negative and the light sensitive surface to be exposed. A pin registry rail is provided for easy 2 side registration. Four .125" dia. pins are positioned on 0", 4", 6", and 10" centers. 19½"L x 16½"W x 6"H. Shpg. wt. 30 lbs.
80W476. NET.....255.00

PRECISION MULTI-6 SHEARS

Type MS-6. Hand operated tool designed to cut circuit board laminates through .093" thick and sheet metal up to a thickness of .063". Cutting widths of 12.125" are possible. Accessory tooling described below. 11½" L x 18"W x 9"H. Shpg. wt. 24 lbs.
78F150. NET.....177.00

ACCESSORIES FOR MS-6

Type PS-2. Random 2-Hole Punch. Punches two randomly located .125" dia. holes.
78F151. NET.....49.00
Type NA-1. Corner Notcher. Cuts 90° corner notches up to 1" x 1".
78F152. NET.....53.00
Type PB-1. Press Brake. Makes 90° bends in soft aluminum or sheet steel.
78F153. NET.....47.00
Type DA-2. Drilling-Routing. Holds .030" thru .125" drill bits or routing cutters.
79W102. NET.....79.00

CONTROLLED TIME SPRAY DEVELOPER

Type BTD-201. Designed to spray develop exposed photosensitive coatings requiring either solvent or alkali based chemistry. Developing cycles of 1 to 1½ minutes are controlled with a 5 minute electrical timer activating the spray pumps. A lid safety switch disconnects electrical power to the pumps if the cover is opened when the chemical sprays are operating. Panels are supported in a vertical fashion inside the developing chamber and sprayed from both sides. The four gallon chemical sump is easily changed by use of the convenient drain tube. A metal chemical tank is used and the exterior case construction is of P.V.C. plastic. 22"L x 15"W x 20"H. Shpg. wt. 60 lbs.
79W103. NET.....425.00

DOUBLE SIDE SPRAY ETCHER

Type BTE-202. Single or double clad P.C. boards may be etched in less than 3 minutes. A 1000 watt grounded titanium heater maintains the four gallon etchant sump at a constant temperature of 120°F. Twin side manifolds distribute a random etch spray pattern against both sides of the vertically held panel. The etch cycle is controlled by an electrical timer. A lid safety switch disconnects all power to the etcher if the "see through" top cover lid is opened. Construction materials compatible with commonly used etchants. 22"L x 14½"W x 20"H. Wt. 60 lbs.
80W475. NET.....465.00

PRINTED CIRCUIT BOARD

G-10 glass epoxy circuit boards, 1 oz. copper clad, 1/16" thick Meet standard NEMA grade tolerances. Supplied unsensitized (Unsen.) or photosensitized (Sen.). Photosensitized materials are ready for exposure with no other sensitizing required.

2 OZ. COPPER CLAD LAMINATED G-10 GLASS EPOXY
5 PIECES PER PACKAGE

Stk. No.	Type	Description	Inches	Per Pkg. 1-4	5-9	10-24	25-Up
78F178	P12-365G	Unsen. 1 side	3x6	5.65	4.97	4.18	3.34
78F179	P12-465G	Unsen. 1 side	4x6	7.55	6.64	5.54	4.44
78F180	P12-12125G	Unsen. 1 side	12x12	40.20	35.38	29.48	23.58
78F181	P22-365G	Unsen. 2 sides	3x6	6.55	5.76	4.80	3.83
78F182	P22-465G	Unsen. 2 sides	4x6	8.75	7.70	6.42	5.15
78F183	P22-665G	Unsen. 2 sides	6x6	13.10	11.53	9.64	7.70
78F184	P22-12125G	Unsen. 2 sides	12x12	46.65	41.05	34.23	27.37
78F185	S12-365G	Sen. 1 side	3x6	8.10	7.13	5.94	4.75
78F186	S12-465G	Sen. 1 side	4x6	10.80	9.50	7.92	6.34
78F187	S12-665G	Sen. 1 side	6x6	16.20	14.26	11.88	9.50
78F188	S12-7105G	Sen. 1 side	7x10	29.60	26.05	21.74	17.38
78F189	S12-12125G	Sen. 1 side	12x12	57.65	50.73	42.28	33.84
78F190	S22-365G	Sen. 2 sides	3x6	5.35	4.71	3.92	3.12
78F191	S22-465G	Sen. 2 sides	4x6	14.25	12.54	10.47	8.36
78F192	S22-665G	Sen. 2 sides	6x6	21.40	18.83	15.66	12.54
78F193	S22-12125G	Sen. 2 sides	12x12	75.80	66.70	55.62	44.48

1 OZ. COPPER CLAD GLASS EPOXY BOARDS
5 PIECES PER PACKAGE

Stk. No.	Type	Description	Inches	Per Pkg. 1-4	5-9	10-24	25-Up
19F3216	P1-365G	Unsen. 1 side	3x6	5.60	4.93	4.09	3.30
78F159	P1-465G	Unsen. 1 side	4x6	7.45	6.56	5.46	4.36
19F3217	P1-12125G	Unsen. 1 side	12x12	39.55	34.80	29.00	23.19
19F3218	P2-365G	Unsen. 2 sides	3x6	5.60	4.93	4.09	3.30
78F160	P2-465G	Unsen. 2 sides	4x6	7.45	6.56	5.46	4.36
19F3219	P2-12125G	Unsen. 2 sides	12x12	39.55	34.80	29.00	23.19
19F3220	S1-365G	Sen. 1 side	3x6	7.95	7.00	5.81	4.66
78F161	S1-465G	Sen. 1 side	4x6	10.60	9.33	7.74	6.20
19F3221	S1-665G	Sen. 1 side	6x6	15.90	13.99	11.66	9.33
19F2037	S1-7105G	Sen. 1 side	7x10	29.00	25.52	21.25	16.98
19F3222	S1-12125G	Sen. 1 side	12x12	56.40	49.63	41.36	33.09
19F3223	S2-365G	Sen. 2 sides	3x6	9.50	8.36	6.95	5.54
78F162	S2-465G	Sen. 2 sides	4x6	12.65	11.13	9.28	7.39
19F3224	S2-665G	Sen. 2 sides	6x6	18.95	16.68	13.90	11.13
19F3225	S2-12125G	Sen. 2 sides	12x12	67.40	59.31	49.41	39.56

SHEET COPPER CLAD LAMINATES

16 sq. ft. of copper clad laminate sheared to convenient 12" x 24" size and packaged 8 pieces per package. All materials are photosensitized.

Stk. No.	Type	Description	Wt./Pkg. (lbs.)	Each
79W106	P1-1236	1/16" Phenolic, 1 Side	20	39.60
79W107	P2-1236	1/16" Phenolic, 2 Side	20	60.96
79W108	P1.5-1236G	1/32" Glass Epoxy, 1 Side	22	71.76
79W109	P2-5-1236G	1/32" Glass Epoxy, 2 Side	22	71.76
79W110	P1-1236G	1/16" Glass Epoxy, 1 Side	28	88.32
79W111	P2-1236G	1/16" Glass Epoxy, 2 Side	28	88.32
79W112	P12-1236G	1/16" Glass Epoxy, 1 Side	30	90.24
79W113	P22-1236G	1/16" Glass Epoxy, 2 Side	30	111.36
79W114	P1-1236B	1/16" Epoxy Comp., 1 Side	26	58.80
79W115	P2-1236B	1/16" Epoxy Comp., 2 Side	26	69.36

Kepro P.C. Kits & Materials

1/16" (.062) EPOXY COMPOSITE LAMINATE—1 OZ. (.00135) COPPER FOIL

An epoxy composite laminate (CF or FR-4) type, with superior shearing, drilling, and punching normally associated with FR-3 type materials and electrical and mechanical properties approaching FR-4 glass epoxy including flame resistance.

UNSENSITIZED MATERIAL

		Wt. Per Pkg.		Net Price Per 5 Pack		
Stk. No.	Type	lbs.	oz.	1-4	5-9	10-up
78F049	P1-365B	1	2	3.75	3.30	2.73
78F050	P1-465B	1	10	5.60	4.93	4.09
78F051	P1-7105B	2	5	13.55	11.92	9.94
78F052	P1-12125B	3	6	26.55	23.36	19.49
78F053	P2-365B	1	3	4.20	3.70	3.08
78F054	P2-465B	1	11	6.30	5.54	4.62
78F055	P2-7105B	2	6	15.45	13.60	11.31
78F056	P2-12125B	3	10	29.80	26.22	21.87

PHOTOSENSITIZED MATERIAL

		Wt. Per Pkg.		Net Price Per 5 Pack			
Stk. No.	Type	lbs.	oz.	1-4	5-9	10-24	25-up
78F058	S1-365B	1	2	5.85	5.15	4.27	3.43
78F059	S1-465B	1	10	8.75	7.70	6.42	5.15
78F060	SJ-7105B	2	5	21.40	18.83	15.71	12.58
78F061	S1-12125B	3	6	41.45	36.48	30.40	24.33
78F062	S2-365B	1	3	7.80	6.86	5.72	4.58
78F063	S2-465B	1	11	11.65	10.25	8.54	6.86
78F064	S2-7105B	2	6	28.35	24.95	20.81	16.63
78F065	S2-12125B	3	10	55.10	48.49	40.39	32.30

STANDARD KIT

Type S-101A. An etching kit designed for custom fabrication of circuit boards. A liquid or tape resistant is manually applied to the XXXP Phenolic copper clad sheet in the desired pattern, then etched. A perforated copper clad panel is supplied with this kit to speed component mounting. Contents: 2 sheets 3 x 6 x 1/16" copper clad phenolic, unsensitized, 1 sheet 3 x 6 x 1/16" perforated copper clad phenolic, unsensitized, 1-Resist. Marking Pen, 1-Package assorted Tapes and Dots, 2-Bottles Etching Solution, 1-Plastic Etching Tray, 1-Cleaning Pad and instructions. Shpg. wt. 2 lbs.
19F2000. NET 5.15

Type S-101A-G. Identical to S-101A Kit, except, base material is G-10 Glass Epoxy. Copper Clad.
19F2001. NET 6.85

PROFESSIONAL KIT

Type P-101A. An etching kit designed to custom fabricate your own circuit board utilizing a photo engraving process. A sensitized sheet of XXXP Phenolic copper clad is exposed through your prepared negative, then developed and etched. Contents: 2 sheets 3 x 6 x 1/16" photosensitized copper clad phenolic, 3 sheets Mech. Neg. 1-Print Frame Glass, 2-Print Frame Clamps, 1-Bottle Developer, 2-Bottles Etching Solution, 1-Aluminum developing Tray, 1-Plastic Etching Tray, 1-Cleaning Pad. With complete instructions. Shpg. wt. 3 lbs.
19F2002. NET 7.60

Type P-101A-G. As above except base is G-10 Glass Epoxy. Copper Clad.
19F2003. NET 9.60

ETCHED CIRCUIT LAB

Type L-505A. A complete lab which contains all materials required for circuit board development. Uses high quality photo processing. Contains: 1-8½ x 12 Developing Tray, 1-8½ x 12 Etching Tray, 1-Safelight, 1-Printing Frame, 1-Photo Flood Lamp, 1-Kepro Photo Layout Kit (PL-2A), 1-40-10 Mech. Neg. 1-Etching Solution (1 Pint), 1-Developing Solution (1 Pint), Resist. Marking Pen. 1-3⅛ x 7⅛ x 1½" Plastic Tray and Lid, 1-Aluminum Tray, 1-Etching Solution (4 oz.), 1-Eyelet Assortment, 1-Cleaning Pad, 1-Set of Instructions. Shpg. wt. 19 lbs.
80W125. NET 45.15

Type L-505A-G. Identical to L505A, except, base material is G-10 Glass Epoxy, Copper Clad. Shpg. wt. 20 lbs.
80W126. NET 55.85

PHOTO REVERSING KIT

Type FK-701. Simple two-step process prepares line negatives and positive from taped or inked artwork or reverses existing negatives or positives. No darkroom needed. Includes two pieces 10" x 24" reversing film, chemicals and instructions. Shpg. wt., 2 lbs.
19F2010. NET 9.35

Type RF-1024. 2 mil. green reversing film, 10" x 24". Shpg. wt. 8 oz.
19F2045. NET 4.00

Type RF-2024. 2 mil. green reversing film, 20" x 24". Shpg. wt. 1 lb.
19F2046. NET 7.65

ETCHED CIRCUIT PROCESSING CHEMICALS

Stk. No.	Type	Description	Weight	EACH
78F085	PRSC-1G	Photo Resist Stripper	15 lbs.	14.85
19F2033	D-1G	1 gal. Developing Solution	16 lbs.	12.50
80W128	E-1G	1 gal. Etching Solution	16 lbs.	5.65
19F2039	EP-1G	Etching Powder	1 gal.	4.50
19F2040	EP-5G	Etching Powder	4 gal.	11.75
19F2048	RFD-1G	1 gal. Reversing Developer	13 lbs.	9.95
78F057	PRSC-1QT	1 qt. Photo Resist Stripper	.....	6.10
19F2030	D-1QT	1 qt. Developing Solution	.....	5.50
19F2031	E-1QT	1 qt. Etching Solution	.....	3.45

PHOTO LAYOUT KIT

Type PL-2A. For preparing camera-ready artwork without inking and lettering. Reduced layout time by use of pressure-sensitive tapes, dots, letters and numerals. Contents: 96¼" Tape Dot Terminations. 108"-⅛" Tape Conductor Strips. 216"-1/16" tape Conductor Strips. 1-translucent-type (letters and numerals, assorted sizes) sheet. 1-Acetate Sheet (8" x 10"). 1-Mech. Neg. (8" x 10"). 2-Sheets of Graph paper, 1/10" grid 8 x 10". 1-Instruction sheet. Wt., 1 lb.
19F2006. NET 5.15

MASTER PHOTO LAYOUT KIT

Type PL-200A. This package includes all necessary materials to make Master artwork on stable base drafting films. Utilizes the same time saving methods as the PL-2A. Contents: 2 pcs. 18"x24" Matte Surface Mylar, 2 pcs.—18"x24" Mech. Neg. mylar 1 pc. 1/10" grid mylar sheet 18"x24" base. 4 pcs.—17"x21" Graph paper, 1/10" grid. 432-⅛" tape dot termination. 567-¼" tape dot termination. 252-½" dot terminations. 18 yds.-1/16" tape conductor strips. 21 yds.-⅛" tape conductor strips. 18 yds. ¼" tape conductor strips. 1 sheet—8½"x11" translucent (letters and numerals, assorted sizes) sheet. 1 btl.—Opaquing fluid. 1-Brush, 1-Bow Compass (with knife cutters) 1-Center Dot Cutter, 1-Tweezers, 1-Cutting Knife Set, 1-Peeling Stylus, 1-instruction and Data Sheet. Shpg. wt. 4 lbs.
19F2007. NET 45.00

NAMEPLATE & PANEL KIT

Type NP-303A. Kit permits you to prepare name-plate by a simple photographic process. Plates are exposed to light source through artwork made from supplied materials. Panels art then dev., no fixing nec. Finished plates are aluminum and contrasting dk. blue. Contents: 2-8"x10" Aluminum Sheet, 1-8"x10" Acetate Sheet, ¼-Sheet translucent-type. 1-8"x10" Print Glass, 1-1 oz. Bottle developer, 2-2x2x¾" Appls. (sponges). 2-(8x10") pressure sensitive adhesive. Shpg. wt. 1 lb. 1 oz.
19F2008. NET 9.45

ETCHED ANODIZED NAMEPLATE & PANEL KIT

Type NP-404. Produces etched nameplates and panels using anodized aluminum stock. Processed by exposing, developing, and etching plates. Finished plates are black anodized aluminum and natural color aluminum finish. Contents: 3-3x6" Aluminum Panels. 3-3x6" Acetate Sheets, ¼-Sheet translucent type. 1-Print Glass, 2-3" Clamps, 1-4 oz. Bottle Developer, 1-2 oz. Package Etchant, 1-Dev. Tray, 1-Etch Tray. 3-(3x6") pressure sensitive adhesive. 1½ lbs.
19F2009. NET 8.50

SILK SCREEN KIT

Type SC-601A. Professional materials and equipment for producing lacquer resistant film type photo stencils with print area up to 7"x9" and to use these stencils to screen-print 1000 or more impressions per day. No dark room needed. Kit includes screen printing frame with one stretched silk in place plus silk and emulsion for two additional patterns, mounting hinges, squeegee, black and white inks, film printing frame, safe-light, photo-flood lamp, trays and all necessary chemicals and solutions. Shpg. wt., 13 lbs.
80W127. NET 45.50

ELECTROLESS PC BOARD TIN PLATING KIT

Model ITP-801. Simple immersion process deposits thin coating of essentially pure tin to etched copper circuit to protect from oxidation and to provide exceptional solderability. Immersion tin plating is a chemical process and requires no expensive electroplating equipment. Tin solution is heated to 160 deg. F. in high-temperature glass tray and circuit board is immersed for 3-5 minutes. Board is removed from tray, rinsed 3 minutes under running hot water, then another 3 minutes under running cold water. Kit includes high-temperature glass tray, accommodating board sizes up to 7" x 10"; board handling rack; thermometer; 1 qt. immersion tin solution (sufficient for plating patterns on approx. 25 sq. ft. of etched panels) and complete instructions. Shpg. wt., 5½ lbs.
78F086. NET 13.95

EXTRA MATERIALS FOR ITP-801 KIT

Stk. No.	Type	Description	Weight	Net
78F083	ITP-1QT	Immersion Tin Solution	4 lbs.	9.25
78F088	ITP-1G	Immersion Tin Solution	11 lbs.	28.95

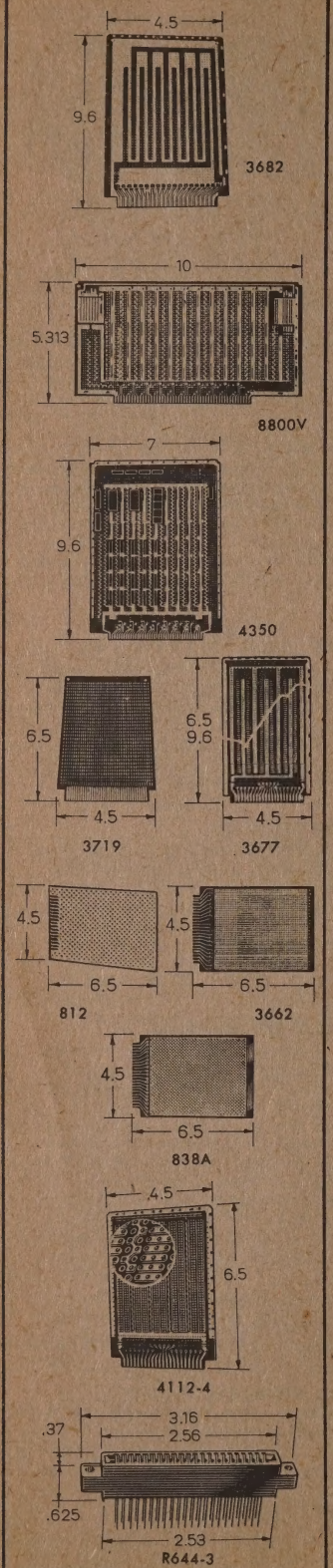
SOLID CARBIDE CIRCUIT BOARD DRILLS

Specially designed for smooth, burr-free drilling in circuit boards and all laminates, tapered web, straight shank.

Stk. No.	Type	1-2	3-5	6-11	12 & Up
78F066	SCD-125 (⅛)	5.50	4.29	3.85	3.58
19F2051	SCD-064 (#52)	4.73	3.69	3.31	3.07
19F2052	SCD-052 (#55)	4.57	3.56	3.20	2.97
19F2053	SCD-040 (#60)	4.40	3.43	3.08	2.86
19F2054	SCD-035 (#65)	4.40	3.43	3.08	2.86
78F067	SCD-032 (#67)	3.85	3.00	2.70	2.50
19F2055	SCD-028 (#70)	3.85	3.00	2.70	2.50

Vector

Plugboards and Connectors



DIP PLUG-IN BOARDS FOR WIRE WRAP CONSTRUCTION

1/16 inch thick FR4 glass material with etched tinned wiring buses, ground plane where indicated, with overall grid of .042 inch dia. holes on .1 inch centers.

Stock No.	Type	Size	No Contacts and Spacing		Ground Plane	Mating Connector Soldertail	Mating Connector WW Tail	1-19	20-99	100-199
38F1369	3682	4.5 x 9.6	44	.156"	No	R644	R644-3	**10.97**	**9.88**	**8.76**
38F1370	3682-2	4.5 x 6.5	44	.156"	No	R644	R644-3	**9.81**	**8.82**	**8.23**
38F1371	3682-4	4.5 x 6.5	44	.156"	Yes	R644	R644-3	**10.69**	**9.62**	**8.98**
38F1130	4066-5	4.5 x 4.5	72	.100"	Yes	.....	636-1	**12.23**	**11.01**	**10.28**
38F1131	4066-4	4.5 x 6.5	72	.100"	Yes	.....	636-1	**13.60**	**12.24**	**11.42**
38F1100	3795-1	2.73 x 4.5	44	.100"	No	.....	R644-2	**6.42**	**5.78**	**5.39**

UNIVERSAL MICROCOMPUTER/MICROPROCESSOR PLUGBOARDS

Install any DIP device and make interconnections to build peripheral interface equipment or expand memory. FR4 epoxy glass boards furnished with overall grid of .042" dia. holes on .1" centers, heavy tinned buses, plus nickel plated gold flashed contacts. Planned for wrap post sockets. Large copper-free areas provided for installation of flat cable connectors or large discrete devices.

8800V: Compatible with Altair 8800 and IMSAI equivalent. Board can hold: 2 (40-pin), 8 (24-pin), 36 (14- or 16-pin DIPs); 52 (14- or 16-pin DIPs); 10 (40-pin), 8 (24-pin DIPs); or any combination in-between. Power distributed by tinned power planes on opposite board sides. Two heat sink provisions with one provided. Mating Connectors: **R681, R681-1.**

4350: Compatible with TI 980 series computer. Will hold 63 (14- or 16-pin DIPs) over power and ground buses; 6 (24-pin) and 45 (14- or 16-pin DIPs); or 40-pin DIPs anywhere by cutting one etched lead per location. Back-to-back tinned buses provide distributed decoupling capacitance. An extra zig-zag power bus on each side of board. Mating Connectors: **R680-1; R680,** lower priced version, numbering does not match 4350.

Stock No.	Type	Size	No Contacts and Spacing		Mating Connector WW Tail	Mating Connector Soldertail	1-4	5-9	10-24
38F1132	8800V	5.313" x 10"	100	.125	R681-1	R681	**19.95**	**17.96**	**15.96**
38F1133	4350	7" x 9.6"	80	.125	R680-1	.....	**17.95**	**16.16**	**14.36**

DIP PLUGBOARDS WITH ETCHED MATRIX

Boards are FR4 grade 1/16" thick epoxy glass with overall grid of .042" holes on .1" centers; nickel plated, gold flashed contacts and 2 oz. tinned .070" buses to reduce wiring time. "X" is horizontal, "Y" is vertical. Board holds twelve 14- or 16-pin DIPs.

Stock No.	Type	Size	Matrix	No. Contacts	Mating Connector WW Tail	1-19	20-99	100-199
38F1094	3719-2	4.5 x 6.5	Y	72	R636-1	**10.32**	**9.30**	**8.67**
38F1095	3719-3	4.5 x 6.5	X-Y	72	R636-1	**11.48**	**10.34**	**9.65**

DIP PLUG-IN BOARDS—NO MATRIX OR ETCHED BUSES

1/16" thick FR4 glass material, nickel gold plated contacts with overall grid of .042" dia. holes on .1" centers. * has Elco Varicon contacts.

Stock No.	Type	Size	No. Contacts	Mating Connector Soldertail	Mating Connector WW Tail	1-19	20-99	100-199
38F1103	3719-1	4.5 x 6.5	72	.....	R636-1	**9.08**	**8.17**	**7.62**
38F1104	3719-4	4.5 x 9.6	72	.....	R636-1	**11.20**	**10.08**	**9.42**
38F1366	3662	4.5 x 6.5	44	R644	R644-3	**6.50**	**5.85**	**5.46**
38F1105	3662-2	4.5 x 9.6	44	R644	R644-3	**11.45**	**10.30**	**9.61**
38F1106	848PWE*	4.5 x 6.5	35	R635	.....	**9.14**	**8.22**	**7.67**
38F1135	3673	7.88 x 9.6	80	.....	R680/R680-1	**15.29**	**13.76**	**12.83**
38F1134	3662-5	4.5 x 4.5	44	R644	R644-3	**6.88**	**6.20**	**5.78**
38F1136	3719-5	4.5 x 4.5	72	.....	R636-1	**8.03**	**7.23**	**6.74**

DIP PLUG-IN BOARDS FOR SOLDER CONSTRUCTION

1/16" FR4 glass material with tinned buses and pads, ground planes with clearance holes where indicated, nickel gold plated contacts, overall grid of .042" dia. holes on .1" centers.

Stock No.	Type	Size	No. Contacts	Spacing	Ground Plane	Mating Connector Soldertail	Mating Connector WW Tail	1-19	20-99	100-199
38F1368	3677-2	4.5 x 6.5	44	.156	No	R644	R644-3	**9.28**	**8.36**	**7.80**
38F1137	4112-5	4.5 x 4.5	44	.156	Yes	R644	R644-3	**12.23**	**11.01**	**10.28**
38F1138	4112-4	4.5 x 6.5	44	.156	Yes	R644	R644-3	**13.60**	**12.24**	**11.42**
38F1367	3677	4.5 x 9.6	44	.156	No	R644	R644-3	**10.38**	**9.35**	**8.73**

PLUG-BOARDS WITH HOLES ON ALTERNATE CENTERS

Contacts etched on .156 in. centers or installed Elco Varicon types. .062" holes on alternate .1" centers. Nickel plated gold contacts.

Stock No.	Type	Size	Contact Type	No. Contacts	Spacing	Connector	1-19	20-99	100-199
38F482	837WE	3 x 4.5	Varicon	12	.2	R612-1	**3.76**	**3.38**	**3.15**
38F483	812WE	4.5 x 6.5	Varicon	16	.2	R616-1	**5.12**	**4.62**	**4.31**
38F395	848WE	4.5 x 6.5	Varicon	35	.1	R635	**8.86**	**7.97**	**7.43**
38F1080	838WE	4.5 x 6.5	Etched	43	.156	R644	**5.17**	**4.65**	**4.34**
38F1081	838WE-1GN	4.5 x 6.5	Etched	43	.156	R644	**7.77**	**6.99**	**6.53**
38F1082	838AWE-1GN	4.5 x 6.5	Etched	22	.156	R644	**6.72**	**6.05**	**5.65**

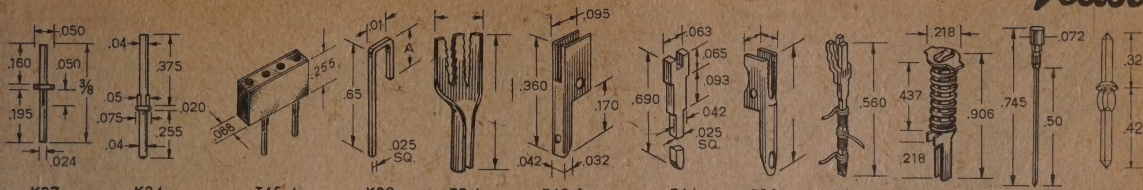
RECEPTACLES FOR VECTOR PLUGBOARDS

Stock No.	Type	Contact Type	O/A Lgth.	Mtg. Hole Ctrs.	1-24	25-49	50-99	100-249
38F397	R612-1	Solder	3.15	2.88	**4.00**	.....	.....	.....
38F396	R616-1	Solder	3.95	3.68	**5.15**	.....	.....	.....
38F1107	R635	Solder	4.21	3.93	**6.35**	**6.35**	**5.71**	**4.61**
38F487	R644	Solder	4.36	4.03	**3.45**	**3.45**	**2.93**	**2.53**
38F1139	R644-2	WW	3.16	2.85	**5.46**	**4.97**	**4.48**	**3.91**
38F1141	R680	WW	5.805	5.55	**5.44**	**4.62**	**3.81**	**3.26**
38F1142	R680-1	WW	5.805	5.55	**7.73**	.....	.....	.....
38F1143	R636-1	WW	4.44	4.175	**5.18**	**4.40**	**3.63**	**3.11**

					1-49	50-199	200-499	500-999
38F1140	R644-3	WW	4.36	4.03	**4.49**	**4.04**	**3.15**	**3.01**

PC Boards, Terminals And Cases

Vector



K27 K24 T45-4 K32 T9.4 T42-1 T44 T28 T49 T30N-2 R32 T46-2

MICRO-VECTORBOARD® TERMINALS

K27 Terminals. Knurled center body flange which holds pins.
K24 Inboard Pin. Fits "P" pattern Micro-Vectorboard.
T45-4 Solderless Strip Klip. For IC Breadboarding.
K32 "J" Pin. For use in .042" diameter holes.
T9.4 Zip Terminals. Fits "A" and "AA" pattern Vectorboard.
T42-1 Push-In Terminals. Fits "P" pattern Micro-Vectorboard.
T44 Mini-Wrap Terminals. Press fit into .042" hole.
T28 Push-In Terminals. Fits "G" and "H" Vectorboard.
T49 Push-In Terminals. Fits "P" pattern Micro-Vectorboard.
T30N-2 Solderless Springclip Terminal. Fits "A" or "AA".
R32 Socket Pins. Fits "P" pattern for DIP or transistor leads.
T46-2 Star Series Terminals. For printed circuit applications.

Type	For Hole	O/A Lgth.	Pkg. 50 Stk. No.	Pkg. 50 Pkg.	Pkg. 100 Stk. No.	Pkg. 100 Pkg.	Pkg. 1000 Stk. No.	Pkg. 1000 1-4	Pkg. 1000 5-9
K27C	.025	3/8	38F398	1.01	.....	.....	38F399	14.00	12.60
K24C	.042	.650	38F400	1.49	.....	.....	38F401	16.99	15.31
T45-4	.042	.555	.....	.....	38F1325	12.60	.....	.....	.....
K32	.042	.650	.....	.....	38F1362	1.75	38F1326	10.89	9.81
T9.4	.093	.546	.....	.....	38F1327	1.74	38F1059	12.43	10.44
T28	.062	.437	.....	.....	38F465	1.90	38F1061	12.61	11.36
T42-1	.042	.360	.....	.....	38F1363	2.01	38F1328	12.90	11.58
T44	.042	1/16	.....	.....	38F1364	2.28	38F1329	14.00	12.60
T49	.042	.835	.....	.....	38F1330	3.03	38F1331	17.00	15.32
T30N-2	.062	.906	.....	.....	38F1332	9.62	38F1065	61.62	57.50
R32	.042	.745	.....	.....	38F1040	14.90	38F1039	107.07	101.64
T46-2	.042	.74	.....	.....	38F402	3.48	38F403	23.60	21.24
T46-3	.042	1.02	.....	.....	38F404	2.73	38F405	17.18	15.46

TERMINAL INSTALLING TOOLS

Stk. No.	Type	Use With	Each
38F1342	P133A*	K24C	2.89
38F1381	P154-1*	T45-4	4.75
38F1380	P158	R32	11.90
38F1337	P122B*	T9.4	1.73
38F1338	P91A*	T28	1.96
38F1339	P149A*	T42-1	2.49
38F1340	P156*	T49	3.35
38F1341	P92A*	T30N-2	.67
38F1382	D9†	R32	3.86
38F412	D7†	T46	6.35
38F406	D8†	T49	3.86
38F407	D7-2†	K24	7.30

*Manual Insertion Tool. †Die Points used with P158 Tool.

EPOXY GLASS

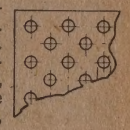
Stk. No.	Type	Pattern	Size	1-19	20-99	100-199
38F463	64A18WE	A	1/16x4 3/16x17"	4.26	3.83	3.58
38F391	42G22WEC1	G	1/16x4 1/2 x8 1/2"	3.19	2.88	2.57
38F390	42G22WEC2**	G	1/16x4 1/2 x8 1/2"	3.49	3.13	2.93
38F1050	42G24WE	G	1/16x4.8x8.5"	2.37	2.12	1.98
38F464	85G24WE	G	1/16x4 3/16x17"	4.76	4.27	4.00
38F1051	85G42WE	G	1/16x8.5x17"	6.78	6.10	5.69
38F1053	169P59/032	P	1/32x17x6"	6.69	6.02	5.62
38F1336	85H85WE	H	1/16x8.5x8.5"	2.52	2.28	2.01
38F1383	170H85WE	H	1/16x17x8.5"	10.46	9.40	8.78
38F1019	170H48WE/032	H	17x4 13/16x1/32"	4.28	3.85	3.60
38F1070	170H48WE	G	17x4 13/16x1/16"	5.08	4.58	4.26
38F1384	59P19-032	P	1/32x6x2"	1.03	.92	.87
38F1385	59P44-032	P	1/32x6x4 1/2"	1.86	1.68	1.56
38F1386	169P59-047	P	3/64x6x17"	6.80	6.12	5.72
38F1376	64P44-062	P	6 1/2 x4 1/2 x 1/16"	2.07	1.86	1.73
38F1377	169P44-062	P	17x4 1/2 x 1/16"	5.04	4.53	4.23
38F1378	169P44-062C1*	P	17x4 1/2 x 1/16"	6.80	6.12	5.72
38F1379	169P44-062C2*	P	17x4 1/2 x 1/16"	7.25	6.51	6.09
38F408	85H48WE	H	8.5x4.8x1/16"	5.59	5.04	4.70
38F409	169P84-062	P	17x8.5x1/16"	9.23	8.26	7.75

XXXP PHENOLIC

Stock No.	Type	Pattern	Size	1-19	20-99	100-199
38F1325	18A18	A	1/16x4.8x4.8"	.46	.42	.39
38F421	64A18	A	1/16x4 13/16x17"	1.58	1.42	1.32
38F420	32A9	A	1/16x8 1/2 x2.41"	.64	.58	.54
38F422	64AA18	AA	3/32x4 13/16x17"	2.03	1.83	1.70
38F424	32AA18	AA	3/32x4 13/16x8 1/2"	1.05	.95	.88
38F420	32AA9	AA	3/32x2.41x8 1/2"	.74	.65	.62
38F460	64AA32	AA	3/32x17x8 1/2"	3.47	3.12	2.91
38F1048	45B30	B	1/16x5.69x8.51"	1.04	.93	.88
38F1049	90B30	B	1/16x5.69x16.97"	2.28	2.00	1.91
38F393	44F22C1*	F	1/16x4 1/2 x8 1/2"	1.30	1.18	1.11
38F392	42F22C2**	F	1/16x4 1/4 x8 1/2"	1.72	1.54	1.45

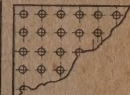
VECTORBOARD® & MICRO-VECTORBOARD®

Pre-punched terminal boards provide overall grids of holes useful in breadboarding as well as production. "P" pattern boards are useful for "DIP's". *2 oz. copper one side **2 oz. copper 2 sides. Boards meet following MIL specs. Phenolic, MIL-P-3115, Max. Temp. 221°; Epoxy paper MIL-P-22324, Max. Temp. 230°; Epoxy glass, Type FR4, Grade G-10, MIL-P-18177; Copper Clad Phenolic Boards, MIL-P-13949.



BOARD PATTERNS

Patterns	A	F	G	H	P	M
Size	.093	.062	.062	.062	.042	.025
Spacing	.265	.2	.1x.2	.1	.1	.05



EPOXY PAPER

Stock No.	Type	Pattern	Size	1-19	20-99	100-199
38F423	64AA18EP	AA	3/32x4 13/16x17"	3.70	3.33	3.11
38F425	32AA18EP	AA	3/32x4 13/16x8 1/2"	1.98	1.79	1.67
38F426	85F24EP	F	1/16x4 13/16x17"	2.74	2.46	2.31
38F1047	85F42EP	F	1/16x8 1/2 x17"	4.75	4.27	3.99
38F427	85G24EP	G	1/16x4 13/16x17"	2.74	2.46	2.31
38F459	85G42EP	G	1/16x17x8 1/2"	4.75	4.27	3.99
38F1372	64P44-062EP	P	1/16x4 1/2 x6 1/2"	1.95	1.75	1.64
38F1373	169P44-062EP	P	1/16x4 1/2 x17"	4.42	3.99	3.72
38F1374	64P44-062EPC1*	P	1/16x4 1/2 x6 1/2"	2.53	2.28	2.12
38F1375	64P44-062EPC2*	P	1/16x4 1/2 x6 1/2"	2.70	2.44	2.28
38F410	64P44-062XXXP	P	6.5x4.5x1/16"	1.72	1.54	1.45
38F411	169P44-062XXXP	P	17x4.5x1/16"	3.69	3.32	3.10

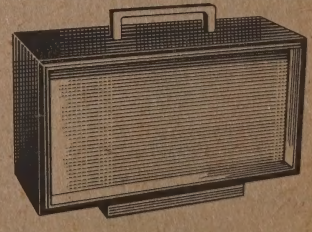
MULTI-MOD CASES

CLEAR ANODIZED ASSEMBLED MULTI MOD CASES

Stock No.	Type	Width Inches	Length Inches	Height Inches	Holds Card or Chassis Plate	Each 1-49	Each 50-199
38F1391	W20-46-31B	2.0	4.61	3.10	4.50 x 2.98	3.86	3.48
38F1392	W20-66-46B	2.0	6.61	4.61	6.50 x 4.50	4.73	4.24
38F1393	W30-66-46B	3.0	6.61	4.61	6.50 x 4.50	5.75	5.19
38F1394	W30-86-46B	3.0	8.61	4.61	8.50 x 4.50	6.42	5.79
38F1395	W45-66-46B	4.5	6.61	4.61	6.50 x 4.40	7.52	6.78
38F1396	W45-86-46B	4.5	8.61	4.61	8.58 x 4.50	8.49	7.68
38F1397	W45-100-46B	4.5	10.0	4.61	9.88 x 4.50	9.94	8.95

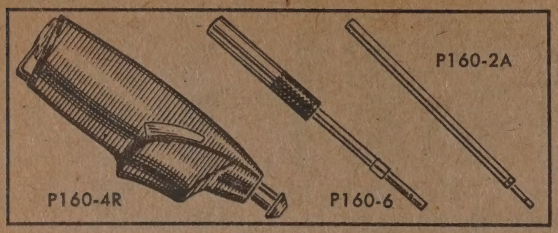
DUAL TONED ASSEMBLED MULTI-MOD CASES WITH BEZELS

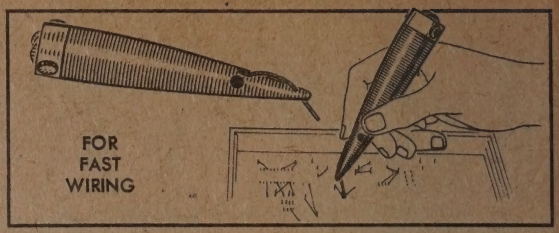
Stock No.	Type	Width In.	Lgth. In.	Ht. In.	Hold Card	Frame Color	Side Panel Finish	Bezel Color	Each 1-49	Each 50-199
38F1398	W20-46-31-1	2.0	4.61	3.10	4.50x2.98	Gold Anod.	Gold Anod.	Alum. Blk.	8.26	7.44
38F1343	W30-66-46-2	3.0	6.61	4.61	6.50x4.50	Avoc. Paint	Beige Paint	Blk. Anod.	11.38	10.25
38F1344	W30-86-46-1	3.0	8.61	4.61	8.50x4.50	Blk. Anod.	Beige Paint	Alum.	11.84	10.66
38F1345	W45-86-46-2	4.5	8.61	4.61	8.50x4.50	Grn. Paint	Beige Paint	Alum.	13.69	12.34



Made from sleek extruded aluminum with four grooved interior surfaces which hold 1/16" circuit card chassis plates without need of additional fasteners. One surface is fastened with four screws. Two side panels may be punched for meters, switches, etc.

Circuit Builders Tools





WIRE WRAPPING TOOLS

Type P160-2A manual tool for making solderless wrapped connections. Hardened bit insures long life. Effective radius of .070" permits working on terminals spaced 0.1" apart. Will wrap 0.025"-0.028" sq. Wrap-Posts (standard Vector terminals), and its 0.56" minimum post hole depth permits multi-level wrap capability. Wire sizes range from 26 ga. through 30 ga., with 28 ga. (0.0129" dia.) preferred. Tool may be used for wrapping bare wire point-to-point, or for continuous strapping using bare wire fed through the back of the tool.

Type P160-1A Dual-Way Unwrap Tool slips over terminal and is turned to unwrap wire which was wrapped either right or left. Use with P160-4L for powered unwrapping of wires wrapped clockwise, and with P160-4R for unwrapping wires wrapped counter-clockwise.

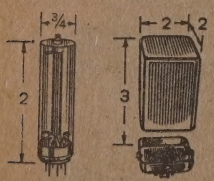
Type P160-4R convenient right-hand rechargeable Electro-Tool. Lightweight unit (9 oz.) accepts the P160-2A Manual Wrapping tool in its chuck. Sturdy, shock-resistant, high torque P160-4R is shaped in a straight configuration, convenient for working on horizontal as well as vertical panels. Just a touch of the switch on its side with the index finger provides 6 to 8 gas-tight wraps. May be used remotely without cord for many hours without recharging—or may be used with cord to extend its working time.

Stk. No.	Type	Description	1-4	5-9
38F367	P160-2A	Manual Wrapping Tool	7.95	7.15
38F368	P160-4R	Power Wrapper With Recharger	45.68	41.48
38F369	P160-1A	Manual Unwrapping Tool	9.50	.....
38F370	P160-9	Combination Wrap-Unwrap Tool	17.45	.....
38F371	P160-6	Dual-Way Wrap-N-Strap Tool	15.25	.....
38F372	P160-7	Dual-Way Unwrap Tool	9.50	.....
38F373	2323A-28-3	50' Wrapping Wire	1.58	.....
38F374	2323A-28-4	50' Wrapping Wire, Kynar Insulated	1.84	.....

SPRING IMPACT TOOL & ACCESSORIES

Spring loaded installing tool delivers an adjustable striking force of 18 to 34 lbs. to a terminal anvil or installing die screwed into the end. Ideal for production terminal and wrap-post installation because of the uniform striking pressure resulting in well-seated terminals. Adapts to any drill or arbor press accepting a ½" shank furnished on the P158-1 Adapter.

Stk. No.	Type	Description	Each
38F1380	P158	Spring Impact Insertion Tool	11.90
38F375	P96C-2	Holder To Adapt Die Point	2.63
38F376	P96C-1	Anvil Base	7.70
38F377	P158-1	Holder To Adapt P158	9.19



G2.2-8 C12K1.02

MODULAR PLUG IN UNITS

For building plug in circuits for tube sockets. Furnished with 7 pin miniature, 8 pin octal, or 9 pin noval plug and aluminum covers plus internal mounting structures for some models. Covers attached with side screws.

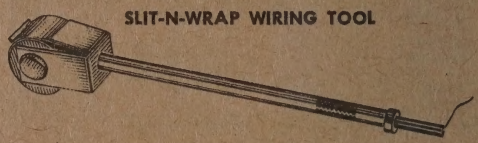
Stk. No.	Type	Description	1-49	50-199	200-499
38F1109	G2.2-8	⅝" dia. x 2" H. with 7-pin miniature plug, spacers & screws	1.70	1.52	1.19
38F595	C12K1.02	2" sq. x 3" H. 8-pin octal bakelite plug, two .136 diag. opp. holes in base	1.77	1.59	1.24

WIRING PENCIL

Speeds circuit construction by dispensing and coiling solder-thru insulated wire around component leads, terminals, etc. Complete circuit by soldering through insulation with 750°F. soldering tip. Tool includes one spool each of 36 ga. red and green solder-thru wire, threader, threading loop, and complete instructions. For extra convenience and dense circuitry, use wiring spacer P179WS series which fit .042 in. holes in "P" Pattern Micro-Vectorboard®.

Stk. No.	Type	Description	1-4	5-9	10-24
25F790	P173	Wiring Pencil	9.50	8.55	7.60
25F791	W36-3-A	200' 36 ga. green wire, pkg. 3	2.40	2.40	2.16
25F792	W36-3-B	200' 36 ga. red wire, pkg. 3	2.40	2.40	2.16
25F793	W36-3-C	200' 36 ga. clear wire, pkg. 3	2.40	2.40	2.16
25F794	W36-3-D	200' 36 ga. blue wire, pkg. 3	2.40	2.40	2.16
38F378	P181	Quick Clip Wire Cutter	5.50	.....	.....
38F379	P183	Forming Knife	1.95	.....	.....
38F380	P179WS-M	Wiring Spacers, 16 asst. lgths.	.95	.....	.....
38F381	P179WS-3.6	20 Wiring Spacers, 3.6" long	2.40	.....	.....
38F382	P179WS-1.6	20 Wiring Spacers, 1.6" long	1.20	.....	.....
38F383	P179WS-.4	20 Wiring Spacers, 0.4" long	.60	.....	.....

SLIT-N-WRAP WIRING TOOL



Patented tool uses insulated spool-fed wire to make reliable, gas-tight wrapped wire connections to 0.025 in. sq. posts. During wrapping, a sharp edge on the wrapping bit opens the insulation to expose and wrap the bared wire against wrap posts. Tool requires, and is supplied with, special 28 ga. polyurethane nylon insulated wire.

Stk. No.	Type	Description	1-4	5-9	10-24
38F384	P180	Slit-N-Wrap Tool w/two spools wire	24.50	22.05	19.60
38F385	P160-4T	Electrowrapper w/P180 & recharger	75.00	67.50	56.25
38F379	P183	Chisel Knife & Forming Tool	1.95	.....	.....
38F386	P185	Adapter—mounts P180 in P160-4R	1.25	.....	.....
38F387	W28-2-A	100' 28 ga. green ins. wire, pkg. 3	2.75	2.75	2.48
38F388	W28-2-B	100' 28 ga. red ins. wire, pkg. 3	2.75	2.75	2.48
38F366	W28-2-C	100' 28 ga. clear ins. wire, pkg. 3	2.75	2.75	2.48
38F389	W28-2-D	100' 28 ga. blue ins. wire, pkg. 3	2.75	2.75	2.48

COMBINATION TYPE TEST ADAPTERS

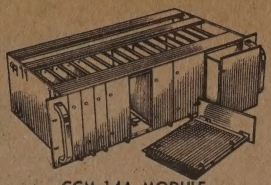
Measures current and/or voltage in operating circuits from tube side of chassis without cutting leads. Voltage and waveform checks may be made by joining probe leads and connecting to meter. Fit inside shield bases and tube clamps. Beryllium copper, silver plated contacts and mica filled phenolic castings used throughout for long life.

Stk. No.	Type	1-19	20-99	100-199
38F1045	T789C Kit of T-7-M-C Min. T-9-N-C 9-pin Min., T-8-0-C Octal, P-2 Probe in case	20.02	18.03	16.82
38F1352	T912C Kit of Novar, Compactron, Probe in case	15.48	13.92	13.01

Vector-Pak Packaging System

Vector

MODEL CCM-14A

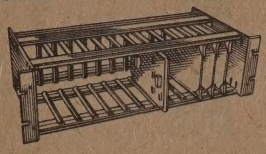


CCM-14A MODULE CAGE ASSEMBLY

Mounts intermixed circuit sizes without any guide adjustment. Card mount front panels are multiples of 1", and easily detachable for punching switch and indicator light holes in the flat. Four sizes of L-brackets may be intermixed in any order in rack mounted card cage and are provided with single jack screw for positive retention and easy installation and removal of card. Size 5 7/32"H x 19"W. For 4½" x 6½" cards.

Stk. No.	Type	Description	Each
38F1110	CCM-14A	Fully assembled cage, accepts modules below	45.49
38F1111	CM45-65-1	Module with 1" wide front panel	4.34
38F1112	CM45-65-2	Module with 2" wide front panel	4.97
38F1113	CM45-65-3	Module with 3" wide front panel	5.14
38F1114	CM45-65-4	Module with 4" wide front panel	5.48

MODEL CCK13



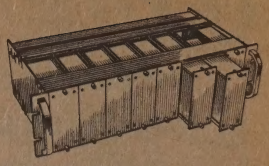
All-aluminum card cage for 19" rack or table top mounting using encasement, has 21 pairs of riveted aluminum guides on ¾" centers for 1/16" thick cards. For cards 4.5" to 3"W and to 6.5"L, use CCK13; for cards 7.98" to 6.5"W and to 9.6"L, use CCK17.

Stk. No.	Type	Description	Each
38F1180	CCK13	Assembled 5¼"H x 19"W x 8.9" Dp cage with 21 pairs of guides installed on ¾" ctrs.	34.07
38F1116	CCK17	Assembled 8¾"H x 19"W w. 21 pairs of guides installed on ¾" centers	37.30

ACCESSORIES

Stk. No.	Type	Description	Each
38F117	HA-12	Handles for all above cages (Pkg. of 2)	3.25
38F118	FP52-2	Filler panels for 5¼" high cages	.87
38F119	FP87-2	Filler panels for 8¾" high cages	1.50

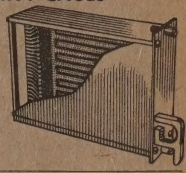
STRUT MODULE CAGES



Vector Strut module cages provide an easy way to rack mount modular aluminum cases containing circuit boards. Cages are all anodized aluminum with heavy side walls, extruded cross members and are shipped completely assembled with installed guides, ready to accept eight 2 inch or ten 1.6 inch wide aluminum EFP cases described below. Special extruded cross members at rear have preloaded 4-40 nuts for connector mounting and adjust 1.75" laterally and 1.70" vertically to accept different length connectors.

Stk. No.	Type	Description	Each
38F1356	CMA3-20	5¼"H x 19"W x 8.9" Dp assmbld. cage for 8 2"W x 6.6"L modules	56.87
38F1358	CMA3-16	5¼"H x 19"W x 8.9" Dp assmbld. cage for 10 1.6"W x 6.6"L modules	61.74
38F1184	CMA4-20	5¼"H x 19"W x 12" Dp assmbld. cage for 8 2"W x 9.7"L modules	58.17

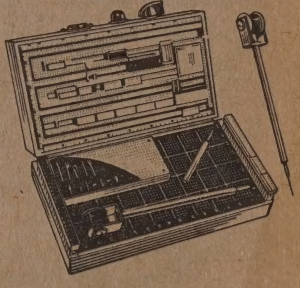
EDP MODULES FOR VECTOR STRUT CAGES



Modules accommodate 4.5"W x 6.5" or 9.6"L, or 7.98"W x 11.3"L circuit cards completely inside which mount in .150" spaced extruded grooves running lengthwise in cases. 1.6"W modules have 6 circuit card grooves; 2"W modules have 9 grooves. Module front panels are .080" thick and furnished with 2 captive 10-32 thumb screws. Provide about 80 dB of shielding.

Stock No.	Type	Description	Each
38F1185	EFP164-6.6	Case, 1.6" wide by 6.6" long accommodates cards 4½" wide by 6½" long within unit. Fits CMA3-16.	6.88
38F1361	EFP204-6.6	Case 2" wide by 6.6" long. Accommodates cards 4½" wide by 6½" long within unit. Fits CMA3-20.	7.08
38F1186	EFP204-9.7	Case 2" wide by 9.7" long. Accommodates cards 4½" wide by 9.6" long within unit. Fits CMA4-20.	8.12
38F1360	EFP104-6.6	Case 1.0" wide x 6.6" long x 4.6" high for max. card size 4½" x 6½" x 1/16".	6.72
38F1120	EFP208-11.5	Case, 2"W x 11.5"L x 8.1"H. Accommodates cards 7.98"W x 11.31"L within unit. Fits CMA8-20.	13.42

PRINTED CIRCUIT AND EXPERIMENTAL KITS

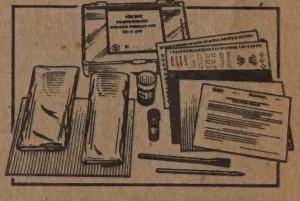


41X Wrap-Post Kit. Modular breadboard kit for wrap-post construction contains 36 types of components incl. P-180 "Slit-N-Wrap" tool that wraps insulated wire. Also incl. ten 16-pin wire-wrap DIP sockets; 5 press-in wrap-posts plus installing tools; Vectorbord® socket cards; 2" high alum. slotted chassis; plus other hardware.
38F1121. NET.....56.50

40X Solder Kit. Contains P-173 Wiring Pencil and "solder-thru" insulated wire; 1 "P" Pattern Micro-Vectorbord® (4½" x 8" x 1/16"); 6 16-pin DIP sockets; 2 round 8-pin I.C. sockets; 2 570G-1 16-pin solderless breadboard sockets; 25 R41 LED sockets; solderless slip-on contacts for .040" pins; plus 22 & 36 ga. wire, jumpers, mtg. loops, chassis frame.
38F1122. NET.....47.50

51X Klip-Blok Kit. Accepts up to 12 DIPs, has 970 tie points. Has 4½" x 8" x 1/16" glass epoxy premarked Micro-Vectorbord® base, eight 24-quad (T66-96) Klip-Bloks, four 48-contact Klip-Buses installed. 3 5-way binding posts at one end. Incl. stick-on MS9A and MS10A DIP contact Marker Strips, T49-1 Adapter Pins for Klip-Bloks/Strips.
38F1123. NET.....25.50

POSITIVE ACTING PHOTOSENSITIZED ETCHED CIRCUIT BOARDS



Vector positive acting coated photosensitized boards speeds circuit manufacture because boards coated with positive acting resist. Positive artwork used for circuit master pattern making use of readily available positive drafting aids. No reversing step required. Boards etch in any common etchant. Vector positive acting developer must be used after exposure of boards under U.V. light source such as flood lamp or sunlight. Kits 32X and 32XA are recommended for trial evaluations of the system; later purchase only boards and developer.

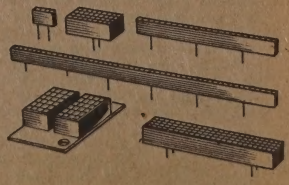
32X Kit. Contains 1 board 4½"x6½"x1/16" coated two sides, one 2.73"x4½"x1/16" board coated 1 side, etching chemical, artwork patterns, developer, glass pressure plate. Wt. 3 lbs.
38F1189. 32X Kit. NET.....9.40

32XA Kit. Same as 32X kit plus 1 board 8"x 9"x1/16" coated 1 side, 1 board 4½"x6½"x1/16" coated 1 side, 1 board 4½"x7¼"x1/16" coated 1 side. Wt. 6 lbs.
38F1190. 32XA Kit. NET.....28.00

KLIP-BLOKS, KLIP-STRIPS, AND KLIP-BUSES FOR BREADBOARDING

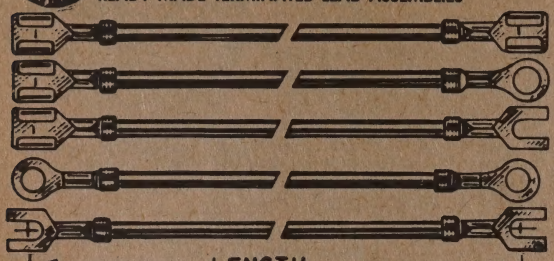
Simple insertion of components into spring clip units, make interconnections w. ordinary wire. Have 4 connected tie points (quads). Klip-Strips & Buses have quads in strips of various lengths, 4-48 tie points w. insulated casings. Klip-Bloks have nylon shell encased quads. All are spaced on 0.1" grids for IC breadboarding. Use 22 ga. wire for strapping. **Sold in Standard Packages Only.**

Stk. No.	Type	Description	Fig.	Std. Pkg.	Per Pkg.
38F1325	T45-4	Klip-Strip w/mtg. pins	A	100	12.60
38F1124	T45-24	Klip-Bus	B	2	1.77
38F1125	T45-48	Klip-Bus	C	2	6.77
38F1381	P-154-1	Insertion/removal tool for above Klip units	....	1	3.48
38F1126	T66-32	Klip-Blok (8-quad)	D	16	17.81
38F1127	T66-96	Klip-Blok (24-quad)	E	8	21.42
38F1128	P92B	Removal Prod for Bloks	....	1	.80
38F1129	T49-1	Adapter Pins for leads to .050"	....	100	3.73
38F1090	570-G	Solderless Breadboard Socket (2 8-quad Klip-Bloks) for 14 or 16-pin DIP	....	1	5.10



Keystone Terminal Boards & Accessories

READY MADE TERMINATED LEAD ASSEMBLIES



TIME SAVING-UNIFORM-APPROVED MATERIALS-GREATER FLEXIBILITY

Terminated wire leads are low in cost and simplify assembly. Brass, tin-plated terminals are firmly staked to #20 UL approved wire with a .031 thick PVC plastic wall. Rated 600V. Will withstand temp. to 105 deg. Black, 12" long.

Stock No.	Type	Fig. No.	Kwik Connect Term.	Ring Term Screw Hole Size	Spade Term Screw Hole Size	Each
35F1150	5001-12-B	1	(2).250	....	....	
35F1151	5002-12-B	1	(2).205	....	....	
35F1152	5003-12-B	1	(2).187	....	....	
35F1153	5005-12-B	2	....	#6	....	
35F1154	5006-12-B	2	....	#8	....	14
35F1156	5008-12-B	2	.250	#6	....	
35F1157	5009-12-B	2	.250	#8	....	
35F1158	5011-12-B	2	.187	#6	....	
35F1159	5012-12-B	2	.187	#8	....	
35F1160	5013-12-B	3	.250	....	#6	
35F1161	5014-12-B	3	.205	....	#8	
35F1162	5015-12-B	3	.2	....	#6	
35F1163	5016-12-B	3	.205	....	#8	
35F1164	5017-12-B	3	.187	....	#6	
35F1165	5018-12-B	3	.187	....	#8	.14
35F1166	5020-12-B	4	....	#6 & #6	....	
35F1167	5021-12-B	4	....	#8 & #8	....	
35F1168	5022-12-B	5	....	....	#6 & #6	
35F1169	5023-12-B	5	....	....	#8 & #8	

PLUG-IN HOUSING

Durable housings are ideally suited for packaging relays, logic packages, networks and miniature circuitry. Headers are molded of G.P. black phenolic. Pins are brass, nickel plated. Guide hole tapped 8-32 for terminal board mntg. stud. Materials: Polystyrene: use up to 170°F conditions. Butyrate. High impact strength, use at 210°F; Nylon at 300°F. Complete with Octal Header and Screws.

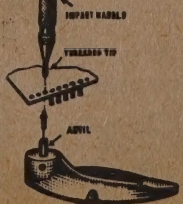
Stk. No.	Type	Size	Mat'l	Color	1-19	20-99	100-249
35F1670	641	Mini	Polyst.	Opaq. Bl.	.76	.70	.65
35F1672	664	Small	Nylon	White	.90	.85	.78
35F1673	665	Small	Polyst.	Clear	.77	.74	.70
35F1674	643	Small	Polyst.	Opaq. Bl.	.72	.66	.61
35F1675	650	Large	Butyrate	Clear	1.58	1.42	1.31
35F1676	668	Large	Polyst.	Clear	.92	.87	.83
35F1677	677	Large	Polyst.	Opaq. Bl.	.92	.87	.83
35F1678	639	X-L'ge	Polyst.	Clear	1.32	1.21	1.02

TERMINAL BOARDS (For Use With Above Housing)

Terminal boards are made of glass epoxy material. Spacing of holes is .100 and .1200 alternates. An 8-32 threaded stud is firmly eyeletted to the board and is easily assembled into the tapped hole of the headers. Board thickness is 1/16". Diameter holes are .062. GEE MIL-P-18177

Stk. No.	Type	Size—Board with Stud.	For Covers	1-19	20-99	100-249
35F1652	696	1x1 3/16"	Mini	.23	.18	.16
35F1653	697	1 1/8x1 3/4"	Small	.23	.18	.16
35F1654	698	1 1/2x2 3/4"	Large	.25	.21	.19
35F1656	638	1 5/16x2 3/8"	X-L'ge	.29	.26	.24

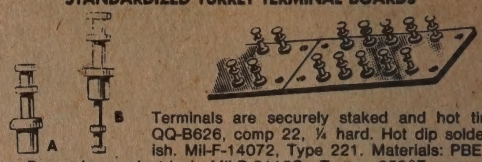
"IMPACT" STAKING KIT



Produces a light or heavy blow which is adjustable by turning the spring tension cap. Uniform striking action attained by pressing down handle. Interchangeable tools supplied permit assembly of terminal boards, printed circuits and small components. Simple construction, automatic single hand operation. Kit includes: 1 No. 1301 Anvil Tool Holder, 1 impact handle (No. 1302), and the following tools: 1310, 1311, 1312, 1313, 1315, 1316, 1321, 1716, 1717, 1722, 1726. Instructions are also included. Stakes all dia. to 3/32" max.

35F1658. Type 1707 ..... **23.50**

STANDARDIZED TURRET TERMINAL BOARDS



Terminals are securely staked and hot tinned. QQ-B626, comp 22, 1/4 hard. Hot dip solder finish. Mil-F-14072, Type 221. Materials: PBE indicates Paper base electrical, Mil-P-3115C, Temp. 250°F max. Type XXXP, GEE indicates Glass Epoxy Mil-P-18177, 300°F max., Type G-10. All are 3/32" thick and double row of terminals (50 total) on 3/8" centers except (*) which has a single row with 25 terminals. All are 13 1/8" long.

Double Turret—One Side (Fig. A)

Stk. No.	Type	Width	Spacing Btw Row	Mat'l	1-19	20-99	100-249
35F1640	15031*	1/2"	....	PBE	1.55	1.36	1.20
35F1641	15036	1 1/2"	1 3/16"	PBE	3.11	2.93	2.78
35F1642	15236	1 1/2"	1 3/16"	GEE	4.21	3.98	3.81
35F1643	15033	2"	1 1/2"	PBE	3.26	3.11	2.86
35F1644	15233	2"	1 1/2"	GEE	4.94	4.50	4.31
35F1645	15034	2 1/2"	2"	PBE	3.50	3.15	2.93
35F1646	15234	2 1/2"	2"	GEE	5.25	5.01	4.78
35F1647	15035	3"	2 1/2"	PBE	3.58	3.36	3.11

Feed Thru Double Turret—Both Sides (Fig. B)

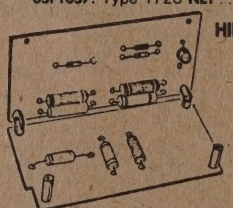
35F1648	15046	1 1/2"	1 3/16"	PBE	4.96	4.59	4.46
35F1649	15043	2"	1 1/2"	PBE	5.08	4.83	4.71
35F1650	15044	2 1/2"	2"	PBE	5.28	5.03	4.83
35F1651	15045	3"	2 1/2"	PBE	5.47	5.22	5.03

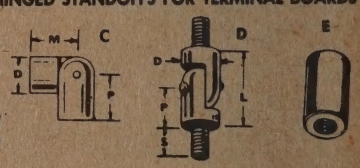
PROTOTYPE KIT

This complete assortment of basic materials and staking tools for experimental and production runs. For construction of 1/16" and 3/32" thick terminal boards. Eyelets, terminals, brackets, bushings and push-in terminals included with instructions.

35F1657. Type 1723 NET **17.00**

HINGED STANDOFFS FOR TERMINAL BOARDS





Saves time, space and service cost. Interconnects circuits or services without danger of shorting. Wiring exposed for easy test. Made of brass per Mil Spec. QQ-B-626A, Comp. 22, 1/2 hard. Cadmium plated per QQ-P-416 Class 2, Type 2, and gold iridite.

Female Hinged Standoffs (Fig. C)

Stock No.	Type	Thread	Size, Inches D	M	P	1-19	20-99	100-249
92F055	351	4-40*	.187	.375	.375	.37	.34	.30
92F056	352	4-40	.187	.375	.625	.40	.36	.33
92F057	353	6-32*	.250	.375	.375	.39	.35	.32
92F058	354	8-32	.250	.375	.625	.41	.37	.34
92F059	355	8-32*	.250	.375	.375	.39	.35	.32
92F060	356	8-32*	.250	.375	.625	.41	.37	.34

*.172 deep; all others .250 deep.

Male Hinged Standoffs (Fig. D) All Have 1/2" Body Length

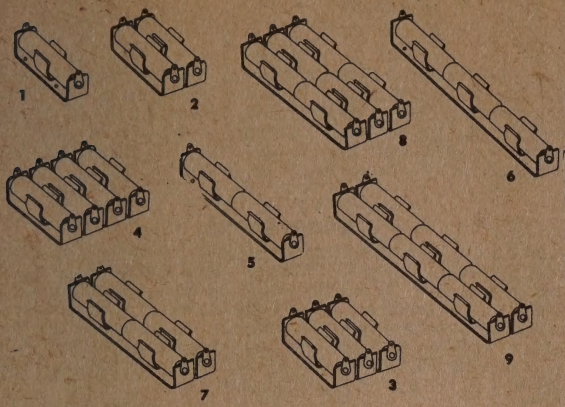
Stock No.	Type	Thread	Size, Inches D	S	P	1-19	20-99	100-249
92F061	357	4-40	.187	1/4	1/4	.36	.33	.30
92F062	358	6-32	.250	5/16	1/4	.37	.34	.31
92F063	359	8-32	.250	5/16	1/4	.37	.34	.31

Standoffs For Front Of Boards (Fig. E)

Stock No.	Type	Use with Hinge #	Length	1-19	20-99	Per 100
92F064	1657A	351	3/4"	....	....	11.00
92F065	1657B	352	1"	....	....	13.20
92F066	1548E	353	3/4"	....	....	11.60
92F067	1548F	354	1"	....	....	13.20
92F068	1692D	355	3/4"	....	....	11.00
92F069	1692E	356	1"	....	....	13.20
92F070	1657	357	1/2"	....	....	8.50
92F071	1548C	358	1/2"	....	....	8.40
92F072	1692C	359	1/2"	....	....	8.25

Keystone Battery Holders, Plugs, Sockets

ALUMINUM BATTERY HOLDERS



Frame and clip made of 2020 ST4 Aluminum for light weight and strength. Spring loaded battery holders feature cadmium-plated copper lugs and fibre insulators which are moisture-proofed.

PENCELL HOLDERS

All Batteries listed below fit all sizes of Type No's.	Stock No.	Type	Cell	Fig.	1-19	20-99	100-249
Burgess: CD6, 9R, Z	35F1589	139	1	1	.26	.23	.21
HG9, HG12R, H133,	35F1590	140	2	2	.42	.37	.34
HG502R, 920, 930	35F1591	171	3	3	.58	.53	.46
Eveready: E9, E12,	35F1592	182	4	4	.74	.66	.59
E91, E133, 333, E502,	35F1593	189	2	5	.53	.42	.38
515, 915, 1015, N46	35F1595	192	4	7	.74	.62	.59
	35F1596	193	6	8	1.07	.94	.87

"C" CELL HOLDERS

	35F1597	173	1	1	.35	.31	.27
Burgess: 1, P6, 120,	35F1598	174	2	2	.42	.37	.34
130, H233, 302599	35F1599	187	3	3	.68	.65	.58
Eveready: 226, E233,	35F1600	185	2	5	.53	.42	.38
635, 935, 1035, E93	35F1602	196	4	7	.74	.62	.59
	35F1603	197	6	8	1.07	.94	.87

"D" CELL HOLDERS

	35F1604	175	1	1	.35	.31	.27
Burgess: 2, 2R, CD7,	35F1605	176	2	2	.42	.37	.34
210, 230	35F1606	190	3	3	.76	.71	.64
Eveready: E42, N56,	35F1607	186	2	5	.54	.43	.39
E95, D99, A100,	35F1609	200	4	7	.76	.64	.60
950, 1050	35F1610	201	6	8	1.10	.99	.90
	35F1611	205	6	9	1.00	.89	.82

NICKEL PLATED STEEL BATTERY HOLDERS

- MADE OF SAE 1065 CARBON STEEL
- MEETS MIL SPEC. 17919
- STAINLESS STEEL EYELET

STANDARDIZED ALL STEEL BATTERY HOLDERS

Ideal for Nickel Cadmium Alkaline, mercury, and carbon zinc cells. Made of SAE 1065. Carbon Steel to MIL Spec. 17919, heat treated to spring temper and nickel plated .0002 thick. Stainless steel eyelet, moisture proof vulcoid washers and a coated copper solder lug compose the contact assembly. 2 mounting holes. (**) Side by side clips mounted on phenolic 1/16" thick MIL Spec. 3115B. † End to end insulating tubes furnished.

PENCELL HOLDERS—ALL CONTACTS INSULATED

All Batteries listed below fit all sizes of Type No's.	Stock No.	Type	Cells	1-19	20-99	100-249
Eveready: E9, E12,	35F1550	2139	1	.33	.29	.26
E91, E133, E502, N46,	35F1551	2140*	2**	.50	.47	.40
515, 915, 1015, BA58	35F1552	2171*	3**	.77	.72	.61
Burgess: Z, HG9,	35F1553	2182*	4**	.88	.83	.72
CD6, 9R, HG12R,	35F1554	2189†	2	.44	.42	.37
H133, HG502R	35F1555	2191†	3	.50	.44	.42
920, 930	35F1556	2194†	4	.61	.56	.52

"C" CELL HOLDERS

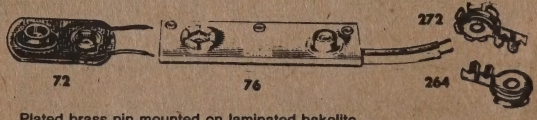
	35F1557	2173	1	.39	.36	.32
Burgess: 1, P6, 120	35F1558	2174*	2**	.66	.65	.59
130, H233, 302599	35F1559	2187*	3**	.88	.83	.77
Eveready: E93, 226,	35F1560	2188*	4**	1.16	1.05	.94
E233, 635, 935,	35F1561	2185†	2	.55	.54	.48
1035, BA42	35F1562	2195†	3	.61	.56	.52
	35F1563	2198†	4	.66	.63	.58

"D" CELL HOLDERS

	35F1564	2175	1	.39	.36	.32
Burgess: 2, 2R, CD7,	35F1565	2176*	2**	.66	.65	.58
210,230	35F1566	2190*	3**	.94	.88	.83
Eveready: BA30, E42	35F1567	2192*	4**	1.16	1.05	.94
N56, E95, D99,	35F1568	2186†	2	.55	.54	.48
A100, 950, 1050.	35F1569	2199†	3	.66	.62	.56
	35F1570	2162†	4	.72	.68	.61

BATTERY PLUGS

Stk. No.	Type	For Use With	1-19	20-99	100-249
39F839	272	67½ "B"	.08	.07	.06
39F840	264	67½ "B"	.08	.07	.06
35F1681	72	9-volt	.27	.25	.19
35F1683	74	67½ "B"	.30	.26	.24
35F1684	77	90 "B"	.35	.30	.28
35F1682	76	67½ "B"	.35	.28	.26

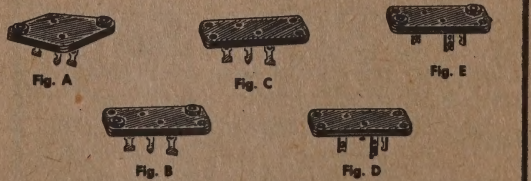


Plated brass pin mounted on laminated bakelite.

POWER TRANSISTOR AND SILICON CONTROL RECTIFIER SOCKETS

Standardized power transistor sockets for TO-3 case. Low cost. Corrosion resistant and cadmium plated for better solderability. Meets EIA solderability Spec RS178A. Spring brass contacts provide positive contact immediately upon insertion. Hard steel collector plates with 6-20 threaded formings to hold secure with maximum torque of 9 lbs.

Sockets for TO-66 case or SCR. Pre-assembled to chassis by either eyelets or rivets permit installation of semiconductor at later stage of assembly. Eliminates need of washers or bushings.



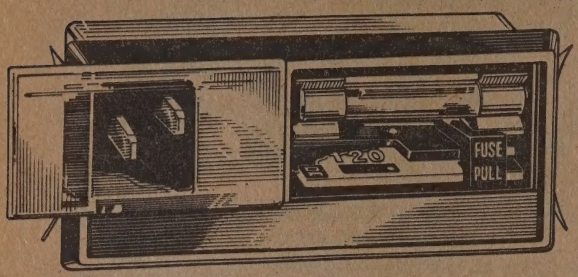
Stk. No.	Type	Case	Material	Fig.	Boss Heights	Color	Each
35F1170	4601	TO-3	Nylon top, Phenolic base	A	.090	Natural	.21
35F1171	4607	TO-3	Nylon top, Phenolic base	B	.030	Black	.21
35F1172	4608	TO-3	Nylon top, Phenolic base	B	.045	Natural	.21
35F1173	4609	TO-3	Nylon top, Phenolic base	B	.060	Blue	.21
35F1174	4610	TO-3	Nylon top, Phenolic base	B	.090	Green	.21
35F1175	4618	TO-3	Nylon top, Phenolic base	B	.125	Red	.21
35F1176	4606	TO-3	all Phenolic	C	....	....	.19
35F1177	4603	TO-3	Nylon top, Phenolic base	B	.030	green	.21
35F1178	4602	TO-3	Nylon top, Phenolic base	B	.045	blue	.21
35F1179	4615	TO-66	Nylon top	D	....	....	.21
35F1180	4625	TO-66	Phenolic base	E	.080	....	.26

Connectors and Cable Strippers

CORCOM

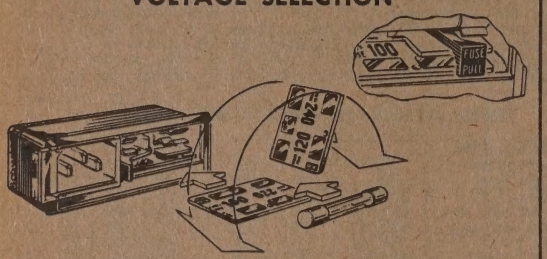
VOLTAGE SELECTING & FUSED CONNECTORS

Developed for the manufacturer who markets his products worldwide. Eliminates internal wiring changes, special power supplies or stocking various line cords.



VS & F, in less than 3½ square inches of panel space, provides an internationally approved connector, fuse holder and a means to change transformer primary connections with a unique voltage selector card. Can be operated anyplace in the world without modification at time of installation. Available with a built-in filter for RFI protection of the equipment. U.L. recognized.

VOLTAGE SELECTION



SPECIFICATIONS

Current, 6A AC max. Operating voltages, 100, 120, 220, and 240 VAC. Operating frequency, 50-400 Hz. Fuse, integral fuse holder, line side, accepts .25" x 1.25" fuse. Power connector, meets U.L./IEC requirements. Specs per CEE Publication 22 Type VI. Terminals, connector back terminals suitable for soldering, wire wrapping or crimp-on lugs. 2250 VDC test voltage. Construction meets IEC 161, category 10/70/21. Max. leakage current line-to-ground @ 250 VAC 50 HZ, 5 μA (6J1); 500 μA (6J4).

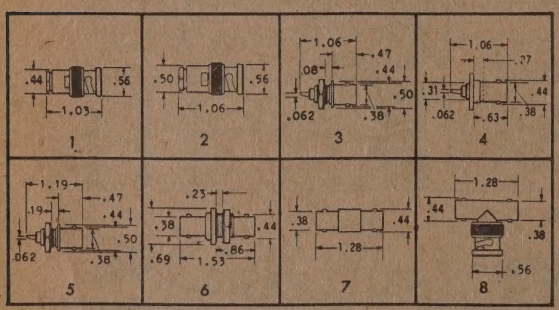
Stk. No.	Type	Description	Each
15F2482	6J1	unfiltered	5.95
15F2483	6J4	filtered	10.95

REPLACEMENT CIRCUIT CARDS

Stk. No.	Type	For Voltages	Each
15F2485	70-1470	100, 120, 220, 240	1.00
15F2484	70-1495	115 & 230	1.00

ARCO

RF CONNECTORS



Series BNC connectors feature Arco's ULTRALLOY, a non-tarnish plating.

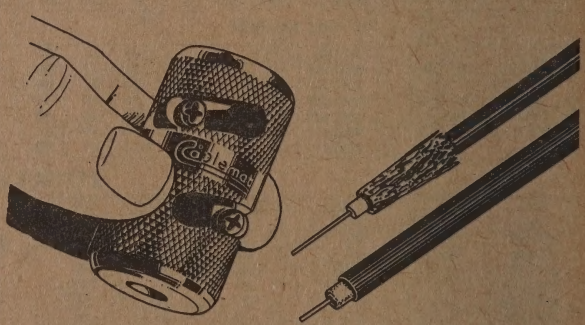
SPECIFICATIONS

Frequency range, 4GHz. Voltage, 500 V max. 50 ohms nominal impedance. Temperature, −65°C to +165°C. Components materials: insulation is Teflon, female contacts are beryllium copper (female), brass (male), body material, brass with ULTRALLOY.

Stk. No.	Type	Fig.	Description	RG/U Cables	NET
57F3300	UG88/U	1	Plug	29, 55AB, 58BC 141A, 142A, 159, 223 & 400	.80
57F3301	UG88C/U	2	Plug	Same as Above	.87
57F3302	UG260B/U	2	Plug	59AB, 62ABC, 71AB, 124, 140 & 210	.93
57F3303	UG274A/U	8	Adapter, Tee Fem-Male-Fem		2.50
57F3304	UG290A/U	4	Receptacle, Panel		.85
57F3305	UG492A/U	6	Adapter, Blkhd.		2.38
57F3306	UG625B/U	3	Recept. Blkhd.		.67
57F3307	UG914/U	7	Adapter, Fem Feed-thru		1.12
57F3308	UG1094/U	5	Recep. Blkhd.		.62

CABLEMATIC

COAX CABLE STRIPPER



- **Assures Proper Trim**
- **Won't Nick Conductor**
- **For The CB Buff**
- **Extra Blades Available**

Strips cable in seconds with a uniform trim every time. This tool can make the big difference in CB reception. Prepares cable for connector perfectly without nicks or scratches in seconds. Assures a proper trim for even the inexperienced installer. Models available for virtually every communication coaxial cable. Extra precision blades available, #CB-60. Packaged 2 blades per pack.

Stock No.	Type	Cable	Connector	NET
06F719	UT-5800	RG-58/U	for PL-259	9.95
06F720	UT-5900	RG-59/U	for "F	
06F721	UT-5901	RG-59/U	for PL-259 or TV wall plate	
06F722	UT-6000	RG-6/U	for "F	
06F724	UT-8000	RG-8/U	for PL-259	11.95

06F725. CB60. Replacement Blades. pkg. of 2 ..... 2.98

INSTANT CIRCUIT BOARDS™/FOR INDUSTRY

ADHESIVE BACKED COPPER PATTERNS

circuit-stik

PLUG-IN CONNECTOR STRIPS/HARD GOLD OVER NICKEL PLATE

38F1266	1351-005	M	5	15 Pin, .100" Spacing*	10.50
38F1267	1352-005	M	5	15 Pin, .100" Spacing	10.52
38F1270	1355-005	M	5	15 Pin, .156" Spacing*	10.52
38F1271	1356-005	M	5	15 Pin, .156" Spacing	10.52
38F1272	1361-005	M	5	22 Pin, .100" Spacing*	12.50
38F1273	1362-005	M	5	22 Pin, .100" Spacing	12.50
38F1276	1365-005	M	5	22 Pin, .156" Spacing*	12.50
38F1277	1366-005	M	5	22 Pin, .156" Spacing	12.50
38F1295	2367-005	N	5	22 Pin Con. .156" Spacing	9.50
38F1296	2368-005	N	5	22 Pin Con. .156" Spacing	9.50
22F1089	1392-005	DD	5	39 Pin Con. .100" Spacing	10.50

(*) Component Side, others are circuit side.

DISTRIBUTION STRIPS

Stk. No.	Type	Fig.	Pcs Pkg.	Description	Price/ Pkg.
38F1280	1321-010	R	10	.100" wide	$5.00
38F1282	1322-010	S	10	.063" wide	5.75
22F1126	1325-010	V	10	Sgl. Row, .100" Spacing	5.00
22F1127	1326-010	W	10	Dbl. Row, .100" Spacing	6.00

PRESSURE SENSITIVE COPPER CONDUCTIVE TAPE

22F1132	7105	X	1	.031"W x 9' L	2.00
22F1133	7106	X	1	.040"W x 9' L	2.00
38F1298	7101	X	1	.062"W x 9' L	1.75
38F1299	7102	X	1	.100"W x 9' L	2.00
38F1300	7103	X	1	.125"W x 9' L	2.25
22F1135	7108	X	1	.200"W x 9' L	3.50
38F1301	7104	X	1	.250"W x 9' L	3.75

COPPER DONUT PADS, PRESSURE SENSITIVE ADHESIVE

38F1306	7201	Y	250	.100" diameter	5.00
38F1307	7202	Y	250	.125" diameter	5.50
38F1220	7203	Y	250	.187" diameter	6.00
38F1221	7204	Y	250	.250" diameter	6.50

PRESSURE SENSITIVE MICROTHIN SHEETS

38F1222	7251	FF	5	5x6" copper conductive	6.00
22F1136	7261	FF	5	5x7" epoxy glass insulative	6.00

EPOXY-GLASS BOARD MATERIAL PRE-DRILLED AND PLAIN

22F1090	000-7307	AA	1	4.5"x6.5" .100" spacing	2.70
38F1223	000-7301	AA	1	8.5"x17" .100" spacing	10.95
22F1091	001-7307	AA	1	4.5"x6.5" drilled copper clad, 1 side	3.60
22F1092	001-7301	AA	1	8.5"x17" drilled copper clad, 1 side	13.50
22F1093	002-7307	AA	1	4.5"x6.5" drilled copper clad, 2 sides	3.90
22F1094	002-7305	AA	1	4.5"x17" drilled copper clad, 2 sides	7.00
38F1224	000-7351	BB	1	6"x12" plain	3.50
38F1225	000-7352	BB	1	12"x18" plain	9.95

CONNECTORS .156" SPACING

38F1230	7501	CC	1	15 Pins	3.00
38F1231	7502	CC	1	30 Pins	3.75
38F1232	7503	CC	1	22 Pins	4.35
38F1233	7504	CC	1	44 Pins	5.50

PROTOTYPE KITS

22F1082	8965	JJ	1	Prototype Kit	56.00

(EE) INSULATED DONUT PADS

Stk. No.	Type	Pad Size O.D.xI.D.	# of Pads	Pads/ Pkg.	Price/ Pkg.
22F1095	1340-010	.062x.025	single	310	3.50
22F1096	1342-010	.100x.040	single	160	4.00
22F1097	1344-010	.187x.040	single	110	6.50
22F1098	1346-010	.100x.040	double	160	5.50
22F1099	1347-010	.125x.040	double	160	5.50

(T) STRIPLINE CONDUCTORS, INSULATED SUBSTRATE

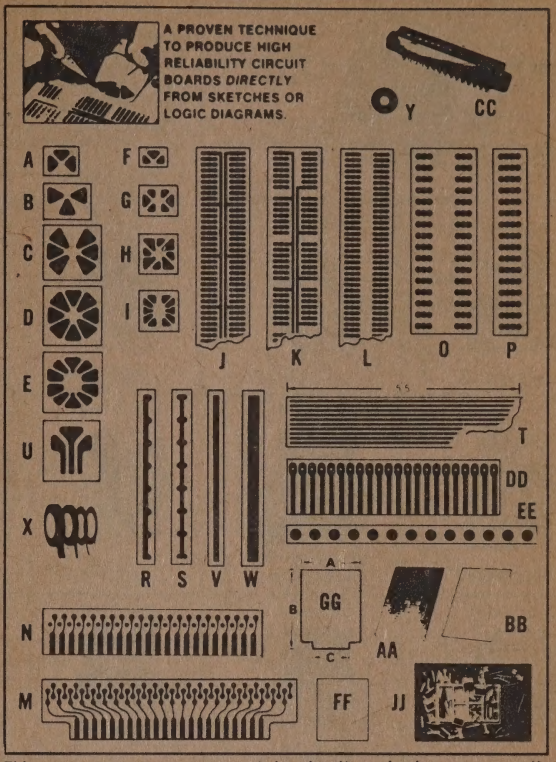
For high and medium density interconnections

Stk. No.	Type	Line Width	Lgth.	Center Spacing	Lines/ Pkg.	Price/ Pkg.
22F1143	1330-010	.031"	5.5"	.081"	10	3.00
22F1144	1331-010	.040"	5.5"	.090"	10	3.00
22F1145	1332-010	.050"	5.5"	.100"	10	3.50
22F1146	1333-010	.062"	5.5"	.112"	10	3.50

(GG) PRE-SHAPED EPOXY-GLASS BOARDS

7402, 7405 are pre-drilled on .100" grid. 7452, 7455 are plain.

Stk. No.	Type	"A" Dim.	"B" Dim.	"C" Plug-In Width	Price Each
38F1226	7402	4.5"	6.5"	22/44 Pins, .156" Ctrs.	6.50
22F1138	7405	4.0"	4.5"	15/30 Pins, .156" Ctrs.	5.50
38F1229	7452	4.5"	6.5"	22/44 Pins, .156" Ctrs.	3.75
22F1139	7455	4.0"	4.5"	15/30 Pins, .156" Ctrs.	3.25



This aero space proven concept in circuit packaging now permits rapid assembly of all prototypes and limited quantity production systems directly from engineering schematics and logic flow diagrams. All sub-element conductors are preplated and ready for soldering. Etched copper sub-elements are supplied on thin substances which have a pressure sensitive adhesive backing. They are designed to withstand soldering temperatures, and offer exceptionally good adhesion strength, yet can be quickly and easily removed when changes require a Circuit-Stik "instant" modification.

TO-5/TO-18 SUB-ELEMENTS

Stk. No.	Type	Fig.	Pcs./ Pkg.	Description	Price/ Pkg.
38F1237	1001-010	A	10	TO-18, TO-5 3 Lead	3.00
38F1238	1001-030	A	30	TO-18, TO-5 3 Lead	8.00
38F1239	1021-010	B	10	TO-5 3 Lead	3.00
38F1240	1021-030	B	30	TO-5 3 Lead	8.00
38F1241	1023-010	C	10	TO-5 6 Lead	4.00
38F1242	1023-030	C	30	TO-5 6 Lead	10.80
38F1243	1024-010	D	10	TO-5 8 Lead	4.00
38F1244	1024-030	D	30	TO-5 8 Lead	10.80
38F1245	1025-010	E	10	TO-5 10 Lead	4.00
38F1246	1025-030	E	30	TO-5 10 Lead	10.80
22F1100	1031-010	F	10	TO-5, TO-18 3 Lead	3.00
22F1101	1031-030	F	30	TO-5 3 Lead	8.00
22F1102	1033-010	G	10	TO-5 6 Lead	3.50
22F1103	1033-030	G	30	TO-5 6 Lead	9.50
22F1104	1034-010	H	10	TO-5 8 Lead	3.50
22F1105	1034-030	H	30	TO-5 8 Lead	9.50
22F1106	1035-010	I	10	TO-5 10 Lead	3.50
22F1107	1035-030	I	30	TO-5 10 Lead	9.50
22F1131	1406-010	U	10	SCR Flat Pkg. Mtg.	3.00

COMPACT SUB-ELEMENTS

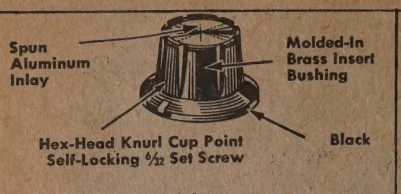
DISCRETE COMPONENT STRIPS

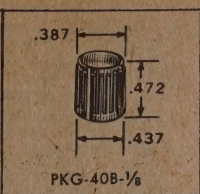
38F1278	1302-005	O	5	16 Discrete	7.50
38F1279	1311-010	P	10	Universal Strip	8.00

DUAL-IN-LINE PACKAGE SUB-ELEMENTS

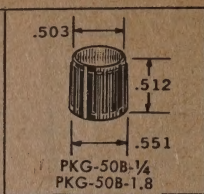
38F1262	1202-005	J	5	14/16 Lead w/pwr. & grd. (3 pads)	9.00
22F1083	1221-005	J	5	14/16 Lead w/pwr. & grd. (2 pads)	8.25
22F1084	1231-005	J	5	14/16 Lead w/pwr. & grd. (1 pad)	7.50
38F1263	1204-005	K	5	14 Lead pwr. & grd. pins 7/14 (3 pads)	7.50
22F1085	1222-005	K	5	14 Lead pwr. & grd. pins 7/14 (2 pads)	7.50
22F1086	1232-005	K	5	14 Lead pwr. & grd. pins 7/14 (1 pad)	7.00
38F1264	1206-005	L	5	Universal DIP (3 pads)	9.00
22F1087	1223-005	L	5	Universal DIP (2 pads)	8.25
22F1088	1233-005	L	5	Universal DIP (1 pad)	7.50

Plastic Knobs

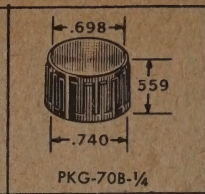




PKG-40B-⅛



PKG-50B-¼
PKG-50B-1.8



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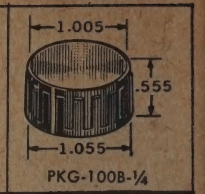

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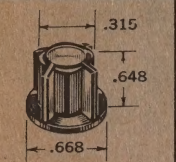
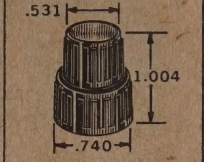
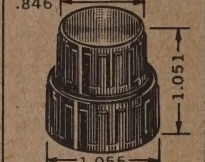


PKF-50B-⅛

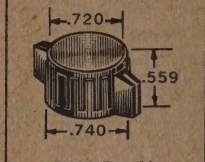
PKN-60B-¼



PKGC-570B



PKGC-910B



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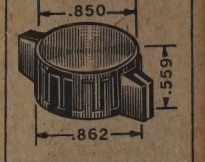

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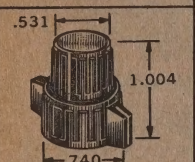

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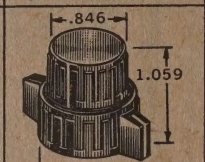

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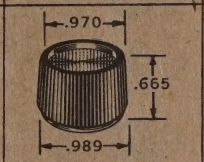
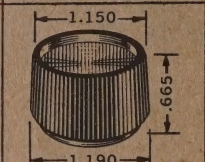
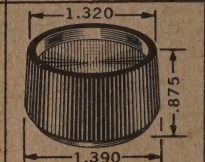


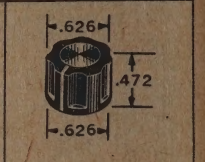
PH-15-18-¼



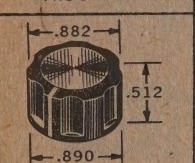
PH-14-17-¼



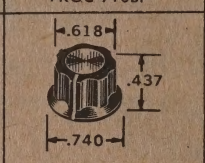
PH-13-16-¼



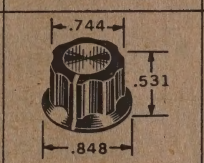
PKE-60B-¼



PKE-90B-¼



PKES-60B-¼
PKES-60B-⅛



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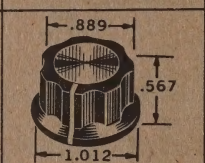

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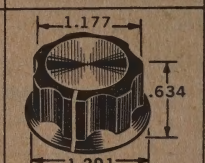
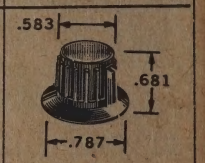
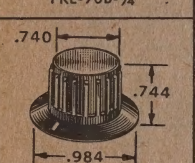


PKES-120B-¼



PKA-50B-¼
PKA-50B-⅛



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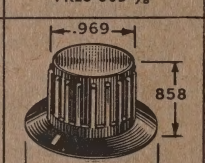

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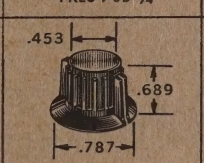

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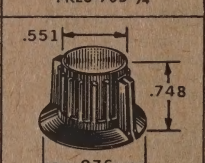

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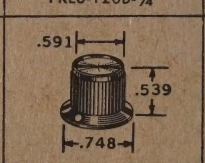
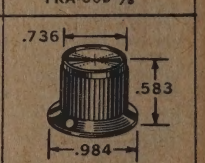


PK-50B-¼
PK-50B-⅛



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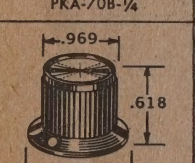

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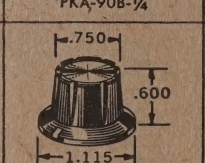

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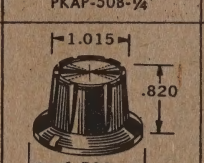

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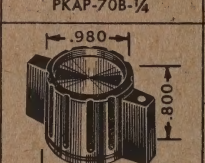

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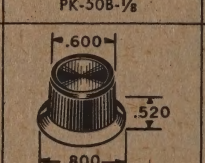

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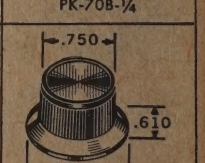

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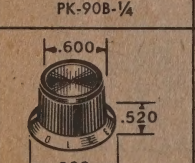

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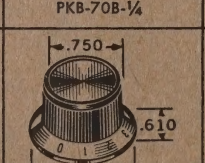

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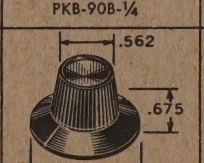

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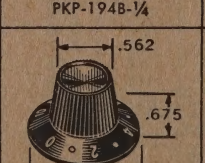

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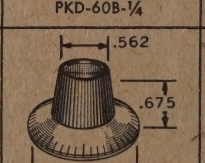
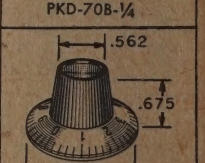
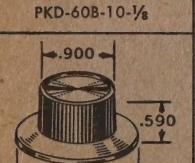


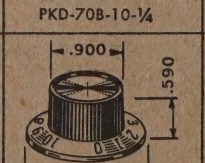
PKS-1106B-¼



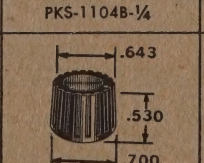
PKS-1105B-10-¼



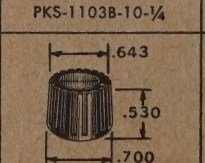
PKS-90B-¼



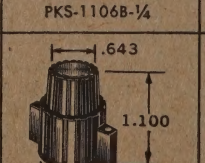
PKS-90B-10-¼



PK-1100B-¼



PK-1100R-⅛



PKC-1111BR

-10= Skirted, with numerals
R= Red
B= Black
⅛= ⅛" shaft
¼= ¼" shaft

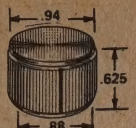
FOR ORDERING INFORMATION SEE PAGE 466

Aluminum Knobs

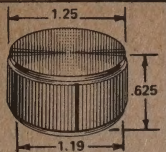
ALCO

KN-500-¼
KN-500-⅛

KN-700-¼

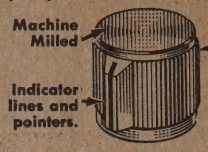


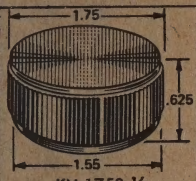
KN-900-¼



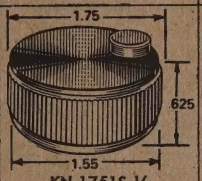
KN-1250-¼
KN-1251-¼

Specify Finish Code For Types Listed Below



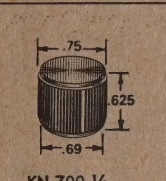


KN-1750-¼
KN-1751-¼

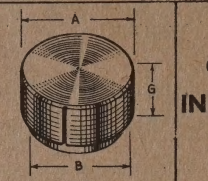


KN-1751S-¼

KN-500-¼
KN-500-⅛

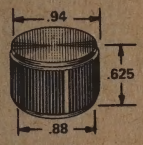


KN-700-¼

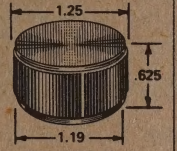


KG

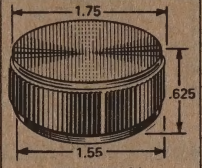
FOR ORDERING INFORMATION SEE PAGE 466



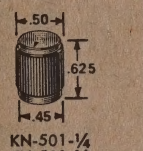
KN-900-¼



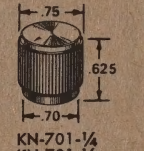
KN-1250-¼



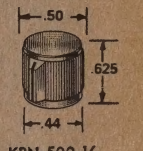
KN-1751-¼



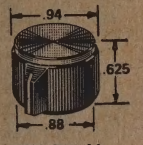
KN-501-¼
KN-501-⅛



KN-701-¼
KN-701-⅛

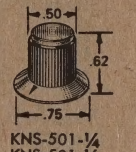


KPN-500-¼

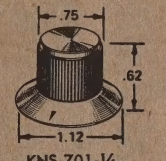


KPN-900-¼

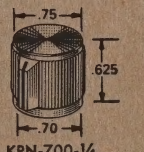
KN-5700



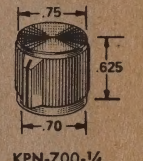
KNS-501-¼
KNS-501-⅛



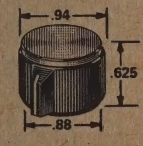
KNS-701-¼



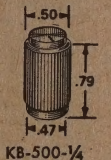
KPN-700-¼



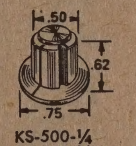
KPN-700-¼



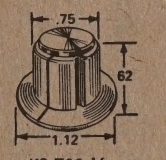
KPN-900-¼



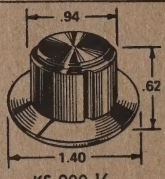
KB-500-¼
KB-500-⅛



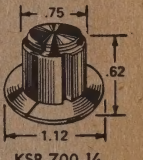
KS-500-¼
KS-500-⅛



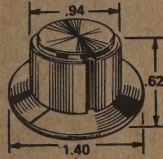
KS-700-¼



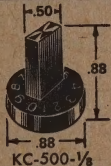
KS-900-¼



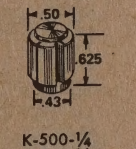
KSP-700-¼



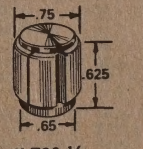
KSP-900-¼



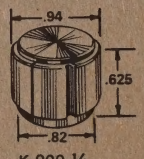
KC-500-⅛
KC-500-10-⅛



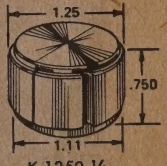
K-500-¼
K-500-⅛



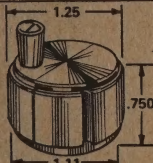
K-700-¼



K-900-¼



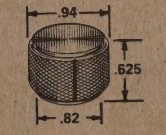
K-1250-¼



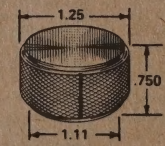
K-1251S-¼

KD-500-¼
KD-500-⅛

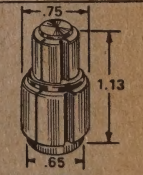
KD-700-¼



KD-900-¼

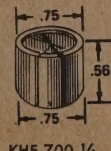


KD-1250-¼

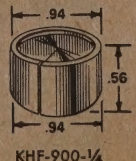


K-5700

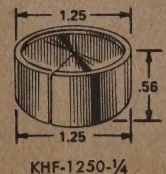
KHF-500-¼



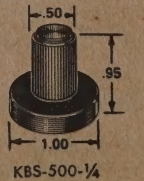
KHF-700-¼



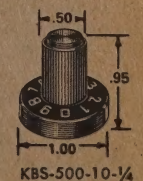
KHF-900-¼



KHF-1250-¼



KBS-500-¼



KBS-500-10-¼

FOR ORDERING INFORMATION SEE PAGE 466

Knobs

PLASTIC KNOBS WITH ALUMINUM INLAYS

Stock No.	Type* No.	Description	1-99	100-249	250-499	500-999
57F2368	PKG-40B-⅛	Straight Knurl	.55	.50	.47	.44
57F2370	PKG-50B-¼	Straight Knurl	.60	.54	.51	.48
57F2369	PKG-50B-⅛	Straight Knurl	.60	.54	.51	.48
57F2371	PKG-70B-¼	Straight Knurl	.65	.59	.55	.52
57F2372	PKG-100B-¼	Straight Knurl	.80	.72	.68	.64
57F2376	PKGC-570B†	Straight Knurl	1.20	1.08	1.02	.96
57F2375	PKGC-910B†	Straight Knurl	1.45	1.31	1.23	1.16
57F2374	PKGP-70B-¼	Strght. w/Pntr.	.75	.68	.64	.60
57F2377	PKGP-90B-¼	Strght. w/Pntr.	.80	.72	.68	.64
57F2378	PKGC-570BP†	Strgth. w/Pntr.	1.25	1.13	1.06	1.00
57F2379	PKGC-910BP†	Strght. w/Pntr.	1.50	1.35	1.28	1.20
57F2350	PH-15-18¼	Tuning Knob	.40	.36	.34	.32
57F2351	PH-14-17¼	Tuning Knob	.45	.41	.38	.36
57F2352	PH-13-16¼	Tuning Knob	.50	.45	.43	.40
57F2343	PKE-60B-¼	Fluted Knob	.60	.54	.51	.48
57F2344	PKE-90B-¼	Fluted Knob	.70	.63	.60	.56
57F2346	PKES-60B-¼	Fluted w/Skirt	.60	.54	.51	.48
57F2345	PKES-60B-⅛	Fluted w/Skirt	.60	.54	.51	.48
57F2347	PKES-70B-¼	Fluted w/Skirt	.65	.59	.55	.52
57F2348	PKES-90B-¼	Fluted w/Skirt	.70	.63	.60	.56
57F2349	PKES-120B-¼	Fluted w/Skirt	.85	.77	.72	.68
57F2357	PKA-50B-¼	Ribbed w/Skirt	.55	.50	.47	.44
57F2356	PKA-50B-⅛	Ribbed w/Skirt	.55	.50	.47	.44
57F2358	PKA-70B-¼	Ribbed w/Skirt	.65	.59	.55	.52
57F2435	PKN-60B-¼	Ribbed w/Pointer	.60	.54	.51	.48
57F2436	PKN-70B-¼	Ribbed w/Pointer	.65	.59	.55	.52
57F2359	PKA-90B-¼	Ribbed w/Skirt	.80	.72	.68	.64
57F2373	PKAP-50B-¼	Ribbed w/Pntrs.	.65	.59	.55	.52
57F2360	PKAP-70B-¼	Ribbed w/Pntrs.	.75	.68	.64	.60
57F2334	PK-50B-¼	Strght. w/Skirt	.35	.32	.30	.28
57F2333	PK-50B-⅛	Strght. w/Skirt	.35	.32	.30	.28
57F2335	PK-70B-¼	Strght. w/Skirt	.40	.36	.34	.32
57F2336	PK-90B-¼	Strght. w/Skirt	.45	.41	.38	.36
57F2341	PKB-70B-¼	Fluted w/Skirt	.45	.41	.38	.36
57F2342	PKB-90B-¼	Fluted w/Skirt	.55	.50	.47	.44
57F2361	PKP-194B-¼	Bar Pointer	.80	.72	.68	.64
57F2337	PKD-60B-¼	Alum. Skirt	.50	.45	.43	.40
57F2338	PKD-70B-¼	Alum. Skirt	.55	.50	.47	.44
57F2339	PKD-60B-10⅛	0-10 Alum. Dial	.55	.50	.47	.44
57F2340	PKD-70B-10¼	0-10 Alum. Dial	.60	.54	.51	.48
57F2364	PKS-1104B-¼	Alum. Skirt	.50	.45	.43	.40
57F2365	PKS-1103B-10¼	0-10 Alum. Dial	.55	.50	.47	.44
57F2366	PKS-1106B-¼	Alum. Skirt	.55	.50	.47	.44
57F2367	PKS-1105B-10¼	0-10 Alum. Dial	.60	.54	.51	.48
57F2362	PKS-90B-¼	Alum. Skirt	.60	.54	.51	.48
57F2363	PKS-90B-10¼	0-10 Alum. Dial	.65	.59	.55	.52
57F2354	PK-1100B-¼	Control Knob	.40	.36	.34	.32
57F2353	PK-1100R-⅛	Control Knob	.45	.41	.38	.36
57F2355	PKC-1111BR†	Control Knob	1.00	.90	.85	.80
57F2424	PKF-50B-⅛	Smoothw/Indicator	.55	.50	.47	.44
57F2425	PKF-50B-¼	Smoothw/Indicator	.55	.50	.47	.44
57F2426	PKF-70B-¼	Ribbed w/Indicator	.60	.54	.51	.48
57F2427	PKF-70BP-¼	Ribbed w/Indicator	.70	.63	.60	.56

(*) R=red. B=black. ¼, ⅛=shaft dia./inches.
(†) Concentric-¼" shaft bottom, ⅛" shaft top.

ANODIZED ALUMINUM KNOBS

Stock No.	Type* No.	Description	1-99	100-249	250-499	500-999
61F1176	KN-500A-¼	Straight Knurl	1.05	.95	.89	.84
57F2288	KN-500B-¼	Straight Knurl	1.05	.95	.89	.84
61F1177	KN-500A-⅛	Straight Knurl	1.05	.95	.89	.84
57F2287	KN-500B-⅛	Straight Knurl	1.05	.95	.89	.84
61F1178	KN-700A-¼	Straight Knurl	1.10	.99	.94	.88
57F2289	KN-700B-¼	Straight Knurl	1.10	.99	.94	.88
61F1179	KN-900A-¼	Straight Knurl	1.30	1.17	1.11	1.04
57F2290	KN-900B-¼	Straight Knurl	1.30	1.17	1.11	1.04
61F1180	KN-1250A-¼	Straight Knurl	1.85	1.67	1.57	1.48
57F2292	KN-1250B-¼	Straight Knurl	1.85	1.67	1.57	1.48
57F2410	KN-1251A-¼	less hairline	1.80	1.62	1.53	1.44
57F2411	KN-1251B-¼	less hairline	1.80	1.62	1.53	1.44
57F2295	KN-1751AS-¼	less hairline	3.35	3.01	2.85	2.68
57F2296	KN-1751BS-¼	less hairline	3.35	3.01	2.85	2.68
61F1181	KN-500AB-¼	Straight Knurl	1.30	1.17	1.11	1.04
57F2412	KN-500BA-¼	Straight Knurl	1.30	1.17	1.11	1.04
57F2297	KN-500AB-⅛	Straight Knurl	1.30	1.17	1.11	1.04
57F2298	KN-500BA-⅛	Straight Knurl	1.30	1.17	1.11	1.04
61F1182	KN-700AB-¼	Straight Knurl	1.40	1.26	1.19	1.12
57F2413	KN-700BA-¼	Straight Knurl	1.40	1.26	1.19	1.12
61F1183	KN-900AB-¼	Straight Knurl	1.60	1.44	1.36	1.28
57F2300	KN-900BA-¼	Straight Knurl	1.60	1.44	1.36	1.28
57F2301	KN-1250AB-¼	Straight Knurl	2.10	1.89	1.79	1.68
57F2302	KN-1250BA-¼	Straight Knurl	2.10	1.89	1.79	1.68
57F2416	KN-1751ABS-¼	less hairline	3.45	3.11	2.93	2.76
57F2417	KN-1751BAS-¼	less hairline	3.45	3.11	2.93	2.76
57F2418	KN-501BA-¼	w/Arrowhead	1.30	1.17	1.11	1.04
57F2307	KN-501BA-⅛	w/Arrowhead	1.30	1.17	1.11	1.04
57F2309	KN-701BA-¼	w/Arrowhead	1.35	1.22	1.15	1.08
57F2308	KN-701BA-⅛	w/Arrowhead	1.35	1.22	1.15	1.08
57F2313	KPN-500A-¼	w/Pointer	2.45	2.21	2.08	1.96
57F2314	KPN-500B-¼	w/Pointer	2.45	2.21	2.08	1.96
57F2319	KPN-900B-¼	w/Pointer	3.25	2.93	2.76	2.60
57F2305	KN-5700A†	Straight Knurl	2.30	2.07	1.96	1.84
57F2306	KN-5700B†	Straight Knurl	2.30	2.07	1.96	1.84
57F2311	KNS-501BA-¼	Skirt w/Arrowhd.	1.55	1.40	1.32	1.24
57F2310	KNS-501BA-⅛	Skirt w/Arrowhd.	1.55	1.40	1.32	1.24
57F2312	KNS-701BA-¼	Skirt w/Arrowhd.	1.70	1.53	1.45	1.36
57F2315	KPN-700A-¼	w/Pointer	2.60	2.34	2.21	2.08
57F2316	KPN-700B-¼	w/Pointer	2.60	2.34	2.21	2.08
57F2317	KPN-700AB-¼	w/Pointer	2.90	2.61	2.47	2.32
57F2318	KPN-700BA-¼	w/Pointer	2.90	2.61	2.47	2.32
57F2320	KPN-900BA-¼	w/Pointer	3.55	3.20	3.02	2.84
57F2322	KB-500A-¼	Contrl. w/Knurl	1.15	1.04	.98	.92
57F2419	KB-500B-¼	Contrl w/Knurl	1.15	1.04	.98	.92
57F2321	KB-500A-⅛	Contrl. w/Knurl	1.15	1.04	.98	.92
57F2323	KB-500B-⅛	Contrl. w/Knurl	1.15	1.04	.98	.92
61F920	KS-500A-¼	w/Skirt	1.25	1.13	1.06	1.00
61F921	KS-500B-¼	w/Skirt	1.25	1.13	1.06	1.00
57F2272	KS-500A-⅛	w/Skirt	1.25	1.13	1.06	1.00
57F2273	KS-500B-⅛	w/Skirt	1.25	1.13	1.06	1.00
61F941	KS-700A-¼	w/Skirt	1.50	1.35	1.28	1.20
61F942	KS-700B-¼	w/Skirt	1.50	1.35	1.28	1.20
57F2406	KS-900A-¼	w/Skirt	1.75	1.58	1.49	1.40
57F2407	KS-900B-¼	w/Skirt	1.75	1.58	1.49	1.40
61F922	KSP-700A-¼	w/Acrylic Skirt	1.35	1.22	1.15	1.08
61F923	KSP-700B-¼	w/Acrylic Skirt	1.35	1.22	1.15	1.08
61F943	KSP-900A-¼	w/Acrylic Skirt	1.55	1.40	1.32	1.24
61F944	KSP-900B-¼	w/Acrylic Skirt	1.55	1.40	1.32	1.24
57F2274	KC-500A-⅛	Miniature Knob	1.50	1.35	1.28	1.20
57F2420	KC-500B-⅛	Miniature Knob	1.50	1.35	1.28	1.20
57F2275	KC-500A-10⅛	Min. w/dial face	1.75	1.58	1.49	1.40
57F2421	KC-500B-10⅛	Min. w/Dial face	1.75	1.58	1.49	1.40
61F917	K-500A-¼	Industrial Use	.90	.81	.77	.72
61F918	K-500B-¼	Industrial Use	.90	.81	.77	.72
57F2265	K-500A-⅛	Industrial Use	.90	.81	.77	.72
57F2266	K-500B-⅛	Industrial Use	.90	.81	.77	.72
61F937	K-700A-¼	Industrial Use	1.00	.90	.85	.80
61F938	K-700B-¼	Industrial Use	1.00	.90	.85	.80
61F939	K-900A-¼	Industrial Use	1.15	1.04	.98	.92
61F940	K-900B-¼	Industrial Use	1.15	1.04	.98	.92
57F2267	K-1250A-¼	Industrial Use	1.60	1.44	1.36	1.28
57F2268	K-1250B-¼	Industrial Use	1.60	1.44	1.36	1.28
57F2269	K-1251AS-¼	less hairline	2.20	1.98	1.87	1.76
61F1171	KD-500A-¼	Diamond Knurl	1.05	.95	.89	.84
57F2284	KD-500B-¼	Diamond Knurl	1.05	.95	.89	.84
61F1172	KD-500A-⅛	Diamond Knurl	1.05	.95	.89	.84
57F2423	KD-500B-⅛	Diamond Knurl	1.05	.95	.89	.84
61F1173	KD-700A-¼	Diamond Knurl	1.10	.99	.94	.88
57F2285	KD-700B-¼	Diamond Knurl	1.10	.99	.94	.88
61F1174	KD-900A-¼	Diamond Knurl	1.30	1.17	1.11	1.04
57F2422	KD-900B-¼	Diamond Knurl	1.30	1.17	1.11	1.04
61F1175	KD-1250A-¼	Diamond Knurl	1.75	1.58	1.49	1.40
57F2286	KD-1250B-¼	Diamond Knurl	1.75	1.58	1.49	1.40
57F2270	K-5700A	Concentric	2.05	1.85	1.75	1.64
57F2271	K-5700B	Concentric	2.05	1.85	1.75	1.64
57F2276	KHF-500A-¼	Hi-Fi Knob	.85	.77	.72	.68
57F2277	KHF-500G-¼	Hi-Fi Knob	.85	.77	.72	.68
57F2278	KHF-700A-¼	Hi-Fi Knob	.95	.86	.81	.76
57F2279	KHF-700G-¼	Hi-Fi Knob	.95	.86	.81	.76
57F2280	KHF-900A-¼	Hi-Fi Knob	1.05	.95	.89	.84
57F2281	KHF-900G-¼	Hi-Fi Knob	1.05	.95	.89	.84
57F2282	KHF-1250A-¼	Hi-Fi Knob	1.45	1.31	1.23	1.16
57F2283	KHF-1250G-¼	Hi-Fi Knob	1.45	1.31	1.23	1.16
57F2324	KBS-500A-¼	w/Skirt	1.50	1.35	1.28	1.20
57F2325	KBS-500A-10¼	w/Dial Face	1.75	1.58	1.49	1.40
57F2326	KBS-500B-10¼	w/Dial Face	1.75	1.58	1.49	1.40
57F2428	KG-500A-⅛	Grooved w/Hairline	.90	.81	.77	.72
57F2429	KG-500A-¼	Grooved w/Hairline	.90	.81	.77	.72
57F2430	KG-500B-⅛	Grooved w/Hairline	.90	.81	.77	.72
57F2431	KG-500B-¼	Grooved w/Hairline	.90	.81	.77	.72
57F2432	KG-700A-¼	Grooved w/Hairline	1.00	.90	.85	.80
57F2433	KG-900A-¼	Grooved w/Hairline	1.15	1.04	.98	.92
57F2434	KG-1250A-¼	Grooved w/Hairline	1.50	1.35	1.28	1.20

(*) A=Aluminum, black indicator. B=Black, white ind. G=Gold, red ind. AB=Nat. body, black top and ind. BA=Black body, nat. top, white ind. (†) Concentric, ¼" shaft bottom, ⅛" top. S=spinner

KNOB ACCESSORIES

Stock No.	Type No.	Description	1-99	100-249	250-499	500-999
57F2329	KR-1	¼" to ⅛" reducer	.15	.14	.13	.12
57F2330	KR-2	¼" to 3/16" reducer	.15	.14	.13	.12

Mueller Clips

Sold in multiples of 10 only

MINI-GATOR CLIPS

Miniaturized. For No. 20 wire or smaller, provides quick, strong connection even in smallest areas. Solder connectors. Easily removed. 1 3/32" length, 3/16" jaw spread. Shpg. wt. ¼ lb. per 100.

Stock No.	Type	Fig.	Description	Each 10-90	Each 100-Up
28F528	30	A	Steel Cad. Plated	.09	.07
28F529	30C	A	Copper	.10	.08

MICRO-GATOR CLIPS

Designed for printed circuits and tight spots. Tip is no bigger than the head of a pin yet will stand up straight on the smallest terminals. Uses No. 20 or smaller wire. Length, 1 3/32". Jaw spread, 7/32" Tips, 1/32" across Solder connectors. Shpg. wt., ¼ lb. per 100.

Stock No.	Type	Fig.	Description	Each 10-90	Each 100-Up
28F496	34	B	Cad. Plated Steel	.07	.06
28F497	34C	B	Copper	.09	.07

2" ALLIGATOR CLIPS

28F500	60	C	†Solder connection	.11	.09
28F501	60-S	C	†Screw connection	.12	.10
28F502	60-CS	C	*Screw connection	.19	.15
28F464	60PR-2	C	†Adapted for phone Tip or test prod tip	.16	.13

INSULATED ALLIGATOR CLIPS

Insulating sleeves on barrel, Fig. D or skin tight flexible insulation, Fig. E. Barrel takes wire or banana plug. Fig D: 2 1/32"; Fig. E: 2 1/8"

Stock No.	Type	Fig.	Description	EACH 10-90	EACH 100-Up
28F503	60-HS	D	†Screw conn. Red	.17	.14
28F504	60-HS	D	†Screw conn. Black	.17	.14
28F505	60CHS	D	*Screw conn. Red	.23	.19
28F506	60CHS	D	*Screw conn. Black	.23	.19

Clip 60S with skin-tight two piece flexible vinyl cover.

28F533	63	E	†Screw conn. Black	.23	.19
28F534	63	E	†Screw conn. Red	.23	.19
28F535	63C	E	*Screw conn. Black	.28	.22
28F536	63C	E	*Screw conn. Red	.28	.22

2" INSULATION PIERCING ALLIGATOR CLIP

Like 60S with Beryllium copper needle in one jaw for electrical contact thru insulation. Ideal for test leads etc.

28F469	60NS	C	†Screw connection	.23	.19

SERIES 70 CLIPS

Designed similar to No. 30 mini-gator clip but with dimensions of popular No. 60 alligator. In either *solid copper or †cadmium plated steel. Meshing teeth and slim jaws. 1 11/16" long.

Stock No.	Type	Fig.	Description	EACH 10-90	EACH 100-Up
28F530	70	F	†Solder Conn.	.09	.07
28F531	70S	F	†Solder Conn.	.10	.08
28F532	70CS	F	*Screw Conn.	.17	.14

CROCODILE CLIPS

Nesting teeth give solid contact along entire length of jaw. Jaws open 5/16". Shpg. wt.: 1½, 2 & 2½ lbs. per 100. Sizes Fig. G—2 1/8"; Fig. H—2 5/8"; Fig. J—2 1/4".

Stock No.	Type	Fig.	Description	EACH 10-90	EACH 100-Up
28F507	85	G	†Screw connection	.12	.10
28F508	85-C	G	*Screw connection	.25	.20
28F509	85-T	H	†Tip Clip phone tip	.32	.26
28F510	50-C	J	*Needle clip, screw conn.	.38	.30
28F511	51-C	J	*Less needle, screw conn.	.28	.22

"PEE WEE" CLIPS—Fig. L

Type 45. Steel, cadmium plated. A very small clip for general test purposes. Jaw teeth mesh. Shipping weight: 1 lb. per 100.
Type 45C. Solid copper, phosphor bronze spring, brass screw connection. No heating from hysteresis effect. 1¼ lbs. per 100.

Stock No.	Type	Amp.	Size	Open	EACH 10-90	EACH 100-Up
28F513	45†	5	1½"	5/16"	.11	.09
28F514	45C*	10	1½"	¼"	.20	.16

3-SIDED MESH TEETH CLIPS—Fig. K

Stock No.	Type	Amp.	Size	Open	EACH 10-90	EACH 100-Up
28F523	27†	20	2 7/16"	5/8"	.20	.16
28F524	27C*	40	2 7/16"	5/8"	.35	.28
28F515	48B†	10	2"	½"	.17	.14
28F538	48C*	20	2"	½"	.24	.20

HEAVY DUTY SOLID COPPER CLIPS

Type 25C—Fig. K 6¾ lbs. per 100, **Type 21C**—Fig. L is 18 lbs. per 100, **Type 11C**—Fig. L 41 lbs per 100, **Type 33C**—Fig. L 82 lbs per 100.

28F519	25C*	75	3"	¾"	.57	.46
28F520	21C*	100	4½"	1 1/16"	1.44	1.15
28F521	11C*	200	6"	1⅜"	2.91	2.33
28F522	33C*	300	7¾"	2¼"	5.45	4.35

BATTERY CLIPS—Fig. L

Heavy duty lead plated clips especially designed for battery connection, or for general testing.

28F516	24A**	25	2⅜"	¾"	.33	.27
28F517	21A**	50	4"	1 1/16"	.59	.47
28F518	11A**	100	6"	1⅜"	1.66	1.33

PLIER—TYPE BATTERY CLIPS

Bright copper plated with vinyl insulating sleeves and heavy duty plated springs.
Type 41. For fast chargers, battery booster cables.
Type 46. For small overnight chargers, and battery power pickup.

Stk. No.	Type	Color	Fig.	Amp.	Size	Open	NET
28F468	46A	Red	N	50	3"	1⅛"	.44
28F467	46A	Black	N	50	3"	1⅛"	.44
28F465	41A	Red	N	100	6"	1 9/16"	1.50
28F466	41A	Black	N	100	6"	1 9/16"	1.50

FLEXIBLE INSULATORS FOR CLIPS LISTED ABOVE

Fig. M—Protect against electric shock and short circuit. All insulators made of vinyl.

Stock No.	Type	Color	For Clip	EACH 10-90	EACH 100-Up
28F476	47	Red	45, 45C	.09	.07
28F477	47	Blk	45, 45C	.09	.07
28F478	49	Red	48B-C, 50-51C	.16	.13
28F479	49	Blk	48B-C, 50-51C	.16	.13
28F482	26	Red	24A, 25, 25C	.37	.30
28F483	26	Blk	24A, 25, 25C	.37	.30
28F484	23	Red	21A, 21C	.53	.42
28F485	23	Blk	21A, 21C	.53	.42
28F472	32	Red	30, 30C	.05	.04
28F473	32	Blk	30, 30C	.05	.04
28F498	36	Blk	34, 34C	.05	.04
28F499	36	Red	34, 34C	.05	.04
28F474	72	Red	70, 70S, 70CS	.07	.05
28F475	72	Blk	70, 70S, 70CS	.07	.05
28F486	29	Red	27, 27C	.23	.19
28F487	29	Blk	27, 27C	.23	.19
28F488	13	Red	11C, 11A	1.05	.84
28F489	13	Blk	11C, 11A	1.05	.84
28F490	87	Red	85, 85C, 85T	.09	.07
28F491	87	Blk	85, 85C, 85T	.09	.07
28F492	62	Red	60, 60CS, 60S	.08	.06
28F493	62	Blk	60, 60CS, 60S	.08	.06

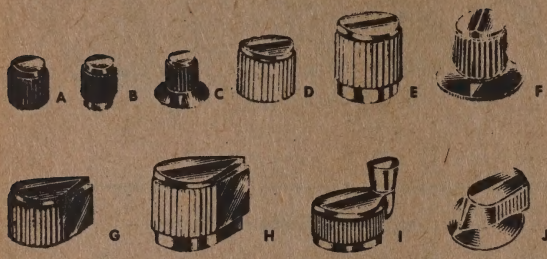
KEY TO CLIP CONSTRUCTION MATERIAL

*** solid copper, ** lead-plated steel, † cadmium-plated steel**

RAYTHEON

Control Knobs

STANDARD CONTROL KNOBS MEETS MS91528 REV C. SPECS.



Molded plastic knobs fitted with an aluminum insert. Two Allen head set screws fasten to the control shaft. * after type number indicates mirror finish for commercial equipment. G after type number indicates a non-reflecting "matte" finish, which conforms to military specifications. Ave. shpg. wt. 3 oz.

50 Series—.45" Dia. For ⅛" shafts

Stk. No.	Type	Description	Fig.	1-99	100-199	200-499
26F194	50-1-1*	Unskirted knob	A	.76	.65	.61
26F195	50-1-1G	Unskirted knob	A	.85	.72	.68
26F196	50-2-1*	Skirted knob	B	.89	.76	.71
26F197	50-2-1G	Skirted knob	B	.98	.83	.78
26F198	50-3-1*	Dil. Skt. Rd. w/pt.	C	1.00	.85	.80
26F199	50-3-1G	Dil. Skt. Rd. w/pt.	C	1.02	.87	.82

70 Series—.72" Dia. ⅛" Shaft Knobs

26F339	70-1-1*	Round	D	.90	.77	.72
26F341	70-1-1G	Round	D	.98	.83	.78
26F342	70-2-1G	Skirted Round	E	1.08	.92	.86
26F343	70-3-1G	Dil. Skt. Rd. w/pt.	F	1.36	1.16	1.09
26F344	70-5-1*	Skirted Pointer	H	1.01	.86	.81
26F345	70-4-1G	Pointer	G	.98	.83	.78
26F346	70-5-1G	Skirted Pointer	H	1.07	.91	.86

70 Series—.72" Dia. For ¼" shafts

26F150	70-1-2*	Round	D	1.05	.89	.84
26F151	70-1-2G	Round	D	1.14	.97	.91
26F152	70-2-2*	Skirted Round	E	1.09	.93	.87
26F153	70-2-2G	Skirted Round	E	1.18	1.00	.94
26F154	70-3-2*	Dil. Skt. Rd. w/pt.	F	1.32	1.12	1.06
26F155	70-3-2G	Dil. Skt. Rd. w/pt.	F	1.30	1.11	1.04
26F156	70-4-2*	Pointer	G	.98	.83	.78
26F157	70-4-2G	Pointer	G	1.05	.89	.84
26F158	70-5-2*	Skirted Pointer	H	1.09	.93	.87
26F159	70-5-2G	Skirted Pointer	H	1.18	1.00	.94
26F673	70-8WL-2	Dil. Skt. Bar Pt.	J	1.27	1.08	1.02
26F674	70-8WL-2G	Dil. Skt. Bar Pt.	J	1.34	1.14	1.07

90 Series—.928" Dia. For ¼" shafts

26F160	90-1-2*	Round	D	1.02	.87	.82
26F161	90-1-2G	Round	D	1.11	.94	.89
26F163	90-2-2G	Skirted Round	E	1.07	.91	.86
26F164	90-3-2*	Dil. Skt. Rd. w/pt.	F	1.27	1.08	1.02
26F165	90-3-2G	Dil. Skt. Rd. w/pt.	F	1.35	1.15	1.08
26F166	90-4-2*	Pointer	G	1.10	.94	.88
26F167	90-4-2G	Pointer	G	1.18	1.00	.94
26F168	90-5-2*	Skirted Pointer	H	1.23	1.05	.98
26F169	90-5-2G	Skirted Pointer	H	1.30	1.11	1.04

125 Series—1.269" Dia. For ¼" shafts

26F170	125-1-2	Round	D	.95	.81	.76
26F174	125-3-2*	Dil. Skt. Rd. w/pt.	F	1.33	1.13	1.06
26F175	125-3-2G	Dil. Skt. Rd. w/pt.	F	1.42	1.21	1.14
26F176	125-6-2*	Crank	I	2.75	2.34	2.20
26F177	125-6-2G	Crank	I	2.78	2.36	2.22

125 Series—2.516" Dia. For ¼" shafts—No skirt

26F338	125-7-2G	Bar Pointer	...	1.56	1.33	1.25

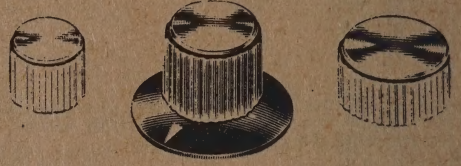
175 Series—1.772" Dia. For ¼" shafts

26F182	175-3-2*	Dil. Skt. Rd. w/pt.	E	1.60	1.36	1.28
26F183	175-3-2G	Dil. Skt. Rd. w/pt.	F	1.67	1.42	1.34
26F184	175-6-2*	Crank	I	2.98	2.53	2.38
26F185	175-6-2G	Crank	I	3.07	2.61	2.46

225 Series—2.272" Dia. For ¼" shafts

26F186	225-1-2*	Round	D	1.53	1.30	1.22
26F190	225-3-2*	Dil. Skt. Rd. w/pt.	F	1.77	1.50	1.42
26F191	225-3-2G	Dil. Skt. Rd. w/pt.	F	1.87	1.59	1.50
26F192	225-6-2*	Crank	I	3.10	2.64	2.48
26F193	225-6-2G	Crank	I	3.16	2.69	2.53

"DESIGNER" SERIES



Molded black plastic knobs with spun aluminum cap inserts. Knobs with-stand 25 in/lbs. of torque. Temperature: −55°C to 125°C. Av. shp. wt. 3 oz.

70 Series—.252 Shafts

Stk. No.	Type	Description	1-99	100-199	200-499
26F464	DS 70-1BD-2	Rd. No Skt. Dot	1.18	1.09	1.03
26F465	DS 70-1BD-2G	Rd. No Skt. Dot	1.20	1.10	1.04
26F466	DS 70-1-2	Rd. No Skt.	1.07	.98	.93
26F467	DS 70-1 2G	Rd. No Skt.	1.09	1.00	.95
26F468	DS 70-2-2	Rd. Pln. Skt.	1.24	1.14	1.08
26F469	DS 70-2-2G	Rd. Pln. Skt.	1.30	1.20	1.13
26F470	DS 70-2BD-2	Rd. Pln. Skt. Dot	1.49	1.37	1.30
26F471	DS 70-2BD-2G	Rd. Pln. Skt. Dot	1.54	1.42	1.34
26F472	DS 70-3-2	DL. Skt. Rd. w/pt.	1.27	1.17	1.10
26F473	DS 70-3-2G	DL. Skt. Rd. w/pt.	1.30	1.20	1.13
26F474	DS 70-4-2	Pt. No Skt.	1.17	1.08	1.02
26F475	DS 70-4-2G	Pt. No Skt.	1.20	1.10	1.04

70 Series—.190 Shafts

26F478	DS 70-1-3	Rd. No Skt.	1.05	.97	.91

90 Series—.252 Shafts

26F485	DS 90-1-2G	Rd. No Skt.	1.07	.98	.93
26F487	DS 90-1BD-2G	Rd. No Skt. Dot.	1.45	1.33	1.26
26F488	DS 90-2-2	Rd. Pln. Skt.	1.29	1.19	1.12
26F492	DS 90-3-2	Rd. Dl. Skt. w/pt.	1.43	1.32	1.24
26F493	DS 90-3-2G	Dl. Skt. Rd. w/pt.	1.46	1.34	1.27
26F495	DS 90-4-2G	Pt. No Skt.	1.24	1.14	1.08

125 Series—.252 Shafts

26F444	DS 125-1-2	Rd. No. Skt.	1.49	1.37	1.30
26F445	DS 125-1-2G	Rd. No. Skt.	1.51	1.39	1.31
26F448	DS 125-3-2	Dl. Skt. Rd. w/pt.	1.67	1.54	1.45

SPECIAL POINTER KNOB

With knob lock listed below. Knob features pointer arm which curves over skirt at lock toward chassis to increase accuracy. For ¼" shafts. Shpg. wt. 2 oz.

26F302	70-1LK-2	Mirror Finish	1.29	1.10	1.03
26F303	70-1LK-2G	Matte Finish	1.38	1.17	1.10
26F307	125-1LK-2G	Matte Finish	1.47	1.25	1.18

KNOB LOCKS

For standard control knobs. Holds precise or critical control settings under shock or vibration. Use with 70, 90, and 125 round standard control knobs. Mirror finish except * Matte. 8-32 thread. Shpg. wt. 2 oz.

Stk. No.	Type	Series & Dia.	1-99	100-199	200-499
26F308	KL701	Series: 70 1" dia.	1.32	1.12	1.06
26F309	KL701G*	Series: 70 1" dia.	1.40	1.19	1.12
26F310	KL901	Series: 90 1⅛" dia.	1.50	1.28	1.20
26F311	KL901G*	Series: 90 1⅛" dia.	1.58	1.34	1.26
26F312	KL1251	Series: 125 1⅜" dia.	1.55	1.32	1.24
26F313	KL1251G*	Series: 125 1⅜" dia.	1.64	1.39	1.31

Control Knobs, Jacks, Switches

RAYTHEON

DESIGNER SERIES 400 CONTROL KNOBS

A B C D E

High impact acrylonitrile-styrene (ABS), with lustreless black, finish. Supplied with metal bushings and two set screws.

407 SERIES—¼" SHAFTS—.720 DIA.

Stk. No.	Type	Description	Fig.	1-99	100-199	200-499
26F671	407R1K1	Round	A	.54	.46	.43
26F672	407D1K1	Round dial skirted	C	.68	.58	.54

407 SERIES—¼" SHAFTS—.720 DIA.

26F675	407R2K1	Round	A	.51	.43	.41
26F676	407D2K1	Round dial skirted	C	.63	.54	.50
26F678	407PD2K1	Bar pointer dial skirted	E	.69	.59	.55

409 SERIES—¼" SHAFTS—.875 DIA.

26F682	409R2K1	Round	A	.57	.48	.46
26F683	409D2K1	Round dial skirted	C	.67	.57	.54
26F685	409P2K1	Bar pointer	B	.63	.54	.50
26F687	409PD2K1	Bar pointer dial skirted	E	.76	.65	.61

412 SERIES—¼" SHAFTS—1.25 DIA.

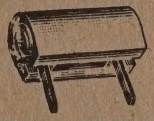
Stk. No.	Type	Description	Fig.	1-99	100-199	200-499
26F690	412R2K1	Round	A	.55	.47	.44
26F692	412D2K1	Round dial skirted	C	.69	.59	.55
26F695	412P2K1	Bar pointer	B	.70	.60	.56
26F697	412PD2K1	Bar pointer dial skirted	E	.83	.71	.66

SHAFT LOCKS

Mounted on the control bushing in place of the nut and washer, the shaft lock fits snugly around the control shaft, providing a constant drag which resists rotation caused by accidental contact, vibrations, etc., but which permits smooth adjustment. Shpg. wt. 1 oz.

Stock No.	Type	Shaft	Thread NEF2	1-99	100-199	200-499
26F314	SL-100B	¼"	3-32	.44	.37	.35
26F937	SL-101R	¼"	...	.47	.40	.38
26F315	SL-105B	⅛"	¼-32	.33	.28	.26
26F938	SL-110B	¼"	...	.29	.25	.23

RIGHT ANGLE PRINTED CIRCUIT TEST JACKS



Model MC123. Single .080" contact for use with closely spaced printed circuit boards. .3" mtg. centers. Rated: 5 amps. Oper. volts: 2000 RMS @ sea level. All metal surfaces are heavy gold over silver plating. Size: .231 x .48 x .449" Shpg. wt., 3 oz.

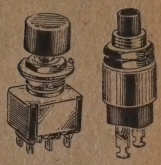
Stock No.	Type	Color	1-249	250-499	500-999	1000-2499
26F948	TJ201Y	Yellow	.35	.30	.28	.26
26F992	TJ203R	Red				
26F993	TJ2040R	Orange				
26F995	TJ206GN	Green				
26F996	TJ207MB	Marine Bl.				
26F997	TJ208W	White				
26F294	TJ255BL	Black				
26F297	TJ258W	White				

PANEL BRACKETS

Formed from .090" cold-rolled carbon steel, the bracket is available in four sizes to accommodate panels ranging in width from 1⅜-3⁷⁄₁₆". A pair of brackets will mount either one or two panels. Meet the requirements of MIL-E-16400A (ships). MIL-E-5400 and MIL-P-11268B (Sig. C) Cadmium plated. Shpg. wt., 3 oz.

Stk. No.	Type	Wide Range	1-99	100-199	200 499
26F316	MB-125	1⅜-1⁹⁄₁₆	.36	.31	.29
26F317	MB-126	2-2⁷⁄₁₆	.36	.31	.29
26F318	MB-127	2⅛-2⁹⁄₁₆	.39	.33	.31
26F319	MB-128	3-3⁷⁄₁₆	.41	.35	.31

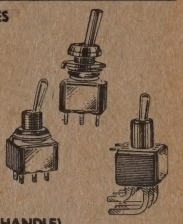
PUSHBUTTON SWITCHES



Momentary contact, miniature pushbutton switches in both snap action and butt contact construction. Contacts on snap action type are gold on brass. Butt switch contacts are coin silver. Snap action switch terminals are epoxy sealed. Contact rating: 1 A at 120 VAC or 28 VDC.

Stk. No.	Type	Cap Color	Description	1-24	25-99	100-999	1000-4999
25F1044	MP1F1	Red	SPST, Butt Contact, N.O.	.95	.64	.57	.52
25F1045	MP1E1	Black	SPST, Butt Contact, N.C.	.95	.64	.57	.52
25F1046	P1F1	White	SPDT, Snap Action	2.65	1.77	1.59	1.46
25F1047	P2F1	White	DPDT, Snap Action	3.55	2.37	2.13	1.95

MINIATURE TOGGLE SWITCHES



Life cycle of 100,000 on-off cycles at rated current (40,000 cycles for momentary types). Case made of black, phenolic resin. Coin silver contacts handle 5 A resistive loads at 120 VAC or 28 VDC, or 2 A at 250 VAC. Brass contacts with gold over nickel plate, 0.4 A at 25 V max. (AC or DC). PC terminal and Right Angle PC terminal types have brass contacts with gold over nickel plate, all other types have coin silver contacts.

MINIATURE TOGGLE SWITCHES (BAT HANDLE)

Stk. No.	Type	Action (Momentary)	1-24	25-99	100-199	1000-4999
25F1048	105D	SPDT, On-None-On	1.75	1.17	1.05	.88
25F1049	105E	SPDT, On-Off-On	2.05	1.37	1.23	1.12
25F1050	105F	SPDT, None-On-(On)	2.05	1.37	1.23	1.12
25F1051	105G	SPDT, (On)-Off-(On)	2.05	1.37	1.23	1.12
25F1052	105H	SPDT, On-Off-(On)	2.05	1.37	1.23	1.12
25F1053	205N	DPDT, On-None-On	2.30	1.54	1.38	1.26
25F1054	205P	DPDT, On-Off-On	2.70	1.81	1.62	1.48
25F1055	205PA	DP3T, On-On-On	2.95	1.98	1.77	1.62
25F1056	205R	DPDT, None-On-(On)	2.70	1.81	1.62	1.48
25F1057	205S	DPDT, (On)-Off-(On)	2.70	1.81	1.62	1.48
25F1058	205T	DPDT, On-Off-(On)	2.70	1.81	1.62	1.48
25F1059	305D	3PDT, On-None-On	3.90	2.61	2.34	2.14
25F1060	305E	3PDT, On-Off-On	4.20	2.81	2.52	2.31
25F1061	405N	4PDT, On-None-On	5.00	3.35	3.00	2.75
25F1062	405P	4PDT, On-Off-On	5.40	3.62	3.24	2.97

FLATTED TOGGLE SWITCHES

25F1063	105D49	SPDT, On-None-On	2.45	1.64	1.47	1.34
25F1064	105E49	SPDT, On-Off-On	2.75	1.81	1.65	1.51
25F1065	105G49	SPDT, (On)-Off-(On)	2.75	1.81	1.65	1.51
25F1066	205N49	DPDT, On-None-On	3.00	1.98	1.80	1.65
25F1067	205P49	DPDT, On-Off-On	3.35	2.21	2.01	1.84

PC TERMINALS

25F1068	105D2	SPDT, On-None-On	1.85	1.22	1.11	1.01
25F1069	105E2	SPDT, On-Off-On	2.15	1.42	1.29	1.18
25F1070	205N2	DPDT, On-None-On	2.50	1.65	1.50	1.38
25F1071	205P2	DPDT, On-Off-On	2.85	1.88	1.71	1.57
25F1072	305D2	3PDT, On-None-On	4.10	2.71	2.46	2.25
25F1073	405N2	4PDT, On-None-On	5.25	3.46	3.15	2.89

RIGHT ANGLE, PC TERMINALS

25F1074	105DPC	SPDT, On-None-On	2.20	1.47	1.32	1.21
25F1075	105E3	SPDT, On-Off-On	2.20	1.45	1.32	1.21
25F1076	105F3	SPDT, None-On-(On)	2.20	1.45	1.32	1.21
25F1077	205NPC	DPDT, On-None-On	2.91	1.92	1.74	1.60
25F1078	205P3	DPDT, On-Off-On	3.25	2.14	1.95	1.78

ROCKER AND LEVER SWITCHES

Snap in mounting in panels of .062" to .125" thickness. Current rating: 5 A at 120 VAC or 28VDC. Switches with type nos. beginning with LE are lever actuated, those beginning with R are rocker actuated.

Stk. No.	Type	Action	1-24	25-99	100-999	1000-4999
25F1079	LE1A1	SPST, On-None-On	2.00	1.34	1.20	1.10
25F1080	LE2A1	DPDT, On-None-On	2.50	1.67	1.50	1.37
25F1081	R1A1	SPST, On-None-On	2.00	1.34	1.20	1.10
25F1082	R2A1	DPDT, On-None-On	2.50	1.67	1.50	1.37

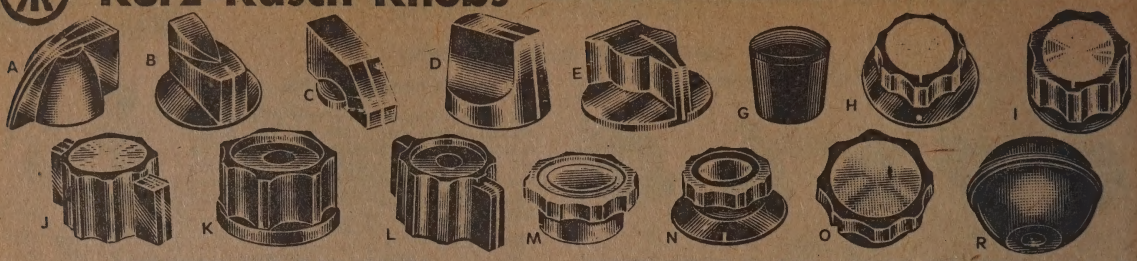
COLOR CODED CAPS AND BEZELS

Stk. No.	Type	Description	1-99	100-999
25F1083	C7	Black caps for P type pushbuttons, .200"	.04	.04
25F1084	C8	Black caps for P type pushbuttons, .375"	.04	.04
25F1085	C9	Black, vinyl-dipped, for standard toitie	.04	.04
25F1086	B1	Black bezel for rocker and lever switches	.06	.05

MOUNTING HARDWARE

25F1088	N1	¼ x 40 Knurled nut	.06	.05
25F1089	N1A	¼ x 40 Knurled panel dress nut	.08	.07
25F1090	N2	¼ x 40 Hex nut	.04	.04
25F1091	N3	¼ x 40 Hex panel dress nut	.08	.07

Kurz-Kasch Knobs



POINTERS AND BAR KNOBS

Stock No.	Part No.	Fig.	Size OD	Height Inches	1-99	100-499	500-999
35F1300	S-292-1L	A	1¼	⅝	.30	.22	.16
35F1301	S-292-3L	A	1¼	⅝	.48	.34	.25
35F1302	S-293-1L	A	2¼	⅝	.72	.51	.37
35F1303	S-293-3L	A	2¼	⅝	.91	.64	.46
35F1304	S-246-1L	A	1½	⅞	.55	.39	.28
35F1305	S-246-3L	A	1½	⅞	.89	.63	.45
35F1309	S-658-1L	B	1⅛	1 1/16	.45	.32	.23
35F1310	S-626-1L	C	1½	⅝	.54	.39	.28
35F1311	S-400-1L	D	15/16	¾	.66	.48	.40
35F1312	S-657-1L	E	1⅛	⅝	.48	.34	.24
35F1313	S-657-3L	E	1⅛	⅝	.65	.46	.33
35F1314	S-1657-1L	E	1⅛	⅝	.79	.53	.40
35F1315	S-1657-3L	E	1⅛	⅝	.98	.65	.49

PUSH BUTTONS

35F1316	S-328-30	G	½	15/32	.25	.18	.13

INSTRUMENT KNOBS SERIES 600 (Without Inlay)

Standard with white indicator line.

35F1319	S-645-1L	H	¾	7/16	.38	.27	.19
35F1320	S-645-3L	H	¾	7/16	.55	.39	.28
35F1321	S-645-5L	H	¾	7/16	.61	.43	.31
35F1322	S-645-21L	H	¾	7/16	.39	.27	.20
35F1323	S-647-1L	H	1	19/32	.40	.28	.20
33F1324	S-647-3L	H	1	19/32	.59	.41	.30
35F1325	S-648-1L	. . .	1¼	21/32	.45	.32	.23
35F1326	S-648-3L	H	1¼	21/32	.71	.50	.36
35F1327	S-653-1L	H	1½	¾	.55	.39	.28
35F1328	S-653-3L	H	1½	¾	.78	.55	.39
35F1329	S-649-1L	H	2	⅞	1.22	.85	.61
35F1330	S-649-3L	H	2	⅞	1.73	1.21	.87

INSTRUMENT KNOBS SERIES 1600 (With Aluminum Inlay)

Supplied with standard white indicator line.

35F1331	S-1645-1L	H	¾	7/16	.73	.48	.36
35F1332	S-1645-3L	H	¾	7/16	.92	.62	.46
35F1333	S-1645-5L	H	¾	7/16	.92	.62	.46
35F1334	S-1645-21L	H	¾	7/16	.73	.49	.37
35F1335	S-1647-1L	H	1	19/32	.70	.46	.35
35F1336	S-1647-3L	H	1	19/32	.86	.58	.44
35F1337	S-1648-1L	H	1¼	21/32	.72	.48	.36
35F1338	S-1648-3L	H	1¼	21/32	.93	.66	.47
35F1339	S-1653-1L	H	1½	¾	.78	.55	.39
35F1340	S-1653-3L	H	1½	¾	1.04	.69	.52
35F1341	S-1649-1L	H	2	⅞	1.41	.99	.71
35F1342	S-1649-3L	H	2	⅞	1.92	1.34	.96

SUFFIX CODE

1—Molded hole for ¼" shaft.

3—Brass insert for ¼" shaft.

5—Brass insert for ⅛" shaft.

21—Molded hole for ⅛" shaft.

30—Molded hole for .52 x 3/16" shaft.

70—Heavy duty brass insert for ¼" shaft.

BB—2 slotted head set screws.

L—Painted indicator line.

INSTRUMENT KNOBS SERIES 700 (Without Inlay)

Supplied with standard white indicator line.

35F1349	S-745-1L	I	⅝	7/16	.38	.27	.19
35F1350	S-745-3L	I	⅝	7/16	.54	.38	.27
35F1351	S-745-5L	I	⅝	7/16	.61	.43	.31
35F1352	S-745-21L	I	⅝	7/16	.39	.27	.20
35F1353	S-747-1L	I	13/16	19/32	.39	.28	.20
35F1354	S-747-3L	I	13/16	19/32	.58	.41	.29
35F1355	S-748-1L	I	1	21/32	.82	.58	.41
35F1356	S-748-3L	I	1	21/32	1.02	.72	.51
35F1357	S-753-1L	I	1¼	¾	.92	.65	.46
35F1358	S-753-3L	I	1¼	¾	1.14	.80	.57
35F1359	S-749-1L	I	1⅝	⅞	1.28	.90	.64

INSTRUMENT KNOBS SERIES 1700 (With Aluminum Inlay)

Supplied with standard white indicator line.

35F1361	S-1745-1L	I	⅝	7/16	1.25	.77	.58
35F1362	S-1745-3L	I	⅝	7/16	1.36	.91	.68
35F1363	S-1745-5L	I	⅝	7/16	1.36	.91	.68
35F1364	S-1745-21L	I	⅝	7/16	1.16	.77	.58
35F1365	S-1747-1L	I	13/16	19/32	.80	.53	.40
35F1366	S-1747-3L	I	13/16	19/32	.99	.66	.50
35F1367	S-1748-1L	I	1	21/32	1.16	.82	.59
35F1368	S-1748-3L	I	1	21/32	1.36	.96	.68
35F1369	S-1753-1L	I	1¼	¾	1.29	.91	.65
35F1370	S-1753-3L	I	1¼	¾	1.48	1.04	.75
35F1372	S-1749-3L	I	1⅝	⅞	2.08	1.46	1.04

WING KNOB SERIES

S-1750-3L-BB, S-1751-3L-BB with decorative aluminum inlay.

Stock No.	Part No.	Fig.	Size OD	Height Inches	1-99	100-499	500-999
35F1373	S-750-3L-BB	J	1¼	¾	1.18	.83	.59
35F1374	S-751-3L-BB	J	1½	¾	1.21	.85	.61
35F1375	S-1750-3L-BB	J	1¼	¾	1.90	1.27	.95
35F1378	S-1751-3L-BB	J	1½	¾	1.95	1.30	.98

CONCENTRIC SERIES

35F1379	S-756-1L	K	1	39/64	.78	.55	.40
35F1380	S-756-3L	K	1	39/64	.98	.69	.49
35F1381	S-750-3L-BB-G-588	L	1¼	¾	1.35	.99	.76
35F1382	S-751-3L-BB-G-588	L	1½	¾	1.38	1.01	.77

HEAVY DUTY INSTRUMENT KNOBS

(†) With decorative aluminum inlay.

35F1383	S-319-3	M	1	⅝	.67	.48	.34
35F1384	S-308-3	M	1⅛	⅝	.69	.49	.35
35F1385	S-385-3	M	1⅜	1 1/16	.97	.68	.49
35F1386	S-309-3	M	1⅜	¾	.91	.64	.46
35F1387	S-310-3	M	2⅜	⅞	1.22	.86	.61
35F1388	S-380-3	N	1½	13/16	3.63	2.73	1.82
35F1389	S-381-70	N	1¾	13/16	4.05	3.04	2.03
35F1390	S-311-3	N	2 1/16	⅞	3.83	2.88	1.92
35F1391	S-312-70	N	3	15/16	5.18	3.89	2.59
35F1392	S-1319-3†	O	1	⅝	1.39	1.04	.70
35F1393	S-1308-3†	O	1⅛	⅝	1.41	1.06	.71
35F1394	S-1385-3†	O	1⅜	1 1/16	1.78	1.34	.89
35F1395	S-1309-3†	O	1⅝	¾	1.70	1.28	.85
35F1396	S-1310-3†	O	2⅜	⅞	2.11	1.58	1.06

GEAR AND CONTROL KNOBS

Supplied with molded threads.

Stock No.	Part No.	Fig.	OD	Size Height	Thread	1-99	100-499	500-999
35F1397	S-446-3	R	1¾	1¾	⅜-16	1.21	.85	.61
35F1398	S-446-5	R	1¾	1¾	½-13	1.18	.83	.60
35F1399	S-442-4	R	2	15/16	⅜-24	1.01	.72	.51
35F1400	S-801-15C	R	1	1	5/16-18	.57	.41	.29
35F1401	S-801-15D	R	1	1	#10-32	.46	.33	.23
35F1402	S-801-15E	R	1	1	#10-24	.46	.33	.23
35F1404	S-801-15G	R	1	1	#8-32	.46	.33	.23
35F1406	S-801-15T	R	1	1	¼-20	.57	.41	.29

Knobs and Cases, Plates, Dials and Drives

KURZ-KASCH DESIGNER SERIES KNOBS

Suffix 1—indicates molded hole to fit standard ¼" shaft. **Suffix 3**—indicates flush type brass insert to fit ¼" shaft. **Suffix 21**—indicates molded hole to fit standard ⅛" shaft. Supplied with slotted set screw. Color: Blk. Wt. from 1.8 grams to 24.1 grams.

900—supplied standard with plain top.
1900—has spun aluminum inlay on top.
2900—has a spun aluminum cap on top.

Stock No.	Type	Dimensions Ht. x Diam.	1-99	100-499	500-999
35F3200	S-902-1	⅝"x½"	.53	.37	.27
35F3201	S-902-2I	⅝"x½"	.53	.37	.27
35F3202	S-903-1	⅝"x¾"	.53	.37	.27
35F3203	S-903-3	⅝"x¾"	.86	.60	.43
35F3204	S-904-1	⅝"x⅞"	.55	.39	.28
35F3205	S-904-3	⅝"x⅞"	.88	.62	.44
35F3206	S-905-1	1 1/16"x1⅛"	.57	.40	.29
35F3207	S-905-3	1 1/16"x1⅛"	.90	.63	.45
35F3208	S-906-1	¾" x 1⅜"	.61	.43	.31
35F3209	S-906-3	¾" x 1⅜"	1.07	.75	.54
35F3210	S-907-1	1 3/16 x 1¾"	.67	.47	.34
35F3211	S-907-3	1 3/16 x 1¾"	1.12	.79	.56
35F3212	S-1902-1L	⅝" x ½"	.86	.61	.43
35F3213	S-1902-21L	⅝" x ½"	.86	.61	.43
35F3214	S-1903-1L	⅝" x ¾"	.85	.60	.43
35F3215	S-1903-3L	⅝" x ¾"	1.18	.83	.59
35F3216	S-1904-1L	⅝" x ⅞"	.88	.62	.44
35F3217	S-1904-3L	⅝" x ⅞"	1.26	.88	.63

Stock No.	Type	Dimensions Ht.xDiam.	1-99	100-499	500-999
35F3218	S-1905-1L	1 1/16"x1¼"	.93	.66	.47
35F3219	S-1905-3L	1 1/16"x1⅛"	1.26	.88	.63
35F3220	S-1906-1L	¾"x1 3/8"	.99	.69	.50
35F3221	S-1906-3L	¾"x1 3/8"	1.44	1.00	.72
35F3222	S-1907-1L	1 3/16"x1¾"	1.08	.76	.54
35F3223	S-1907-3L	1 3/16"x1¾"	1.54	1.07	.77
35F3224	S-2902-1L	⅝"x½"	.90	.63	.45
35F3225	S-2902-21L	⅝"x½"	.90	.63	.45
35F3226	S-2903-1L	⅝"x¾"	.94	.66	.47
35F3227	S-2903-3L	⅝"x¾"	1.27	.89	.64
35F3228	S-2904-1L	⅝"x⅞"	.95	.67	.48
35F3229	S-2904-3L	⅝"x⅞"	1.28	.90	.64
35F3230	S-2905-1L	1 1/16"x1⅛"	.98	.69	.49
35F3231	S-2905-3L	1 1/16"x1⅛"	1.31	.92	.66
35F3232	S-2906-1L	¾"x1 3/8"	1.08	.76	.54
35F3233	S-2906-3L	¾"x1 3/8"	1.53	1.07	.77
35F3234	S-2907-1L	1 3/16"x1¾"	1.20	.84	.60
35F3235	S-2907-3L	1 3/16"x1¾"	1.65	1.16	.83

HARRY DAVIES

POINTER KNOBS

Black phenolic knobs for volume and tone controls. All have white indicator lines. Will fit ¼" shaft. *Brass insert. †2 oz. ‡1 oz.

Stock No.	Type	Fig.	Size In.	1-99	100-499	500-999
26F100	2300	AA‡	1¼	.16	.12	.11
26F101	2300*	AA‡	1¼	.22	.17	.15
26F102	2350*	BB‡	2	.34	.26	.24
26F103	2350	BB‡	2	.24	.18	.17
26F107	2150	A†	1¼	.20	.15	.14
26F115	1550	B†	1⅛	.20	.15	.14
26F116	1550*	B†	1⅛	.28	.21	.20
26F117	1500	C†	1⅛	.18	.14	.12
26F214	1510	C†	¾	.24	.18	.17

INSTRUMENT KNOBS

Black phenolic finger grip knobs for use on ¼" shafts. Complete with brass insert and set screw. Shpg. Wt., 3 oz.

Stock No.	Type	Fig.	Dia. Knob	1-99	100-499	500-999
26F014	4102	I	1⅝	.44	.33	.31
26F016	4100	I	1⅛	.38	.29	.27

KNOBS WITH SKIRTS

For use on ¼" shaft.

Stock No.	Type	Fig.	Dia. Skirt	1-99	100-499	500-999
26F022	4108	J	2 1/16"	.92	.69	.64
26F024	4104	J	1½"	.82	.62	.57

FINGER GRIP KNOBS

Finger Grip Knobs. Are Black phenolic fluted knobs for use on ¼" shafts. Set screw mounting. *Brass insert. Shpg. Wt., 1 oz.

Stock No.	Type	Fig.	Knob Size Dia.	Ht.	Hole Size	1-99	100-499	500-999
26F126	1910	G	¾"	½"	¼"-	.26	.20	.18
26F127	1910*	G	¾"	½"	¼"	.52	.39	.36
26F140	1914*	F	¾"	½"	¼"	.54	.41	.38
26F135	1919	H	1¼"	⅝"	¼"	.36	.27	.25
26F136	1919*	H	1¼"	⅝"	¼"	.46	.35	.32

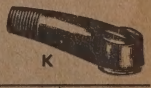
CONTROL KNOBS

Black phenolic knobs for all control and indicating uses. For ¼" shaft. Set screw furnished. Types 1470 and 1400 have molded pointers. Type 1610 has paint filled indicator lines on skirt. Wt. 1 oz.

Stock No.	Type	Fig.	Bot. Dia.	Hole Depth	1-99	100-499	500-999
26F110	1470	D	1"	7/16"	.22	.16	.15
26F109	1475	E	1"	7/16"	.20	.15	.14
26F123	1450	E	1 1/16"	1 1/32"	.12	.09	.08
26F122	1400	D	1 1/16"	1 1/32"	.12	.09	.08
26F120	1610	G	29/32"	7/16"	.22	.17	.15

LEVER KNOBS

Black phenolic lever knobs for any lever application. With metal pointer. Fit ¼" shaft. Furnished with set screw. *Brass insert. Meets Mil specs. Wt., 2 oz.



Stock No.	Type	Fig.	Size	1-99	100-499	500-999
26F111	2100*	K	2"	.32	.24	.22
26F112	2100	K	2½"	.24	.18	.17
26F113	2110*	K	1⅝"	.34	.26	.24
26F114	2110	K	1⅝"	.24	.18	.17

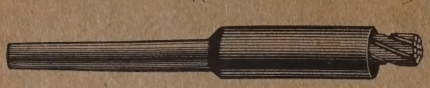
INSTRUMENT CASES

Made of molded plastic. They can be drilled out to take any type of instrument. Covers available for all cases. Wt. 1 lb. Inside dimensions (L x W x D). **260,** 6½ x 4 31/32 x 2 5/32"; **240,** 6 x 3½ x 1⅞"; **220,** 3 25/32 x 2 21/32 x 1 15/32"; **230,** 4¾ x 4 x 1⅝"; **280,** 8⅛ x 7⅛ x 2⅞".

Stock No.	Type	1-99	100-499	500-999
26F124	260	.97	.76	.70
26F125	240	.67	.52	.48
26F145	220	.41	.32	.30
06F700	230	.54	.42	.39
06F701	280	2.34	1.82	1.64
Covers for Cases.				
25F670	261 for 260	.73	.57	.53
25F669	241 for 240	.52	.41	.38
26F149	221 for 220	.15	.12	.11
06F702	231 for 230	.24	.19	.18
06F703	281 for 280	1.84	1.43	1.33

SPC technology

VOLTREX brand Tubing



A complete line of heat shrinkable tubing products from SPC Technology. UL Recognized for electronic/electrical use. Meets military specifications for MIL-I-23053B, MIL-I-7444, AMS-3632, MIL-I-631D.

E52331

QUICK-SCAN PROPERTY CHART

	PROPERTY	POLYOLEFIN FLEXIBLE	POLYOLEFIN SEMI-RIGID	PVC-105	KYNAR POLYVINYLIDENE	NEOPRENE	TEFLON
ELECTRICAL	DIELECTRIC STRENGTH	1300 VOLTS/MIL	1000 VOLTS/MIL	1000 VOLTS/MIL	1500 VOLTS/MIL	600 VOLTS/MIL	600 VOLTS/MIL
ELECTRICAL	DIELECTRIC CONSTANT	2.5 @ 1 MHZ MAX	2.5 @ 1 MHZ MAX	1.76 @ 1 KHZ	5.5 @ 1 MHZ MAX	9.0 @ 1 MHZ	2.1 @ 1 MHZ
ELECTRICAL	VOLUME RESISTIVITY	$1x10^{15}$ Ω-CM MIN	$3.25x10^{15}$ Ω-CM MIN	10^{13} Ω-CM MIN	$8.7x10^{13}$ Ω-CM MIN	10^{11} Ω-CM	$>10^{18}$ Ω-CM
PHYSICAL	SHRINKAGE—DIAMETRICAL	50%	50%	50%	50%	40-50%	30-50%
PHYSICAL	SHRINKAGE—LONGITUDINAL	5%	5%	20%	10%	10%	NONE
PHYSICAL	TENSILE STRENGTH	2400 PSI MIN	3200 PSI MIN	2800 PSI MIN	7900 PSI MIN	1500 PSI	2500-6000 PSI
PHYSICAL	SPECIFIC GRAVITY	1.20 GM/CM² MAX	1.35 GM/CM² MAX	1.63 GM/CM²	1.6 GM/CM² MAX	1.3	2.1-2.2 GM/CM²
PHYSICAL	OPERATING TEMPERATURE	—67°F TO +275°F	—67°F TO +275°F	—4°F TO +221°F	—67°F TO +347°F	—67°F TO +194°F	—275°F TO +500°F
PHYSICAL	SHRINK TEMPERATURE	205°F MIN 340°F-570°F Recom.	275°F MIN 340°F-480°F Recom.	200°F MIN 250°F Recom.	347°F MIN 462°F-662°F Recom.	275°F MIN 390°F-480°F Recom.	621
PHYSICAL	ABRASION RESISTANCE	GOOD	GOOD	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT
CHEMICAL	WATER ABSORPTION	0.2%	0.12%	NIL	0.2%	.5%	<0.01%
CHEMICAL	FLAMMABILITY	Colors Are Self-Ext. Clear Is Flammable	Colors Are Self-Ext. Clear Is Flammable	5 Sec. Flame Res. (MIL-I-631D)	Self-Extinguishing	Self-Extinguishing	NON
CHEMICAL	FUNGUS RESIST.	EXCELLENT	EXCELLENT	O (MIL-I-631D)	EXCELLENT	INERT	EXCELLENT
CHEMICAL	OIL RESISTANCE	GOOD	GOOD	95% Ret (ASTMD-922)	EXCELLENT	GOOD	EXCELLENT
CHEMICAL	ACID RESISTANCE	EXCELLENT	EXCELLENT	Generally Resistant to mild acids & alkalines, solvents, esters, waxes, and alcohol. Trial operation is recommended.	EXCELLENT	GOOD	EXCELLENT
CHEMICAL	ALKALI RESISTANCE	EXCELLENT	EXCELLENT		EXCELLENT	GOOD	EXCELLENT
CHEMICAL	SOLVENT RESISTANCE	EXCELLENT	EXCELLENT		EXCELLENT	GOOD	EXCELLENT
CHEMICAL	WEATHERABILITY	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT

TYPE FPS-VOLTREX FLEXIBLE POLYOLEFIN SHRINK TUBING

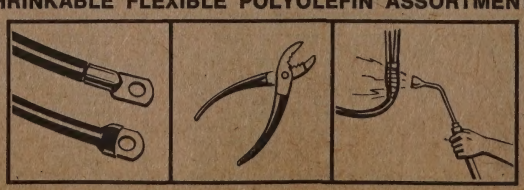
MIL-I-23053 B/5. Excellent gen. purpose heat shrinkable tubing offering the best price-performance trade-off. Highly resistant to fungus/chemicals. Shrinks to less than half of supplied diameter. Lengthwise shrinkage less than 5%. Shrinks uniformly. Perfect insulation cover. Does not cold flow. Split resistant. Colors: 4-ft. lgths — black, clear. 6-in lgths — black, blue, clear, red, white, yellow. Black 4-ft. lgths supplied marked in accordance with UL requirements.

Size	Recom. Usable ID Range	Recovered Nom.-Wall Thick.	4 Foot Lengths Stock No.	No. of Lengths	Total Footage	PER BOX 1-99	100-499	500-999	1000-4999	6-Inch Lengths Stock No.	No. of Lengths	Total Footage	PER BOX
3/64"	.025 to .042	.016	37N398	25	100 ft.	. . . .	17.80	15.20	13.20	37N1165	40	20 ft.	5.93
1/16"	.034 to .056	.017	37N399	25	100 ft.	. . . .	18.90	15.90	13.85	37N1166	36	18 ft.	
3/32"	.051 to .083	.020	37N401	25	100 ft.	. . . .	21.85	18.40	16.05	37N1168	32	16 ft.	
1/8"	.068 to .112	.020	37N403	25	100 ft.	. . . .	23.20	19.65	17.15	37N1170	28	14 ft.	
3/16"	.102 to .168	.020	37N404	25	100 ft.	. . . .	28.30	23.90	20.95	37N1171	24	12 ft.	5.93
1/4"	.138 to .225	.025	37N406	25	100 ft.	. . . .	35.70	30.00	26.25	37N1173	20	10 ft.	
3/8"	.206 to .338	.025	37N407	25	100 ft.	. . . .	39.60	33.30	29.10	37N1174	16	8 ft.	
1/2"	.275 to .450	.025	37N409	5	20 ft.	10.68	8.93	7.57	6.60	37N1176	14	7 ft.	
3/4"	.413 to .675	.030	37N411	5	20 ft.	14.23	11.97	10.10	8.81	37N1178	12	6 ft.	5.93
1"	.550 to .900	.035	37N413	5	20 ft.	19.93	16.82	14.14	12.32	37N1180	8	4 ft.	
1 1/2"	.825 to 1.35	.040	37N397	5	20 ft.	32.85	27.87	23.30	20.31	37N194	5	2.5 ft.	
2"	1.100 to 1.80	.045	37N395	5	20 ft.	45.35	38.25	32.16	28.04	37N195	3	1.5 ft.	

TYPE FPA — SHRINKABLE FLEXIBLE POLYOLEFIN ASSORTMENT

Packaged assortments of 6" lengths of flexible polyolefin tubing in various sizes and colors. Each length has diameter stamped on it for easy identification.

Stock No.	Tubing Size	Lengths Per Box	NET
37N1182	3/64"x3/16"	30	6.62
37N1183	1/4"-3/4"	16	13.23
37N1184	1"-4"	10	11.58



- Ideal for Research and Development
- Diameter Stamped on Each Length
- For Terminal Connections, Splices, Tool Handles

VOLTREX brand Tubing

SPC technology

E52331

TYPE SRS-VOLTREX SEMI-RIGID POLYOLEFIN SHRINK TUBING

MIL-I-23053 B/6. Superior cut-through and abrasion resistance. Provides mechanical protection, electrical/chemical insulation. Particularly suitable for applications requiring additional strength. Shrinks to less than 50% of supplied diameter in heat exceeding 275°F. Shrinks less than 5% in length. Tough protective covering. Color coding per size. 4-foot lengths marked in accordance with U.L. requirements.

Size	Color	Recom. Usable ID Range	Recovered Nominal-Wall Thickness	4-Foot Lengths			Per Box			6-Inch Lengths			Per Box
				Stock No.	No. of Lengths	Total Footage	1-499	500-999	1000-4999	Stock No.	No. of Lengths	Total Footage	
3/64"	Yellow	.025 to .042	.016	37N280	25	100 ft.	24.48	22.25	20.40	37N260	40	20 ft.	6.80
1/16"	White	.034 to .056	.017	37N281	25	100 ft.	25.68	23.35	21.40	37N261	36	18 ft.	6.80
3/32"	Blue	.051 to .083	.020	37N282	25	100 ft.	29.56	26.87	24.63	37N262	32	16 ft.	6.80
1/8"	Red	.068 to .112	.020	37N283	25	100 ft.	31.64	28.76	26.37	37N263	28	14 ft.	6.80
3/16"	Green	.102 to .168	.020	37N284	25	100 ft.	38.66	35.15	32.22	37N264	24	12 ft.	6.80
1/4"	Slate	.138 to .225	.025	37N285	25	100 ft.	48.20	43.82	40.17	37N265	20	10 ft.	6.80
3/8"	Brown	.206 to .338	.025	37N286	25	100 ft.	53.58	48.71	44.65	37N266	16	8 ft.	6.80

TYPE PVS-VOLTREX PVC-105 SHRINK TUBING

MIL-I-631D. MIL-I-7444B. Low cost, low shrink temperature and flexibility make Type PVS ideally suited for production insulation and jacketing of cables, bus bars, terminals, etc. Voltrex non-irradiated PVC has several distinct advantages over irradiated PVC: 125°F lower shrink temperature for less heat and shock, 30% shorter shrink time for increased production, 10% higher tensile strength for greater tear strength, negligible water absorption for less current leakage. When heated to a temperature exceeding 200°F, tubing shrinks to half its supplied diameter while shrinking less than 20% in length. Tubing stocked in spools as listed. All sizes through ½" diameter are air spooled. All PVC tubing marked in accordance with UL requirements. Color: black.

Size	Recom. Usable ID Range	Recov. Nom. Wall Thick.	Per Spool									Per 100' Spool		Per 25' Spool
			Stock No.	Spool Size	100-499	500-999	1000-4999	5000-9999	Stock No.	Spool Size	Per Spool	Stock No.	Stock No.	
3/64"	.028 to .038	.020	37N249WM	1000'	. . . .	. . . .	65.99	61.10	37N249WF	500'	38.13	37N249WA	8.86	37N249WC	2.84
1/16"	.038 to .053	.020	37N250WM	1000'	. . . .	. . . .	70.31	64.89	37N250WF	500'	40.29	37N250WA	9.45	37N250WC	3.05
3/32"	.053 to .075	.020	37N251WM	1000'	. . . .	. . . .	80.60	74.11	37N251WD	200'	22.28	37N251WA	10.82	37N251WC	3.48
1/8"	.075 to .106	.020	37N252WM	1000'	. . . .	. . . .	95.18	88.17	37N252WD	200'	24.14	37N252WA	12.08	37N252WC	3.68
3/16"	.106 to .150	.020	37N253WM	1000'	. . . .	. . . .	115.73	107.64	37N253WD	200'	29.38	37N253WA	14.69	37N253WC	4.46
1/4"	.150 to .215	.025	37N254WM	1000'	. . . .	. . . .	146.57	134.84	37N254WD	200'	37.25	37N254WA	18.63	37N254WC	5.67
3/8"	.215 to .300	.025	37N255WD	200'	41.13	35.59	32.23	29.65				37N255WA	20.56	37N255WC	6.25
1/2"	.300 to .425	.025	37N256WA	100'	23.34	20.29	18.39	16.92						37N256WC	7.09
3/4"	.425 to .600	.030	37N257WA	100'	31.27	27.16	24.58	22.61						37N257WC	9.45
1"	.600 to .800	.035	37N258WA	100'	45.02	39.10	35.39	32.56						37N258WC	13.64

TYPE KYS-VOLTREX KYNAR SHRINK TUBING

MIL-I-23053 B/8. AMS 3632B. Single best heat shrinkable tubing choice for applications involving extreme combinations of moisture, corrosive chemicals, strong solvents, oils, heat, stress, abrasion, high voltage and high mechanical strength. Voltrex Type KYS is a heat shrinkable tubing manufactured from poly-vinylidene fluoride with a thin wall and superior dielectric, abrasion, and cut-through properties. Kynar's stiffness makes this material an excellent strain relief, while the thin wall accommodates high density solder packs. Widely used as a component jacket for resistors and capacitors because of its superior flame resistance, thin wall and continuous operating temperature of 175°C. Color: clear. Kynar is a registered trade mark of Pennwalt Chemical Company. 4-foot lengths marked in accordance with U.L. requirements.

Size	Recom. Usable ID Range	Recovered Nom.-Wall Thick.	4-Foot Lengths			Per Box				6-Inch Lengths			Per Box
			Stock No.	No. of Lengths	Total Footage	1-99	100-499	500-999	1000-4999	Stock No.	No. of Lengths	Total Footage	
3/64"	.025 to .042	.016	37N1555	25	100 ft.	. . . .	39.86	36.24	33.22	37N165	32	16 ft.	6.73
1/16"	.034 to .056	.017	37N1556	25	100 ft.	. . . .	43.44	39.49	36.20	37N166	28	14 ft.	
3/32"	.051 to .083	.020	37N1557	25	100 ft.	. . . .	52.08	47.35	43.40	37N167	24	12 ft.	
1/8"	.068 to .112	.020	37N1558	25	100 ft.	. . . .	56.86	51.69	47.38	37N168	20	10 ft.	
3/16"	.102 to .168	.020	37N1559	25	100 ft.	. . . .	88.50	80.45	73.75	37N169	16	8 ft.	
1/4"	.138 to .225	.025	37N1560	25	100 ft.	. . . .	111.34	101.22	92.78	37N170	12	6 ft.	
3/8"	.206 to .338	.025	37N1561	25	100 ft.	. . . .	146.42	133.11	122.02	37N171	8	4 ft.	
1/2"	.275 to .450	.025	37N1562	5	20 ft.	48.36	43.52	39.56	36.27	37N172	4	2 ft.	
3/4"	.413 to .675	.030	37N1563	5	20 ft.	88.98	80.08	72.80	66.73	37N173	2	1 ft.	
1"	.550 to .900	.035	37N1564	5	20 ft.	163.58	147.22	133.84	122.68	37N174	1	0.5 ft.	

TYPE NPS-VOLTREX NEOPRENE SHRINK TUBING

MIL-I-23053 B/1. AMS 3623. MIL-R-46846A, Type 1 Class 1. Heat shrinkable Neoprene tubing particularly useful for fabrication and repair of flexible rubber harnesses and wire bundles and for hydraulic couplings. Its superior cut-thru and abrasion resistance allow its use in heavy duty applications such as drop lines, drag lines, and industrial equipment cable. Excellent oil resistance makes it ideal for automotive, helicopter and construction equipment industries. Excellent for environments having constant vibration, need for easy application, good flexibility at low temperatures, oil splashes or spills, drag or abrasion yet requiring good electrical properties and a watertight covering. Voltrex NPS is an ideal product selection. Color: black.

Size In.	Recom. Usable ID Range	Recovered Nom. Wall Thickness	Standard Spool Size	Stock No.	Price Per Standard Spool					25' Spool Stock No.	Price Per Spool
					1-199'	200-499'	500-999'	1000-4999'	5000-Up		
1/4	.157"- .225"	.035"	100'	37N414WA	208.89	188.00	170.91	156.67	140.30	37N414WC	53.23
3/8	.235"- .338"	.040"	100'	37N425WA	249.78	224.80	204.36	187.33	167.76	37N425WC	63.72
1/2	.315"- .450"	.048"	100'	37N416WA	277.77	250.00	227.27	208.33	186.57	37N416WC	70.83
5/8	.393"- .563"	.052"	100'	37N417WA	312.22	281.00	255.45	234.17	209.70	37N417WC	79.62
3/4	.471"- .675"	.057"	100'	37N418WA	347.33	312.60	284.18	260.50	233.28	37N418WC	88.53
7/8	.550"- .788"	.065"	100'	37N419WA	388.22	349.40	317.64	291.17	260.75	37N419WC	99.00
1	.627"- .900"	.070"	100'	37N420WA	423.56	381.20	346.55	317.67	284.48	37N420WC	108.01
1 1/4	.785"-1.125"	.087"	50'	37N421WB	293.67	264.30	240.27	220.25	197.24	37N421WC	149.70
1 1/2	.943"-1.350"	.095"	50'	37N426WB	343.00	308.70	280.64	257.25	230.38	37N426WC	174.93
1 3/4	1.100"-1.575"	.107"	50'	37N423WB	419.34	377.40	343.09	314.50	281.64	37N423WC	213.86
2	1.250"-1.800"	.110"	50'	37N427WB	487.78	439.00	399.09	365.84	327.61	37N427WC	248.77

VOLTREX brand Tubing

TYPE TTS-VOLTREX TEFLON SHRINK TUBING

- MIL-I-23053 B/12
- Type TFE Teflon
- Natural Color
- Excellent Strain Relief

Size	Recom. Usable ID Range Inches	Recov'd Nom. Wall Thick. (In.)	2-Foot Lengths Stock No.	No. of Lengths	Total Footage	Per Box
30	0.015 to 0.031	0.009	**37N1625**	50	100	**99.73**
28	0.018 to 0.034	0.009	**37N1626**	50	100	**97.78**
26	0.022 to 0.041	0.010	**37N1627**	50	100	**96.00**
24	0.027 to 0.045	0.010	**37N1628**	50	100	**76.78**
22	0.032 to 0.049	0.010	**37N1629**	50	100	**78.04**
20	0.039 to 0.054	0.012	**37N1630**	50	100	**79.11**
18	0.049 to 0.069	0.012	**37N1631**	50	100	**84.00**
16	0.061 to 0.084	0.012	**37N1632**	50	100	**88.31**
14	0.072 to 0.108	0.012	**37N1633**	50	100	**91.20**
12	0.089 to 0.135	0.012	**37N1634**	25	50	**50.27**
10	0.112 to 0.172	0.012	**37N1635**	25	50	**58.04**
8	0.141 to 0.216	0.015	**37N1636**	25	50	**100.31**
6	0.178 to 0.272	0.015	**37N1637**	10	20	**46.44**
4	0.224 to 0.333	0.015	**37N1638**	10	20	**25.29**
2	0.278 to 0.387	0.015	**37N1639**	10	20	**66.27**
0	0.347 to 0.423	0.015	**37N1640**	10	20	**80.04**

- Extreme Temperature Resistance
- Chemically Inert
- Non-flammable

Voltrex TTS Teflon shrink tubing is made of type TFE Teflon which has an operating temperature rating of 500°F. TTS's stiffness, combined with its chemical inertness makes it an excellent strain relief for high temperature electrical connections within contaminated environments. Upon the application of heat in excess of 621°F the tubing will recover to about half of its original supplied diameter, shrinking firmly around the object providing a permanent insulation covering. Color: Natural.

TYPE SRC — VOLTREX MOLDED POLYOLEFIN SHRINK CAPS

- Semi-rigid Polyolefin
- Abrasion Resistant and Flame Resistant
- Caps Shrink up to 50%
- Extremely Tough and Tight Fitting

Size	Stock No.	Color	Recom. Usable ID Range	Recovered Nom. Length	Recovered Nom.-Wall Thick.	Per Pkg. of 100 Pieces
1/8"	**37N1424**	Red	.068 to .112	1"	0.020"	**12.48**
1/4"	**37N1425**	Slate	.138 to .225	1 1/8"	0.025"	**16.80**
3/8"	**37N1427**	Brown	.206 to .338	1 5/16"	0.035"	**21.15**
1/2"	**37N1426**	Black	.275 to .450	1 1/2"	0.040"	**52.70**

Heat shrinkable semi-rigid polyolefin caps radiation cross-linked for excellent electrical/mechanical properties. Small/lightweight. Chemical resistant. Shrinkable with standard heat guns. Color coded according to size.

TYPE MLC-VOLTREX MOLDED POLYETHYLENE SHRINK CAPS
WITH MELTABLE LINER

- Easily Installed
- Resistant to Chemicals

Stock No.	Size In.	Recom. Usable I.D. Range (In.)	Nominal Length	Recovered Nom. Wall Thickness	Caps Per Pkg.	Per Pkg.
16N1067	3/16	.088- .144	1.000"	.040"	25	**26.52**
16N1068	1/4	.132- .225	1.100"	.050"	25	**31.07**
16N1069	3/8	.198- .324	1.300"	.060"	25	**34.85**
16N1070	1/2	.176- .351	1.300"	.080"	1	**2.64**
16N1071	1	.407- .900	3.500"	.080"	1	**5.04**
16N1072	2	.825-1.800	4.500"	.100"	1	**6.60**
16N1073	3	1.375-2.700	7.000"	.110"	1	**11.40**

Crosslinked heat-shrinkable polyolefin caps. Easily installed with standard heat gun or torch with temperature in excess of 276°F. Excellent electrical and mechanical protection. Unaffected by most corrosive fuels, fluids and chemicals. On shrinking, an inner adhesive liner will melt and bond to the cable jacket to provide an environmental seal for telecommunication and power cables, pipes or other cylindrical objects. Color: Black.

TYPE HST-VOLTREX HEAT SHRINKABLE TAPE

- Reliable Connections
- Two Layers
- Inner Meltable Liner
- Color Black

Stock No.	Tape Width	Nominal Backing Thickness	Nominal Adhesive Thickness	Net Per Roll 1-9	10-19	20-99
16N1074	3/4"	.010"	.005"	**12.75**	**10.59**	**9.28**
16N1075	3/4"	.010"	.015"	**12.75**	**10.59**	**9.28**
16N1076	1 1/2"	.010"	.005"	**25.35**	**21.18**	**18.53**
16N1077	1 1/2"	.010"	.015"	**25.35**	**21.18**	**18.53**
16N1078	3"	.010"	.005"	**50.55**	**41.80**	**36.36**
16N1079	3"	.010"	.015"	**50.55**	**41.80**	**36.36**

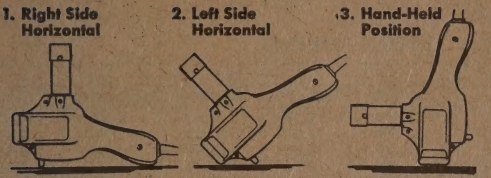
When taping is necessary as in the case of a working line, HST is the most reliable choice for long life and superior electrical properties. This two layered tape puts the correct amount of tension all around the joint automatically. No extra techniques or training needed. The inner meltable liner adheres to almost all clean surfaces for positive moisture protection. Color: black. 54 ft. rolls.

VOLTREX brand Tubing

SPC technology

WHISPER "6" HIGH-TEMPERATURE HEAT GUN

6-POSITION SET-UP



- Flameless
- Whisper Quiet
- Hi-temp—1000°F at Nozzle

$37.95 Each

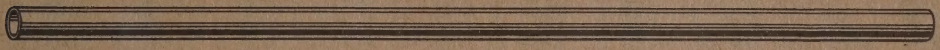
Whisper—"6" Voltrex hi-temperature heat gun. Flameless. Specially designed for shrinking Voltrex tubing and for general heat shrink applications. Whisper quiet. Light weight. Noise level: R.F.—none; audible—none. Reduces operator fatigue; increases production. Preferred over noisy, air-blast types for day-in, day-out use. Reaches 1000°F at nozzle (measured with thermocouple). Shrinks full range of tubing types, including Teflon. Can be instantly set up in 6 positions without a stand. Safer and easier to use. Controlled heat path permits positioning hands close to side of nozzle end without burning fingers. Assures precision control of the shrinking process.

37N1447 ..... Each **37.95**

37N1448. Replacement heat element ..... Each **4.21**

TYPE PVI-VOLTREX PVC-105 INSULATING TUBING

E52331



MIL-I-631D. MIL-I-7444B. Flexibility, abrasion resistance, and low cost make Voltrex PVC-105 an excellent general purpose insulating tubing. Non-flammable. FR-1 rated. See chart on page 472 for complete listing of properties. No. 24 thru ⅝" tubing stocked in 100' spools. ¾" thru 2½" tubing stocked in 50' spools. All marked in accordance with UL requirements. Colors: Black, white and clear in sizes No. 24 thru 1"; black and clear in sizes 1⅛" thru 2½".

Size	Stock No.	Inside Diameter			Wall Thickness		Per 100 Ft. Spool			
		Nominal	Max.	Min.	Nominal	±	1-499'	500-999'	1000-4999'	5000-9999'
24	37N600	0.022"	0.027"	0.020"	0.012"	0.002"	6.20	4.13	3.65	3.27
22	37N601	0.027"	0.032"	0.025"	0.012"	0.002"	6.30	4.20	3.71	3.32
20	37N602	0.034"	0.039"	0.032"	0.016"	0.003"	6.40	4.27	3.76	3.37
19	37N707	0.038"	0.044"	0.036"	0.016"	0.003"	6.50	4.33	3.82	3.42
18	37N603	0.042"	0.049"	0.040"	0.016"	0.003"	6.65	4.43	3.91	3.50
17	37N706	0.047"	0.055"	0.045"	0.016"	0.003"	6.75	4.50	3.97	3.55
16	37N604	0.053"	0.061"	0.051"	0.016"	0.003"	6.90	4.60	4.06	3.63
15	37N705	0.059"	0.066"	0.057"	0.016"	0.003"	7.00	4.67	4.12	3.68
14	37N605	0.066"	0.072"	0.064"	0.016"	0.003"	7.15	4.77	4.21	3.76
13	37N704	0.076"	0.080"	0.072"	0.016"	0.003"	7.40	4.93	4.35	3.89
12	37N606	0.085"	0.089"	0.081"	0.016"	0.003"	7.90	5.27	4.65	4.16
11	37N703	0.095"	0.101"	0.091"	0.016"	0.003"	8.35	5.57	4.92	4.40
10	37N607	0.106"	0.112"	0.102"	0.016"	0.003"	8.85	5.90	5.21	4.66
9	37N702	0.118"	0.124"	0.114"	0.020"	0.003"	9.45	6.30	5.56	4.97
8	37N608	0.133"	0.141"	0.129"	0.020"	0.003"	9.90	6.60	5.82	5.21
7	37N701	0.148"	0.158"	0.144"	0.020"	0.003"	10.20	6.80	6.00	5.37
6	37N609	0.166"	0.178"	0.162"	0.020"	0.003"	10.70	7.13	6.29	5.63
5	37N700	0.186"	0.198"	0.182"	0.020"	0.003"	11.20	7.47	6.59	5.89
4	37N610	0.208"	0.224"	0.204"	0.020"	0.003"	11.80	7.87	6.94	6.21
3	37N1438	0.234"	0.249"	0.229"	0.020"	0.003"	12.65	8.43	7.44	6.66
2	37N611	0.263"	0.278"	0.258"	0.020"	0.003"	13.65	9.10	8.03	7.18
1	37N1439	0.294"	0.311"	0.289"	0.020"	0.003"	14.70	9.80	8.65	7.74
5/16"	37N612	0.313"	0.334"	0.313"	0.025"	0.003"	18.75	12.50	11.03	9.87
0	37N613	0.330"	0.347"	0.325"	0.020"	0.003"	16.05	10.70	9.44	8.45
3/8"	37N614	0.375"	0.399"	0.375"	0.025"	0.003"	21.40	14.27	12.59	11.26
7/16"	37N1440	0.438"	0.462"	0.438"	0.025"	0.003"	20.75	13.83	12.21	10.92
1/2"	37N615	0.500"	0.524"	0.500"	0.025"	0.003"	23.50	15.67	13.82	12.37
9/16"	37N1441	0.563"	0.585"	0.563"	0.025"	0.003"	31.00	20.67	18.24	16.32
5/8"	37N616	0.625"	0.655"	0.625"	0.030"	0.003"	33.90	22.60	19.94	17.84
							Per 50 Ft. Spool			
3/4"	37N617	0.750"	0.786"	0.750"	0.035"	0.005"	23.20	15.47	13.65	12.21
7/8"	37N618	0.875"	0.911"	0.875"	0.035"	0.005"	26.30	17.53	15.47	13.84
1"	37N619	1.000"	1.036"	1.000"	0.035"	0.005"	29.20	19.47	17.18	15.37
1 1/8"	37N1572	1.125"	1.163"	1.125"	0.040"	0.005"	38.15	25.43	22.44	20.08
1 1/4"	37N1573	1.250"	1.290"	1.250"	0.040"	0.005"	41.15	27.43	24.21	21.66
1 3/8"	37N1574	1.375"	1.420"	1.375"	0.045"	0.006"	44.70	29.80	26.29	23.53
1 1/2"	37N1575	1.500"	1.550"	1.500"	0.045"	0.006"	55.00	36.67	32.35	28.95
1 3/4"	37N1576	1.750"	1.812"	1.750"	0.055"	0.008"	70.45	49.97	41.44	37.08
2"	37N1577	2.000"	2.070"	2.000"	0.060"	0.010"	97.80	65.20	57.53	51.47
2 1/4"	37N1578	2.250"	2.330"	2.250"	0.065"	0.012"	117.05	78.03	68.85	61.61
2 1/2"	37N1579	2.500"	2.590"	2.500"	0.070"	0.014"	140.25	93.50	82.50	73.82

SPC technology

VOLTREX brand Tubing

TEFLON INSULATING TUBING

AMS-3655A-3653C

Extremely high operating temperature range and chemical inertness make Voltrex Teflon insulating tubing unparalleled by any other material in electrical applications. Will not crack or become brittle. Remains flexible throughout entire operating temp. range. Available in thin wall, allowing miniaturization and compactness.

Also available in standard wall (next page) where extra dielectric or mechanical strength are required. Stocked in 100′ spools. Other spool sizes and tubing cut to length available on special order. Color: Natural. *DuPont Registered Trademark.

TYPE TTI-VOLTREX THIN-WALL TEFLON TUBING

Size	Stock No.	Inside Diameter			Wall Thickness		Per 100 Ft. Spool				
		Nominal	Max.	Min.	Nominal	±	100-199′	200-499′	500-999′	1000-4999′	5000-9999′
30	37N488	0.012″	0.015″	0.010″	0.009″	0.002″	13.13	10.50	9.55	8.75	7.84
28	37N489	0.015″	0.019″	0.013″	0.009″	0.002″	13.75	11.00	10.00	9.17	8.21
26	37N490	0.018″	0.022″	0.016″	0.009″	0.002″	15.00	12.00	10.91	10.00	8.96
24	37N491	0.022″	0.027″	0.020″	0.010″	0.002″	15.95	12.76	11.60	10.63	9.52
22	37N492	0.028″	0.032″	0.025″	0.010″	0.002″	16.58	13.26	12.05	11.05	9.90
20	37N493	0.034″	0.040″	0.032″	0.012″	0.003″	20.33	16.26	14.78	13.55	12.13
18	37N494	0.042″	0.049″	0.040″	0.012″	0.003″	22.50	18.00	16.36	15.00	13.43
16	37N495	0.053″	0.061″	0.051″	0.012″	0.003″	23.75	19.00	17.27	15.83	14.18
14	37N496	0.066″	0.074″	0.064″	0.012″	0.003″	27.80	22.24	20.22	18.53	16.60
12	37N481	0.085″	0.091″	0.081″	0.012″	0.003″	34.38	27.50	25.00	22.92	20.52
10	37N482	0.106″	0.112″	0.102″	0.012″	0.003″	41.88	33.50	30.45	27.92	25.00
8	37N483	0.133″	0.141″	0.129″	0.015″	0.004″	51.88	41.50	37.72	34.58	30.93
6	37N484	0.166″	0.178″	0.162″	0.015″	0.004″	61.88	49.50	45.00	41.25	36.94
4	37N485	0.208″	0.224″	0.204″	0.015″	0.004″	74.70	59.76	54.33	49.80	44.60
2	37N486	0.263″	0.278″	0.258″	0.015″	0.004″	99.70	79.76	72.51	66.47	59.52
0	37N487	0.330″	0.347″	0.325″	0.015″	0.004″	125.00	100.00	90.91	83.33	74.63

TYPE TSI — STANDARD WALL TEFLON TUBING

Size	Stock No.	Inside Diameter			Wall Thickness		Per 100 Ft. Spool				
		Nominal	Max.	Min.	Nominal	±	100-199′	200-499′	500-999′	1000-4999′	5000-9999′
24	37N1580	0.022″	0.027″	0.020″	0.012″	0.002″	18.13	14.50	13.18	12.08	10.82
22	37N1581	0.028″	0.032″	0.025″	0.012″	0.002″	18.45	14.76	13.42	12.30	11.01
20	37N1582	0.034″	0.040″	0.032″	0.016″	0.003″	25.00	20.00	18.18	16.67	14.93
19	37N1583	0.038″	0.044″	0.036″	0.016″	0.003″	26.25	21.00	19.09	17.50	15.67
18	37N1584	0.042″	0.049″	0.040″	0.016″	0.003″	26.58	21.26	19.33	17.72	15.87
17	37N1585	0.047″	0.054″	0.045″	0.016″	0.003″	28.13	22.50	20.45	18.75	16.79
16	37N1586	0.053″	0.061″	0.051″	0.016″	0.003″	29.38	23.50	21.36	19.58	17.54
15	37N1587	0.059″	0.067″	0.057″	0.016″	0.003″	31.25	25.00	22.73	20.83	18.67
14	37N1588	0.066″	0.074″	0.064″	0.016″	0.003″	33.45	26.76	24.33	22.30	19.97
13	37N1589	0.076″	0.082″	0.072″	0.016″	0.003″	37.20	29.76	27.05	24.80	22.21
12	37N1590	0.085″	0.091″	0.081″	0.016″	0.003″	40.33	32.26	29.33	26.88	24.07
11	37N1591	0.095″	0.101″	0.091″	0.016″	0.003″	44.70	35.76	32.51	29.80	26.69
10	37N1592	0.106″	0.112″	0.102″	0.016″	0.003″	49.70	39.76	36.15	33.13	30.67
9	37N1593	0.118″	0.124″	0.114″	0.020″	0.004″	57.50	46.00	41.83	38.33	34.33
8	37N1594	0.133″	0.141″	0.129″	0.020″	0.004″	61.25	49.00	44.55	40.83	36.57
7	37N1595	0.148″	0.158″	0.144″	0.020″	0.004″	71.88	57.50	52.27	47.92	42.91
6	37N1596	0.166″	0.178″	0.162″	0.020″	0.004″	79.38	63.50	57.73	52.92	47.39
5	37N1597	0.186″	0.198″	0.182″	0.020″	0.004″	85.63	68.50	62.27	57.08	51.12
4	37N1598	0.208″	0.224″	0.204″	0.020″	0.004″	94.70	75.75	68.87	63.13	56.54
3	37N1599	0.234″	0.249″	0.229″	0.020″	0.004″	107.83	86.26	78.42	71.88	64.37
2	37N1600	0.263″	0.278″	0.258″	0.020″	0.004″	119.08	95.26	86.60	79.38	71.09
1	37N1601	0.294″	0.311″	0.289″	0.020″	0.004″	134.70	107.76	97.96	89.80	80.42
0	37N1602	0.330″	0.347″	0.325″	0.020″	0.004″	149.08	119.26	108.42	99.38	89.00

SPECIAL REQUIREMENT TUBING

E52331

The items listed in the previous tables are those that are stocked in depth at Newark. Other colors, put-ups, sizes, materials and tubing pre-cut to your specified length are also available within reasonable lead times. Contact your nearest Newark office with your special tubing requirements for prompt price and delivery information. Voltrex brand tubing is recognized under the components recognition program of Underwriters Laboratories E52331. **Pre-Cut Tubing.** The table below indicates the tolerances to which SPC Technology can furnish pre-cut tubing for various lengths and diameters.

Length Tolerance (Inches)	.046-.375″ Diameter Cut to Length of						.376-.500″ Diameter Cut to Length of						.501-2.00″ Diameter Cut to Length of					
	0.10 to 0.99	1.00 to 1.99	2.00 to 2.99	3.00 to 3.99	4.00 to 8.99	9.00 to 12.00	0.10 to 0.99	1.00 to 1.99	2.00 to 2.99	3.00 to 3.99	4.00 to 8.99	9.00 to 12.00	0.10 to 0.99	1.00 to 1.99	2.00 to 2.99	3.00 to 3.99	4.00 to 8.99	9.00 to 12.00
± .020	X	X					X						X					
± .031	X	X					X						X					
± .062		X	X	X	X		X	X	X				X	X	X	X		
± .125			X	X	X	X		X	X	X	X			X	X	X	X	
± .250						X				X	X	X					X	X

VOLTREX TUBING KIT

Includes 18-6″ lgths of PVC-105 in 9 sizes, 3/64″ to 3/4″ dia. 20-6″ lgths flexible Polyolefin in 9 sizes from 3/64″ to 3/4″. 12-6″ lgths semi-rigid Polyolefin in 7 sizes from 3/64″ to 3/8″. 14-6″ lgths Kynar in 7 sizes from 3/64″ to 3/8″. Plus 12-6″ lgths Teflon. 20 molded caps. Case.

371436. Standard Tubing Kit.....Each **29.95**

FREE CATALOG!

Free 32 page Voltrex Brand tubing catalog and engineering manual. Contains charts, tables, application data, etc. A complete reference manual for the tubing user. Contact Newark for your copy.

Cable Index and Communications

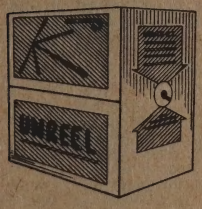
BELDEN

HANDY INDEX

Mfr. No.	Page	Mfr. No.	Page	Mfr. No.	Page	Mfr. No.	Page	Mfr. No.	Page	Mfr. No.	Page	Mfr. No.	Page	Mfr. No.	Page	Mfr. No.	Page	Mfr. No.	Page	Mfr. No.	Page
8021	487	8279	488	8447	478	8505	484	8676	486	8765	480	8919	485	9462	477	9576	481	9876	480	83025	486
8022	487	8280	488	8448	478	8509	484	8677	487	8766	480	8920	485	9466	479	9585	480	9877	480	83026	486
8023	487	8281	488	8449	478	8520	485	8700	482	8767	480	9250	482	9467	479	9620	478	9878	480	83027	486
8024	487	8286	488	8450	477	8521	485	8701	478	8768	480	9251	483	9468	479	9621	478	9879	480	83028	486
8025	487	8299	488	8451	477	8522	485	8718	477	8769	480	9252	483	9469	479	9622	478	9883	482	83029	486
8047	481	8401	479	8452	484	8523	485	8719	477	8770	478	9259	483	9470	479	9623	478	9886	482	83030	486
8048	481	8402	478	8453	484	8524	485	8720	477	8771	478	9259	484	9476	479	9626	478	9888	482	83041	486
8049	481	8403	479	8454	484	8525	485	8722	480	8772	478	9260	483	9477	479	9708	484	9889	482	83043	486
8050	481	8404	479	8456	478	8527	485	8723	480	8773	480	9261	483	9478	479	9720	485	9890	482	83045	486
8051	481	8405	479	8457	478	8528	485	8724	480	8774	480	9264	483	9479	479	9722	485	9894	482	83046	486
8052	481	8406	478	8458	478	8529	485	8725	482	8775	480	9268	482	9480	479	9744	481	9909	485	83047	486
8053	481	8407	478	8459	478	8530	485	8728	480	8776	480	9268	483	9481	479	9745	481	9910	485	83049	486
8073	481	8408	478	8460	481	8601	479	8732	480	8777	480	9269	482	9482	479	9746	481	9912	485	83241	483
8074	481	8409	479	8461	481	8602	479	8733	480	8778	480	9269	483	9483	479	9747	481	9918	485	83242	483
8075	481	8411	479	8462	484	8603	479	8734	480	8780	477	9271	482	9484	479	9748	481	9920	485	83264	483
8076	481	8412	478	8465	478	8618	478	8735	478	8781	484	9272	482	9485	479	9749	481	9922	485	83265	483
8077	481	8413	478	8466	478	8619	478	8737	477	8782	484	9273	483	9499	479	9768	480	9924	485	83266	483
8078	481	8415	479	8467	478	8620	478	8739	477	8783	480	9302	482	9501	482	9769	480	9951	483	83284	483
8079	481	8416	484	8468	478	8621	478	8740	481	8786	480	9305	482	9502	482	9770	478	9952	483	83315	486
8205	481	8417	484	8469	478	8622	478	8741	481	8790	477	9306	482	9503	482	9773	480	9953	483	83316	486
8208	477	8418	478	8470	481	8627	478	8742	481	8791	478	9309	482	9504	482	9774	480	9954	483	83317	486
8212	483	8419	484	8471	481	8640	482	8743	481	8795	479	9315	482	9505	482	9775	480	9961	483	83318	486
8213	483	8420	479	8472	484	8641	477	8744	481	8796	479	9319	482	9506	482	9776	480	9962	483	83319	486
8214	483	8421	484	8473	481	8643	478	8745	481	8816	487	9327	482	9507	482	9777	480	9963	483	83320	486
8216	483	8422	479	8474	484	8649	484	8746	481	8822	487	9415	479	9508	482	9784	482	9964	483	83321	486
8218	483	8423	478	8475	477	8655	486	8747	481	8823	487	9416	479	9509	482	9794	479	9965	483	83322	486
8219	483	8424	478	8477	481	8656	486	8748	481	8824	487	9417	479	9510	482	9818	485	9966	483	83330	486
8221	483	8425	478	8478	484	8657	486	8749	481	8825	487	9430	478	9515	482	9820	485	9967	483	83331	486
8227	482	8426	478	8479	484	8658	486	8750	481	8866	488	9431	478	9525	482	9822	485	9968	483	83332	486
8237	483	8427	478	8481	481	8659	486	8751	481	8868	488	9432	478	9530	487	9824	485	9975	485	83333	486
8238	483	8428	478	8482	481	8660	486	8752	481	8869	488	9435	484	9531	487	9826	485	9976	485	83334	486
8240	483	8429	484	8488	481	8661	486	8753	481	8870	488	9436	484	9550	482	9828	485	9977	485	83335	486
8241	483	8430	484	8489	481	8662	486	8754	481	8878	487	9440	479	9561	480	9851	485	9978	485	83336	486
8242	483	8431	484	8490	479	8663	486	8755	481	8879	487	9441	479	9561	481	9852	485	83000	485	83337	486
8254	483	8434	480	8491	479	8668	486	8756	481	8888	484	9442	479	9562	480	9855	485	83001	485	83393	486
8255	483	8437	477	8495	479	8669	486	8757	481	8890	487	9443	479	9562	481	9860	485	83002	485	83394	486
8259	483	8441	477	8497	479	8670	486	8759	477	8897	487	9444	478	9566	480	9863	485	83003	485	83395	486
8261	483	8442	481	8499	479	8671	486	8760	477	8898	487	9445	478	9566	481	9865	485	83004	485	83396	486
8262	483	8443	478	8500	484	8672	486	8761	477	8899	487	9454	484	9568	480	9867	488	83005	485		
8263	483	8444	478	8501	484	8673	487	8762	477	8916	485	9455	478	9568	481	9873	480	83006	485		
8267	483	8445	478	8502	484	8674	486	8763	480	8617	485	9457	478	9570	480	9874	480	83007	485		
8268	483	8446	478	8503	484	8675	487	8764	480	8618	485	9458	478	9570	481	9875	480	83008	485		
				8504	484													83023	486		

See page 489 for power cord index.

BELDEN'S EXCLUSIVE UNREEL

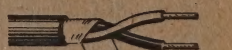


Keeps wire stock clean, tangle-free and ready for use. Dispensing action is fast and smooth. Wire cannot overrun or backlash when pulled out of the carton. No heavy metal reels to lift or store. UNREEL is lightweight, easy to ship, receive, stock and use. Saves space. Eliminates need for compensators, powered let-offs or tensioning devices. Sets quickly with automatic wire processing equipment. Provides direct machine feed. Saves time and labor. Wire feeds out smoothly through port in carton. Can be pulled out from any angle without friction, twisting or wire damage. Just pull, measure and cut lengths you need. One disposable corrugated carton does it all. Ships, stores and dispenses wire. Zip-out window shows how much wire is left in carton at all times. **Type 8701.** Solid tinned copper, .016" vinyl insulation, parallel. **Type 8745.** Bonded parallel conductor construction, stranded bare copper with .023 inch vinyl insulation.

2-CONDUCTOR CABLES—VINYL PLASTIC

Broadcast cable; tinned copper; conductors cabled; black vinyl jacket. *Miniature type broadcast audio cable occupies ½ to ⅔ less space than required by Standard Broadcast Audio Cables. BELDFOIL shield combines high cable reliability with ease of termination. Polypropylene insulated. Stranded tinned copper ground drain wire and paper wrap. Type-8437 has solid tinned copper drain wire; 8441 has stranded tinned copper drain wire. Both are vinyl insulated and have tinned copper braid shield. USES: Communication, sound, broadcast audio, instrumentation, etc. where shield is required. Tinned copper; chrome vinyl jacket. Have BELDFOIL aluminum-polyester shield, stranded tinned copper, ground drain wire, except which has tinned copper spiral wrapped shield and vinyl insulation, † has braided tinned-copper shield and rubber insulation. Vinyl jacket.

Type No.	AWG	Nom. O.D.	Work Volt	Stk. No.	NET per 100′	Stk. No.	250′	Stk. No.	500′	Stk. No.	1000′
8450*	22 Solid	.118″	200	36F028WA	8.00	36F028WE	12.40	36F028WF	24.75	36F028WM	49.45
8451*	22 Strd.	.135″	200	36F029WA	8.55	36F029WE	14.40	36F029WF	28.80	36F029WM	57.60
8437	22 Solid	.200″	200					36F093WF	41.65	36F093WM	83.25
8441	22 Strd.	.210″	200	36F036WA	12.10			36F036WF	45.60	36F036WM	91.20
9462	22 Strd.	.174″	300	36F1112WA	9.30			36F1112WF	30.40	36F1112WM	60.75
8641	24 Strd.	.160″	350	36F157WA	7.30			36F157WF	25.45	36F157WM	50.85
8761	22 Strd.	.167″	350					36F165WF	26.10	36F165WM	52.20
8762	20 Strd.	.196″	350	36F166WA	9.40	36F166WE	16.45	36F166WF	32.80	36F166WM	65.55
8760	18 Strd.	.222″	450			36F164WE	19.65	36F164WF	39.30	36F164WM	78.60
8719	16 Strd.	.274″	600					36F1092WF	58.20	36F1092WM	116.40
8720	14 Strd.	.340″	750					36F1093WF	88.65	36F1093WM	177.30
8718	12 Strd.	.400″	1000					36F1091WF	133.20	36F1091WM	266.40
8739†	22 Solid	.160″	350	36F081WA	8.00			36F081WF	28.75	36F081WM	57.45
8737†	22 Strd.	.170″	350	36F084WA	8.55	36F084WE	15.85	36F084WF	31.65	36F084WM	63.30
8759†	20 Strd.	.195″	350	36F085WA	10.80			36F085WF	37.15	36F085WM	74.25
8780†	16 Strd.	.266″	450	36F106WA	16.80			36F106WF	63.30	36F106WM	126.60
8790†	18 Strd.	.231″	450	36F107WA	13.40	36F107WE	24.55	36F107WF	49.00	36F107WM	97.95
8208†	18 Strd.	.255″	200	36F195WA	17.25			36F195WF	65.05	36F195WM	130.05



BELDEN Microphone and Conductor Cable

3 CONDUCTOR, SHIELDED CABLES—VINYL PLASTIC

Chrome vinyl jacket; polyethylene insulation with BELDFOIL shield, except (*) braided shield, vinyl insulated (**) spiral shield. USES: Shielded instrumentation, sound, strain gage, communication, etc.

8770

Type	A.W.G.	Nom. O.D.	Work Volt.	Stock No.	100 Ft.	Stock No.	250 Ft.	Stock No.	500 Ft.	Stock No.	1000 Ft.
8618	16 Strd.	.300″	600					36F1360WF	77.85	36F1360WM	155.70
8735*	22 Strd.	.199″	350	35F083WA	11.85			36F083WF	42.75	36F083WM	85.50
8771	22 Strd.	.175″	350			36F168WE	16.45	36F168WF	32.80	36F168WM	65.55
9770	22 Strd.	.145″	200			36F1083WE	18.45	36F1083WF	36.85	36F1083WM	73.65
8772	20 Strd.	.200″	350					36F169WF	41.40	36F169WM	82.80
8770	18 Strd.	.236″	450					36F167WF	52.75	36F167WM	105.45
8791**	18 Strd.	.236″	450	36F135WA	16.45				62.05	36F135WM	124.05
8643*	30 Strd.	.086″	200	36F136WA	13.95	36F1361WE	27.75				

THREE CONDUCTOR UNSHIELDED

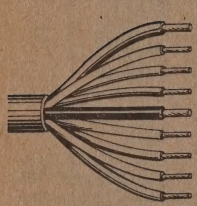
Type 8701 is solid tinned copper; .016″ vinyl insulation thickness; parallel. Type 8475 has bonded parallel conductor construction, stranded bare copper with .023 inch thick vinyl insulation. Type 8443 is tinned copper; .010″ thick vinyl insulation; cabled; has chrome vinyl jackets. USES: Communication and control cables.

8701

Type	AWG & Cond.	Nom. O.D.	Work Volt.	Stock No.	25′	Stock No.	100′	Stock No.	250′	Stock No.	500′	Stock No.	1000′
8701	22-3	.190″	100			36F134WA	5.05			36F134WF	15.85	36F134WM	31.65
8443	22-3	.150″	200	36F040WC	2.42	36F040WA	6.40	36F040WE	11.05	36F040WF	22.05	36F040WM	44.10

MULTIPLE CONDUCTOR CABLES—NOT PAIRED

Stranded tinned copper conductors, color-coded, vinyl plastic insulated, with jacket overall. Voltage ratings: 22 AWG types, 200V; 18 types, 400V; 16 types, 600V. Available only in spool sizes listed. USES: Audio, control cables, communication.



8446 8448
8447 8449

Type	AWG & Cond.	Nom. O. D.	Lbs. 100′	Stock No.	25′	Stock No.	100′	Stock No.	250′	Stock No.	500′	Stock No.	1000′
8444	22-4	.168″	2¼	36F041WC	2.77	36F041WA	8.50	36F041WE	15.10	36F041WF	30.10	36F041WM	60.15
8445	22-5	.180″	2½	36F042WC	3.35	36F042WA	9.90	36F042WE	18.00	36F042WF	35.95	36F042WM	71.85
8446	22-4, 18-2	.222″	4			36F043WA	14.35	36F043WE	26.85	36F043WF	53.65	36F043WM	107.25
8447	22-5, 18-2	.246″	4¾			36F044WA	17.10	36F044WE	31.30	36F044WF	62.55	36F044WM	125.10
8448	22-6, 18-2	.250″	5			36F045WA	18.05	36F045WE	34.05	36F045WF	68.10	36F045WM	136.20
8449	22-7, 18-2	.261″	5¼			36F046WA	19.10	36F046WE	36.85	36F046WF	73.60	36F046WM	147.15
9430	22-7	.200″	3¼							36F1819WF	45.40	36F1819WM	90.75
8488	22-8	.205″				36F056WA	11.90			36F056WF	45.10	36F056WM	90.15
8456	22-10	.260″	5			36F200WA	19.20			36F200WF	74.35	36F200WM	148.65
8457	22-12	.260″	5½			36F201WA	21.65			36F201WF	84.55	36F201WM	169.05
8458	22-15	.320″	8			36F198WA	29.35			36F198WF	130.15	36F198WM	260.25
9431	22-20	.345″	7½							36F1084WF	168.25	36F1085WM	336.45
8459	22-25	.370″	11½			36F199WA	45.90			39F199WF	210.25	36F199WM	420.45
9432	22-30	.400″	13½							36F1085WF	241.45	36F1085WM	482.85
9444	20-4	.208″	6½			36F1086WA	10.50			36F1086WF	39.55	36F1086WM	79.05
9445	20-5	.230″	8			36F1087WA	12.80			36F1087WF	47.95	36F1087WM	95.85
9455	20-9	.310″	6¾			36F1088WA	22.70			36F1088WF	87.45	36F1088WM	174.90
9457	20-12	.330″	8			36F1089WA	25.00			36F1089WF	109.80	36F1089WM	219.60
9458	20-15	.380″	10			36F1090WA	31.35			36F1090WF	146.25	36F1090WM	292.50
8489	18-4	.250″				36F002WA	15.60	36F002WE		36F002WF	58.75	36F002WM	117.45
8465	18-5	.286″	6			36F1017WA	19.20	36F1017WE	37.45	36F1017WF	74.85	36F1017WM	149.70
8467	18-7	.324″	8½			36F1018WA	25.00	36F1018WE	49.45	36F1018WF	98.80	36F1018WM	197.55
8469	18-9	.379″	10¼			36F1019WA	28.20	36F1019WE	65.55	36F1019WF	131.10	36F1019WM	262.20
8466	18-12	.412″	13½			36F144WA	38.85	36F144WE	93.90	36F144WF	187.80	36F144WM	375.60
8468	18-15	.490″	18			36F145WA	52.95			36F145WF	249.40	36F145WM	498.75
8619	18-25	.600″	28							36F1351WF	295.00	36F1351WM	590.00
9626	18-19	.505″	20							36F1099WF	379.65	36F1099WM	760.00
8620	16-4	.375″	8			36F146WA	24.15			36F146WF	97.15	36F146WM	194.25
9620	16-5	.405″	11¼			36F1095WA	27.30			36F1095WF	113.80	36F1095WM	227.55
8621	16-7	.455″	13			36F147WA	38.35			36F147WF	171.00	36F147WM	342.00
9621	16-9	.510″	18½							36F1096WF	211.35	36F1096WM	422.70
8622	16-12	.600″	21¼			36F148WA	62.50			36F148WF	288.30	36F148WM	577.00
9622	16-25	.820″	47¼							36F1097WF	579.00	36F1097WM	1157.00
8627	14-4	.495″	13¾			36F1094WA	37.30			36F1094WF	169.95	36F1094WM	339.90
9623	14-5	.560″	19½			36F1098WA	45.10			36F1098WF	202.75	36F1098WM	405.45

MICROPHONE AND INSTRUMENTATION CABLES—(SHIELDED)

General purpose shielded cables, for all stage, studio and instrumentation applications. Rubber types have rubber insulated tinned copper conductors, tinned copper braid shield, black rubber jacket overall, (†) except black Neoprene jacket. (**) 8402 & 8408 have brown hypalon jacket. Vinyl types are similar, but have polyethylene insulated conductors, chrome vinyl jacket. (*) Miniature cables having tinned cadmium bronze conductors. USES: Mike, power supply, instrumentation, entertainment, etc.

SINGLE CONDUCTOR—RUBBER

Type	A.W.G. and Cond.	O.D.	Work Volt.	Stock No.	50 Ft.	Stock No.	100 Ft.	Stock No.	250 Ft.	Stock No.	500 Ft.	Stock No.	1000 Ft.
8410	25-1	.245″	3000	36F010WB	12.25	36F010WA	22.60	36F010WE	44.80	36F010WF	89.55		

MULTIPLE CONDUCTOR—RUBBER

8413*	24-2	.190″	300	36F026WB	13.05	36F026WA	24.00	36F026WE	49.05	36F026WF	98.05		
8406*	24-3	.223″	300			36F202WA	26.80			36F202WF	128.40		
8412	20-2	.268″	600	36F011WB	13.65	36F011WA	25.00	36F011WE	51.00	36F011WF	101.95	36F011WM	203.85
8402**	20-2	.268″	600			36F1355WA	25.00	36F1355WE	55.45	36F1355WF	110.80		
8423	20-3	.277″	600	36F012WB	15.70	36F012WA	25.00	36F012WE	57.60	36F012WF	115.15	36F012WM	230.25
8424	20-4	.295″	600	36F013WB	17.15	36F013WA	27.60	36F013WE	64.95	36F013WF	129.90	36F013WM	259.80
8425	20-5	.323″	600			36F014WA	33.45	36F014WE	81.85				
8426	20-6	.349″	600			36F015WA	41.20	36F015WE	100.80				
8427	20-7	.360″	600			36F016WA	44.85	36F016WE	109.75				
8418	20-8	.386″	600			36F018WA	50.80	36F018WE	123.00				
8428†	18-2	.295″	600			36F017WA	29.25			36F017WF	134.95	36F017WM	269.85
8408**	16-2	.385″	600			36F1356WA	40.15			36F1356WF	193.60		
8407†	16-4	.422″	600			36F132WA	46.45	36F132WE	114.25				

MICROPHONE AND INSTRUMENTATION CABLES CONT.

SINGLE CONDUCTOR—VINYL PLASTIC

Type	A.W.G. and Cond.	O.D.	Work Volt.	Stock No.	50 Ft.	Stock No.	100 Ft.	Stock No.	250 Ft.	Stock No.	500 Ft.	Stock No.	1000 Ft.
8401	25-1	.200"	5000	36F020WB	6.40	36F020WA	11.65	36F020WE	20.95	36F020WF	41.80	36F020WM	83.55
8411	25-1	.144"	3500	36F021WB	4.92	36F021WA	9.40	36F021WE	16.35	36F021WF	32.70	36F021WM	65.40

MULTIPLE CONDUCTOR—VINYL PLASTIC

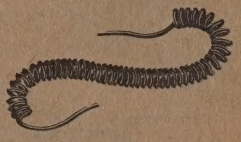
8420*	24-2	.185"	500	36F027WB	8.65	36F027WA	16.30	36F027WE	32.40	36F027WF	64.75	.....	.....
8422	22-2	.231"	1000	36F022WB	9.75	36F022WA	16.90	36F022WE	31.20	36F022WF	62.35	36F022WM	124.65
8403	20-3	.244"	600	36F023WB	12.55	36F023WA	23.65	36F023WE	44.80	36F023WF	89.55	36F023WM	179.10
8404	20-4	.248"	600	.....	.....	36F024WA	25.00	36F024WE	49.30	36F024WF	98.55	36F024WM	197.10
8405	20-5	.275"	600	.....	.....	.....	.....	36F1358WE	57.70	36F1358WF	115.30	36F1358WM	230.55

RETRACTILE (COILED) MICROPHONE CABLES—SHIELDED AND UNSHIELDED

USES: CB, HAM, MICROPHONES, LANGUAGE LABS, MUSIC EQUIPMENT, ETC.

Cadmium bronze wire microphone cables with neoprene or vinyl jacket. Retracts when not in use. Neoprene cables are resistant to effects of sun, oil and ozone and are recommended for outside use.

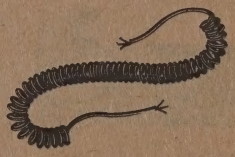
Type	Stock No.	AWG (stranding)	Retracted Length (in.)	Extended Length (ft.)	Nom. O.D. (in.)	Jacket Material	Conductors	NET
8409	36F1329	28 (7x36)	12	6	.165	Neoprene	4 unshielded	2.45
8415	36F038	23 (21x36)	11½	6	.250	Neoprene	4 unshielded	2.86
9415	36F1238	23 (21x36)	30	15	.250	Neoprene	4 unshielded	6.15
8497	36F207	23 (21x36)	11½	6	.250	Neoprene	3 cond-1 shield	3.14
9417	36F1239	23 (21x36)	30	15	.250	Neoprene	3 cond-1 shield	6.50
8499	36F208	24 (45x40)	7½	4	.170	Neoprene	1 shielded	2.07
8491	36F1330	23 (21x36)	12	6	.275	Neoprene	4 cond-2 shield	3.64
9416	36F1240	23 (21x36)	30	15	.275	Neoprene	4 cond-2 shield	8.55
8490	36F1331	23 (21x36)	11½	6	.265	Neoprene	5 unshielded	3.14
9470	36F1106	33 (tinsel)	10½	5	.105	Vinyl	2 unshielded	1.93
9468	36F1107	31 (tinsel)	20	10	.150	Vinyl	3 cond-1 shield	5.90
9469	36F1108	31 (tinsel)	20	10	.150	Vinyl	4 unshielded	5.10
9466	36F1109	28 (7x36)	12	6	.160	Neoprene	3 cond-1 shield	2.80
9467	36F1110	28 (7x36)	12	6	.175	Neoprene	5 cond-1 shield	3.33
9499	36F1111	24 (45x40)	24	12	.170	Neoprene	1 shielded	4.54



RETRACTILE NEOPRENE POWER CONTROL CABLES—UNSHIELDED—UL/CSA LISTED

12" straight portion on each end (8601, 8602, and 8603 have 6" straight portion). Jacket removed 1½" each end.

Type	Stock No.	AWG (stranding)	Retracted Length (in.)	Extended Length (ft.)	Nom. O.D. (in.)	Jacket Material	Conductors	NET
8601	36F1342	18 (41x34)	12	6	.270	Neoprene	2 "SVO"	2.40
9476	36F1241	18 (41x34)	24	12	.270	Neoprene	2 "SVO"	4.38
9477	36F1242	18 (41x34)	48	25	.270	Neoprene	2 "SVO"	6.95
9478	36F1243	18 (41x34)	24	12	.275	Neoprene	3 "SVO"	5.50
9479	36F1244	18 (41x34)	48	25	.275	Neoprene	3 "SVO"	9.45
8602	36F1343	18 (41x34)	12	6	.360	Neoprene	3 "SJO"	3.64
9480	36F1245	18 (41x34)	24	12	.360	Neoprene	3 "SJO"	6.40
9481	36F1246	18 (41x34)	48	25	.360	Neoprene	3 "SJO"	10.50
8603	36F1344	16 (65x34)	12	6	.370	Neoprene	3 "SJO"	3.70
9484	36F1345	16 (65x34)	24	12	.370	Neoprene	3 "SJO"	7.20
9485	36F1247	16 (65x34)	48	25	.370	Neoprene	3 "SJO"	12.25
9482	36F1248	18 (41x34)	24	12	.385	Neoprene	4 "SJO"	7.35
9483	36F1249	18 (41x34)	48	25	.385	Neoprene	4 "SJO"	12.25



TELEPHONE CORDS WITH STRAIN RELIEF

Tinsel conductors, vinyl insulated, vinyl jacket. One end stripped ", spade terminals attached and hook strain relief clamped over acket. Other end has red and black conductors pulled out of jacket and cut to 3" length, spade terminals attached, molded plastic strain relief, 6¾" jacket remains on 2 white conductor spade terminals attached. 8495-Cadmium bronze, black vinyl jacket. One end stripped 2¾" spade terminals attached and hook strain relief clamped over jacket. Other end stripped 3¼6" and spade terminals attached. Only Black jacket color stocked.

Type	Stock No.	AWG (stranding)	No. of Cond.	Insulation thickness (in.)	Jacket thickness (in.)	Nom. O.D. (in.)	Nom. CoilO.D. (in.)	Retracted Length (in.)	Extended Length (in.)	NET
9443	36F1076	31 (Tinsel)	4	.010	.031	.195	¾	10½	5	4.38
9440	36F1077	31 (Tinsel)	4	.010	.031	.195	¾	22	10	5.50
9441	36F1078	31 (Tinsel)	4	.010	.031	.195	¾	33	15	7.10
9442	36F1079	31 (Tinsel)	4	.010	.031	.195	¾	48	25	8.55
8495	36F204	23 (21x36)	3	.020	.041	.220	⅞	10	4½	2.89

TELEPHONE CABLES

NOT PAIRED

Type	AWG (Solid)	No. of Cond.	Nom. O.C. (in.)	Stk. No.	500 ft.	Stk. No.	1000 ft.
8795	22	2	.160	36F1103WF	17.25	36F1080WM	34.50
8794	22	3	.168	36F1104WF	21.45	36F1081WM	42.90
9794	22	4	.190	36F1105WF	26.50	36F1082WM	52.95

BELDEN Audio and Instrumentation Cables

TELEPHONE CABLES

PAIRED

Type	AWG (Solid)	No. of pairs	Nom. O.D.	Stk. No.	500′	Stk. No.	1000′
9561	24	1	.150″	36F1132WF	14.65	36F1132WM	29.25
9562	24	2	.195″	36F1133WF	24.85	36F1133WM	49.65
9566	24	6	.285″	36F1134WF	60.55	36F1134WM	121.05
9568	24	8	.300″	36F1100WF	76.50	36F1100WM	153.00
9570	24	10	.350″	36F1101WF	93.75	36F1101WM	187.50
9585	24	25	.495″	36F1102WF	272.65	36F1102WM	546.00

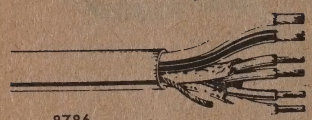
STRAIN GAUGE CABLE

All have polyethylene insulation except (*) has polypropylene, (**) vinyl. Jacket: chrome/vinyl, BELDFOIL shield, stranded tinned copper drain wire. Working voltage, 400 volts except types 8724 200 Volts, 8722 and 8732 are 350 volts. USES: Strain gauge, etc.

Type	AWG & Cond. Shield	AWG & Cond. Unshield	Nom. O.D.	Stock No.	100′	Stock No.	500′	Stock No.	1000′
8434	25-4	.....	.165″	36F1032WA	12.00	36F1032WF	45.45	36F1032WM	90.90
8723*	22-4	.....	.165″	36F1033WA	12.25	36F1033WF	45.75	36F1033WM	91.50
8728*	22-4	.....	.198″	.....	.....	36F1353WF	67.95	36F1353WM	135.90
8724*	22-2	22-2	.165″	.....	.....	36F1346WF	44.25	36F1346WM	88.50
8722**	20-2	20-2	.230″	.....	.....	36F185WF	55.45	36F185WM	110.85
8732	22-2	22-2	.188″x.296″	36F173WA	13.65	36F173WF	48.45	37F173WM	96.90

SPECIAL AUDIO AND CONTROL CABLE

Tinned copper, vinyl insulation (#have polyethylene) and BELDFOIL shield, and chrome vinyl jackets. Rated 350 volt. Type 8734 has copper braid shield over one conductor. Type 8733 is individually shielded (except †450 volts, no shield).



8786

Type	AWG & Cond Shield	AWG & Cond Unshield	Nom. O.D.	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
8734	22-1	22-2	.194″	36F186WA	10.95	36F186WF	38.10	36F186WM	76.20
8763#	20-2	20-1	.210″	.....	.....	36F187WF	42.75	36F187WM	85.50
8733#	22-3	.....	.205″	36F188WA	12.90	36F188WF	43.95	.....	.....
8783†	.....	20-1 16-2	.250″	36F108WA	13.95	36F108WF	52.35	.....	.....
8786	24-4	22-2	.256″	36F138WA	15.35	36F138WF	59.05	.....	.....

MULTIPLE PAIR INDIVIDUALLY SHIELDED AUDIO CABLE

22 AWG solid tinned copper; .013″ vinyl insulation; each pair and drain wire under BEDFOIL aluminum-polyester shield. Chrome vinyl jacket.

8764

Type	No. Pairs	Nom. O.D.	Stock No.	100′	Stock No.	500′	Stock No.	1000′
8767	3	.279″	36F190WA	19.90	36F190WF	77.25	36F190WM	154.50
8768	6	.394″	36F191WA	34.75	36F191WF	161.25	36F191WM	322.50
8764	9	.440″	36F192WA	47.20	36F192WF	229.20	36F192WM	458.40
8765	11	.485″	36F193WA	56.80	36F193WF	272.05	36F193WM	545.00
8766	15	.540″	36F194WA	78.25	36F194WF	372.45	36F194WM	745.00

MULTIPLE PAIR INDIVIDUALLY SHIELDED CABLES

Same as above, except .010 Polypropylene insulated. For audio, pulse, & radio freq. applications—operating temp. 105°C # 22 AWG (7x30 stranded) conductors. 8773 spools are one piece −0+20%.

Type	No. Pairs	Nom. O.D.	Stock No.	100′	Stock No.	500′	Stock No.	1000′
8777	3	.295″	36F1332WA	22.40	36F1332WF	89.80	36F1332WM	179.55
8778	6	.410″	36F1333WA	38.95	36F1333WF	188.40	36F1333WM	376.80
8774	9	.450″	36F1334WA	63.10	36F1334WF	276.40	36F1334WM	553.00
8775	11	.495″	36F1335WA	68.70	36F1335WF	327.60	36F1335WM	656.00
9768	12	.495″	36F1385WA	74.95	36F1385WF	351.10	36F1385WM	703.00
8776	15	.570″	36F1336WA	90.15	36F1336WF	433.90	36F1336WM	868.00
9769	17	.620″	36F1386WA	109.60	36F1386WF	506.00	36F1386WM	1012.00
8769	19	.630″	36F1337WA	122.35	36F1337WF	579.00	36F1337WM	1158.00
8773	27	.760″	36F1338WA	168.25	36F1338WF	823.50	36F1338WM	1647.00

AS ABOVE EXCEPT # 20 AWG AND .013 POLYPROPYLENE INSULATED

8777

Type	No. Pairs	Nom. O.D.	Stock No.	100′	Stock No.	500′	Stock No.	1000′
9873	3	.350″	36F1387WA	25.00	36F1387WF	108.10	36F1387WM	216.15
9874	6	.480″	36F1388WA	47.85	36F1388WF	219.25	36F1388WM	438.45
9875	9	.560″	36F1389WA	70.80	36F1389WF	319.65	36F1389WM	640.00
9876	11	.585″	36F1390WA	83.20	36F1390WF	384.40	36F1390WM	769.00
9877	12	.605″	36F1391WA	89.40	36F1391WF	413.65	36F1391WM	828.00
9878	13	.620″	36F1392WA	95.70	36F1392WF	443.05	36F1392WM	887.00
9879	15	.660″	36F1393WA	108.10	36F1393WF	501.00	36F1393WM	1002.00

AS ABOVE EXCEPT # 18 AWG AND .016″. POLYPROPYLENE INSULATED

Standard put-ups are 100′ -500′ -1000′ One piece −0 +20% on spool

9773	3	.392″	.....	.....	36F1394WF	138.70	36F1394WM	277.35
9774	6	.575″	.....	.....	36F1395WF	283.65	36F1395WM	568.00
9775	9	.630″	.....	.....	36F1396WF	427.90	36F1396WM	856.00
9776	12	.765″	.....	.....	36F1397WF	570.00	36F1397WM	1140.00
9777	15	.830″	.....	.....	36F1398WF	711.00	36F1398WM	1421.00

Audio/Telephone Cable-Magnet Wire BELDEN

MULTIPLE CONDUCTOR CABLES-PAIRED

Solid. All types below have #22 AWG solid tinned copper conductors, vinyl insulated and cabled in pairs. Chrome vinyl jacket overall. 8746 spools are one piece −0+20%.

Type	No. of Pairs	Nom. O.D.	Work. Volt.	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
8741	2	.201″	300	36F061WA	8.25	36F061WF	28.30	36F061WM	56.55
8742	3	.240″	300	36F062WA	10.95	36F062WF	39.45	36F062WM	78.90
8757	4	.255″	300	.....	.....	36F069WF	52.35	36F069WM	104.70
8743	6	.305″	200	36F063WA	17.95	36F063WF	69.60	36F063WM	139.20
8744	9	.354″	200	36F064WA	25.00	36F064WF	104.20	36F064WM	208.35
8753	11	.384″	200	36F067WA	28.45	36F067WF	134.25	36F067WM	268.50
8754	13	.409″	200	36F1465WA	31.90	36F1465WF	151.60	36F1465WM	303.15
8745	15	.420″	200	36F065WA	38.55	36F065WF	179.65	36F065WM	359.25
8755	19	.480″	200	.....	.....	36F1466WF	224.55	36F1466WM	449.10
8756	23	.510″	200	.....	.....	36F1467WF	272.10	36F1467WM	545.00
8746	27	.550″	200	.....	.....	36F1468WF	310.50	36F1468WM	621.00

MULTIPLE CONDUCTOR CABLES-PAIRED

As preceding types but Type 22 AWG stranded (7x30) conductors provide greater flexilility, can be run in intricate bands.

Type	No. of Pairs	Nom. O.D.	Work Volt.	Stock No.	100′	Stock No.	500′	Stock No.	1000′
9744	2	.230″	300	.....	.....	36F1475WF	33.30	36F1475WM	66.60
9745	3	.280″	300	.....	.....	36F1476WF	49.45	36F1476WM	98.85
9746	4	.295″	300	.....	.....	36F1477WF	63.25	36F1477WM	126.45
8747	6	.320″	200	36F075WA	21.65	36F075WF	85.00	36F075WM	169.95
8748	9	.389″	200	36F076WA	27.70	36F076WF	130.30	36F076WM	260.55
9747	12	.440″	200	.....	.....	36F1478WF	179.25	36F1478WM	358.50
8749	15	.455″	200	36F077WA	46.35	36F077WF	219.10	36F077WM	438.15
9748	19	.520″	200	.....	.....	36F1479WF	275.85	36F1479WM	552.00
9749	23	.570″	200	.....	.....	36F1480WF	354.30	36F1480WM	709.00
8750	27	.595″	200	.....	.....	36F078WF	414.00	36F078WM	828.00

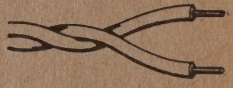
38-51 PAIR CABLES

Have 22 AWG solid copper conductors, 8751 vinyl insulated, 8752 polypropylene insulated. BELDFOIL shield overall, chrome vinyl jacket. 0 + 20% on spools.

Type	No. Cond.	Nom. O.D.	Stock No.	500′	Stock No.	1000′
8751	51 pr.	.700″	36F079WF	804.00	36F079WM	1608.00
8752	38 pr.	.600″	36F074WF	683.50	36F074WM	1367.00

TWO CONDUCTOR CABLES

Unjacketed. Twisted pair cable, vinyl insulated.



Type	AWG	Nom. O.D.	Work. Volt	Stock No.	100′	Stock No.	500′	Stock No.	1000′
8481	22 (solid	.112″	350	36F068WA	3.99	36F068WF	11.10	36F068WM	22.20
8482	19 (solid)	.130″	350	36F1009WA	5.25	36F1009WF	16.45	36F1009WM	32.85
8460	18 (strd.)	.175″	450	36F1010WA	7.60	36F1010WF	25.60	36F1010WM	51.15
8470	16 (strd.)	.195″	600	.....	.....	36F1011WF	32.40	36F1011WM	64.80

Jacketed. As above, but with chrome vinyl overall jacket.

8470	22 (solid)	.150″	200	36F060WA	4.92	36F060WF	15.10	36F060WM	30.15
8442	22 (strd.)	.165″	350	.....	.....	36F039WF	17.95	36F039WM	35.85
8205	20 (strd.)	.190″	350	36F197WA	6.70	36F197WF	21.10	36F197WM	42.15
8461	18 (strd.)	.226″	450	36F1014WA	9.05	36F1014WF	31.30	36F1014WM	62.55
8471	16 (strd.)	.256″	600	.....	.....	36F1015WF	42.40	36F1015WM	84.75
8473	14 (strd.)	.332″	600	.....	.....	36F1021WF	67.30	36F1021WM	134.55
8477	12 (strd.)	.384″	600	.....	.....	36F1354WF	94.65	36F1354WM	189.30

SINGLE BELDSOL-130°C MAGNET WIRE

Dual film insulated magnet wire that combines excellent dielectric characteristics of polyurethane and the known toughness and solvent resistance of nylon. May be soldered without insulation removal at 750°F. ⅛ lb. spool sizes 14 thru 36. ¼ lb. spool sizes 38 and 40.

Type No.	AWG	Approx. Feet	Stk. No.	NET
8047	14	40	36F1310	3.10
8048	16	63	36F1311	3.10
8049	18	100	36F1312	3.26
8050	20	160	36F1313	3.26
8051	22	254	36F1314	3.26
8052	24	404	36F1315	3.33
8053	26	645	36F1316	3.49

Type No.	AWG	Approx. Feet	Stk. No.	NET
8054	28	1020	36F1317	3.56
8055	30	1615	36F1318	3.91
8056	32	2515	36F1319	4.22
8057	34	4060	36F1320	4.50
8058	36	6400	36F1321	5.15
8045	38	5070	36F1322	3.68
8046	40	8050	36F1323	5.05

HEAVY ARMORED POLYTHERMALEZE HIGH TEMPERATURE MAGNET WIRE

Dual polyester film insulated magnet wire, rated for use to 180°C. Has exceptional ability to resist chemical solvents and abuse in intricate windings. One pound spools.

8073	14	80	36F767	5.15
8074	16	126	36F768	5.35
8075	18	199	36F769	5.55
8076	20	315	36F770	5.60
8077	22	501	36F771	5.60
8078	24	793	36F772	5.80
8079	26	1260	36F773	6.05

8080	28	1990	36F774	6.60
8081	30	3140	36F775	7.45
8082	32	4880	36F776	8.55
8083	34	7860	36F777	9.65
8084	36	12400	36F778	11.50
8085	38	19400	36F779	13.40
8086	40	32100	36F780	17.45

SPECIAL DATA, POS AND COMPUTER CABLE
COAXIAL-TRIAXIAL CABLES

Intended for those applications with special requirements such as miniature size, low capacitance for minimum signal distortion, or good electrical characteristics. Recommended for both analog and digital systems. Special cable designs are available to satisfy unique physical and electrical requirements.

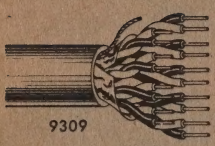
8241

9272

Type	RG No.	AWG and Stranding	Nom. O.D.	Description	Nom. Cap. pF/ft.	Nom. Imp.	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
8700		28 (solid)	.054″	COAX	48	32	36F082WA	11.20				
9888	8/U	11 (7 x 19)	.480″	TRIAX	26	50			36F596WF	166.50	36F596WM	333.00
9889		18 (solid)	.216″	COAX	26	50			36F597WF	44.35	36F597WM	88.65
9269	62A/U	22 (solid)	.242″	COAX	13.5	93			36F598WF	51.70	36F598WM	103.35
9268		22 (solid)	.260″	COAX	14.5	93			36F599WF	64.45	36F599WM	128.85
9272		20 (7 x 28)	.242″	TWINAX	19.7	78	36F600WA	15.85	36F600WF	54.90	36F600WM	109.80
8227		20 (7 x 28)	.325″	TWINAX	15.5	100			36F1804WF	98.80	36F1804WM	197.55
9250		18 (7 x .0152)	.420″	TWINAX	16.0	95	36F601WA	47.40	36F601WF	197.35	36F601WM	394.65
9271		25 (7 x 33)	.242″	TWINAX	12.2	124	36F605WA	8.55	36F605WF	29.20	36F605WM	58.35
9863			.450″	TRIPLE TWINAX	12.2	124	36F606WA	37.05	36F606WF	154.35	36F606WM	308.70
9860		16 (solid)	.440″	TWINAX	10.9	124			36F607WF	146.25	36F607WM	292.50
9855		22 (solid)	.290″	DUAL TWINAX	15.5	100			36F608WF	94.15	36F608WM	188.25
9851		29 (solid)	.245″	TWINAX	6.7	200	36F609WA	14.70	36F609WF	57.25	36F609WM	114.45
9852		29 (solid)	.490″	DUAL TWINAX	6.5	200	36F621WA	41.25	36F621WF	193.20	36F621WM	386.40

PAIRED INSTRUMENTATION CABLES

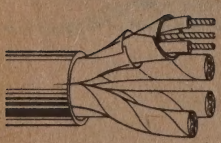
Tinned copper, vinyl insulated, twisted-pairs, overall BELDFOIL aluminum-polyester shield. Stranded copper drain wire, chrome vinyl jacket.



9309

Type	No. Pairs	AWG and Stranding	Nom. O.D.	Cap. pF/ft.	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
8640	1	28 (solid)	.090″	55			36F087WF	21.40		
9302	2	22 (solid)	.760″	35	36F1469WA	9.75	36F1469WF	35.10	36F1469WM	70.20
9305	4	22 (solid)	.253″	35	36F622WA	16.65	36F622WF	59.50	36F622WM	118.95
9306	6	22 (solid)	.310″	35	36F1470WA	19.70	36F1470WF	77.10	36F1470WM	154.20
9309	9	22 (solid)	.360″	35	36F1471WA	25.00	36F1471WF	111.25	36F1471WM	222.45
9315	15	22 (solid)	.435″	35	36F1472WA	42.90	36F1472WF	197.95	36F1472WM	395.85
9319	19	22 (solid)	.470″	35	36F1473WA	52.95	36F1473WF	243.10	36F1473WM	486.15
9327	27	22 (solid)	.563″	35	36F1474WA	71.70	36F1747WF	330.45	36F1474WM	661.00
9501	1	24 (7 x 32)	.148″	41	36F623WA	7.70	36F623 WF	27.45	36F623WM	54.90
9502	2	24 (7 x 32)	.210″	30	36F624WA	13.75	36F624WF	49.05	36F624WM	98.10
9503	3	24 (7 x 32)	.220″	30	36F625WA	18.50	36F625WF	65.85	36F625WM	131.70
9504	4	24 (7 x 32)	.240″	30	36F626WA	23.75	36F626WF	84.60	36F626WM	169.20
9505	5	24 (7 x 32)	.285″	30	36F627WA	25.45	36F627WF	105.75	36F627WM	211.50
9506	6	24 (7 x 32)	.285″	30	36F628WA	29.25	36F628WF	121.80	36F628WM	243.60
9507	7	24 (7 x 32)	.290″	30	36F629WA	33.55	36F629WF	139.65	36F629WM	279.30
9508	8	24 (7 x 32)	.320″	30	36F630WA	38.05	36F630WF	158.40	36F630WM	316.80
9509	9	24 (7 x 32)	.330″	30	36F631WA	42.45	36F631WF	176.85	36F631WM	353.70
9510	10	24 (7 x 32)	.365″	30	36F636WA	46.80	36F636WF	195.00	36F636WM	390.00
9515	15	24 (7 x 32)	.410″	30	36F637WA	68.65	36F637WF	285.75	36F637WM	572.00
9525	25	24 (7 x 32)	.510″	30	36F638WA	111.85	36F638WF	465.75	36F638WM	932.00
9550	50	24 (7 x 32)	.685″	30	36F639WA	221.10	36F639WF	921.00	36F639WM	1842.00

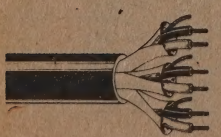
INSTRUMENTATION CABLES



Tinned copper, foam polypropylene insulation, conductors cabled, each pair individually BELDFOIL shielded with 24 AWG drain wire, chrome vinyl jacket. Tinned copper conductors, polypropylene insulated, four groups of two conductors with 22 AWG drain wire, each group individually BELDFOIL shielded with polyester tape wrap, chrome vinyl jacket.

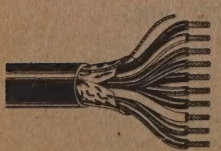
Type	No. Cond.	AWG and Stranding	Nom. O.D.	Cap. pF/ft.	Ins. Thick.	Jacket Thick.	Stk. No.	500′	Stk. No.	1000′
9784	12	24 (7 x 32)	.494″	12	.020″	.037″	36F645WF	186.00	36F645WM	372.00
8725	8	20 (7 x 28)	.345″	27	.015″	.037″	36F646WF	178.95	36F646WM	357.90

DIRECT BURIAL AUDIO & DATA CABLE



Tinned copper, polypropylene insulated BELDFOIL aluminum-polyester shield over individually twisted pairs with 22 AWG stranded tinned copper drain wire. Black High Density Polyethylene jacket.

Type	No. Cond.	AWG and Stranding	Nom. O.D.	Cap. pF/ft.	Ins. Thick.	Jacket Thick.	Stk. No.	500′	Stk. No.	1000′
9883	12	24 (7 x 32)	.494″	12	.020″	.037″	36F647WF	114.30	36F647WM	228.60
9886	8	20 (7 x 28)	.345″	27	.015″	.037″	36F648WF	240.75	36F648WM	481.50



Tinned copper, polypropylene insulated, conductors cabled. BELDFOIL aluminum-polyester shield overall. 22 AWG stranded tinned copper drain wire, black High Density Polyethylene jacket.

9890	10	20 (solid)	.310″		.013″	.040″	36F649WF	122.40	36F649WM	244.80
9894	15	20 (solid)	.390″		.013″	.045″	36F651WF	159.00	36F651WM	318.00

SPECIAL DATA POS AND COMPUTER CABLE

SINGLE AND MULTI-CONDUCTOR SHIELDED CABLE

Suitable for general purpose use in communications and instrumentation applications. Cables have excellent resistance to moisture, weather, ozone, acids, alkali and flame.

Type	No. Cond.	AWG and Stranding	Nom. O.D.	Cap. pF/ft.	Ins. Thick.	Jacket Thick.	Stk. No.	100'	Stk. No.	500'	Stk. No.	1000'
9965	1	22 (19x34)	.100"	—	.010"	.010"	36F1117WA	10.70	36F1117WF	40.95	36F1117WM	81.90
9961	1	20 (19x32)	.109"	—	.010"	.010"	36F1118WA	11.15	36F1118WF	43.15	36F1118WM	86.25
9951	1	16 (19x29)	.139"	—	.010"	.016"	36F1119WA	14.70	36F1119WF	58.00	36F1119WM	115.95
9966	2	22 (19x34)	.176"	49	.010"	.020"	36F1120WA	17.85	36F1120WF	69.55	36F1120WM	139.05
9962	2	20 (19x32)	.192"	55	.010"	.020"	36F1121WA	20.60	36F1121WF	79.35	36F1121WM	158.70
9952	2	16 (19x29)	.238"	70	.010"	.025"	36F1122WA	24.80	36F1122WF	102.70	36F1122WM	205.35
9967	3	22 (19x34)	.184"	49	.010"	.020"	36F1123WA	24.35	36F1123WF	97.35	36F1123WM	194.70
9963	3	20 (19x32)	.202"	55	.010"	.020"	36F1131WA	25.20	36F1131WF	104.40	36F1131WM	208.80
9953	3	16 (19x29)	.250"	70	.010"	.025"	36F1125WA	29.35	36F1125WF	140.40	36F1125WM	280.80
9968	4	22 (19x34)	.200"	49	.010"	.020"	36F1126WA	25.00	36F1126WF	107.10	36F1126WM	214.20
9964	4	20 (19x32)	.212"	55	.010"	.020"	36F1127WA	26.20	36F1127WF	125.40	36F1127WM	250.80
9954	4	16 (19x29)	.270"	70	.010"	.023"	36F1128WA	37.15	36F1128WF	173.40	36F1128WM	346.80

SHIELDED CONTROL CABLE

Recommended for applications where remote switching of video camera function is required.

9260	6	6-20 (7x28)	.305"	35	.016"	.032"	36F1129WA	26.70	36F1129WF	109.50	36F1131WM	219.00
9261	12	12-20 (7x28)	.410"	35	.016"	.040"	36F1130WA	44.40	36F1130WF	185.20	36F1132WM	370.35

RG/U TRANSMISSION LINE CABLE

Low loss flexible polyethylene inner jacket covered by copper shield with either vinyl or polyethylene outer jacket overall. Single conductor type. (*) Mil. spec. (†) TV Distribution Cable-Black RG59/U type.
(††) Teardrop shaped machine strippable.
(**) Copper covered steel.

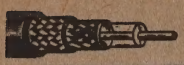
Type	RG No.	Jan Spec.	Nom. Imp.	AWG and Stranding	Nom. O.D.	Stk. No.	100'	Stk. No.	500'	Stk. No.	1000'
8214	RG-8/U	.....	50	11 (7x19)	.405"	37F2450WA	25.00	37F2450WF	115.45	37F2450WM	230.85
8237	RG-8/U	C-17A	52	13 (7x21)	.405"	36F113WA	25.00	36F113WF	95.70	36F113WM	191.40
9251	RG-8A/U	.....	50	13 (7x19)	.405"	37F2455WA	28.20	37F2455WF	109.90	37F2455WM	219.75
8242	RG-9/U	C-17A	51	13 (7x21)	.420"	36F1806WA	68.25	.....	.....	36F1806WM	621.00
8213	RG-11/U	.....	75	14 Solid	.405"	.....	.....	36F1801WF	101.25	36F1801WM	202.50
8238	RG-11/U	C-17A	75	18 (7x26)	.405"	36F114WA	25.00	36F114WF	84.85	36F114WM	169.65
8261	RG-11A/U	C-17D*	75	18 (7x26)	.405"	.....	.....	37F2452WF	97.75	37F2452WM	195.45
8240	RG-58/U	C-17A	53.5	20 Solid	.195"	36F111WA	10.25	36F111WF	31.95	36F111WM	63.90
8219	RG-58A/U	.....	50	20 (19x32)	.195"	37F2451WA	12.45	37F2451WF	40.75	37F2451WM	81.45
8259	RG-58A/U	C-17A	50	20 (19x.0071)	.195"	36F118WA	11.75	36F118WF	35.55	36F118WM	71.10
8212†	RG-59/U	.....	75	20 Copperweld	.242"	.....	.....	36F1800WF	39.10	36F1800WM	78.15
8221†	RG-59/U	.....	75	22 Copperweld	.242"	36F1357WA	13.05	36F1357WF	37.45	36F1357WM	74.85
8241	RG-59/U	C-17A	73	22 Copperweld	.242"	36F110WA	12.45	36F110WF	35.65	36F110WM	71.25
9259	RG-59/U	UL1354	75	22 Stranded	.242"	37F2457WA	13.65	37F2457WF	40.90	37F2457WM	81.75
8263	RG-59B/U	C-17D	75	.023 Solid	.242"	.....	.....	36F1809WF	44.55	36F1809WM	89.10
8262	RG-58C/U	C-17D*	50	20 (19x.0071)	.195"	.....	.....	36F057WF	42.10	36F057WM	84.15
8254	RG-62/U	C-17A	93	22 **	.242"	36F1347WA	13.05	36F1347WF	42.45	36F1347WM	84.90
9268	RG-62A/U	.....	93	22 **	.260"	.....	.....	36F599WF	64.45	36F599WM	128.85
9269	RG-62A/U	C-17D*	93	22 **	.242"	.....	.....	36F598WF	51.70	36F598WM	103.35
8255	RG-62B/U	C-17D*	93	24 **	.242"	.....	.....	36F1808WF	53.55	36F1808WM	107.10
9252	RG-122/U	C-17D*	50	22 (27x36)	.160"	37F2456WA	12.00	37F2456WF	39.55	37F2456WM	79.05
8216	RG-174/U	C-17D*	50	26 (7x34)**	.100"	36F058WA	7.90	36F058WF	24.75	36F058WM	49.50
8267	RG-213/U	C-17D*	50	13 (7x21)	.405"	.....	.....	37F2453WF	109.90	37F2453WM	219.75
8268	RG-214/U	C-17D*	50	13 (7x.0296)	.425"	.....	.....	37F2454WF	371.05	37F2454WM	743.00
9273	RG-223/U	C-17D*	50	19 Solid	.206"	37F2458WA	31.75	37F2458WF	137.80	37F2458WM	275.55
8218	.....	.....	75	27 (7x35)	.150"	36F1803WA	10.60	36F1803WF	33.70	36F1803WM	67.35
9264††	.....	UL1511	50	24 (7x32)	.122x .146"	36F1177WA	7.60	36F1177WF	27.75	36F1177WM	55.50

Cables meet MIL. Spec. MIL-C-17D; silver coated copper covered steel; TFE Teflon insulation; silver coated copper shields.

Type No.	RG No.	AWG and Stranding	Jacket	Nom. O.D. (Inches)	Nom. Imp. (Ohms)	Max. Attenuation Per 100'	Stk. No.	100'	Stk. No.	500'	Stk. No.	1000'
83241	141A/U	18 (solid)	Fiberglass	.190	50	9.0 db	36F1687WA	70.30	36F1687WF	327.87	36F1687WM	649.75
83242	142B/U	18 (solid)	Brown FEP	.195	50	9.0 db	36F1688WA	86.80	36F1688WF	410.02	36F1688WM	814.05
83265	178B/U	30 (7x38)	Brown FEP	.070	50	29.0 db	36F1689WA	20.10	36F1689WF	86.62	.....	.....
83264	179B/U	30 (7x38)	Brown FEP	.100	75	21.0 db	36F1690WA	34.65	36F1690WF	149.75	36F1690WM	295.00
83266	180B/U	30 (7x38)	Brown FEP	.140	95	17.0 db	36F1691WA	45.55	36F1691WF	204.60	.....	.....
83284	316/U	26(7x.0067)	Brown FEP	.098	50	20.0 db	36F1684WA	33.00	36F1684WF	146.85	36F1684WM	289.20

BELDEN TV and Audio Cable & Hookup-Wire

RG-59 TYPE COAX CABLE WITH STRANDED CENTER CONDUCTOR



Recommended for camera to recorder to monitor connections. Stranded center conductor adds the flexibility to resist severe twisting, bending and other stresses which occur in many CCTV applications. UL listed. Style 1354.

Type No.	RG No.	Jan Spec.	Nom. Imp.	AWG and Stranding	Nom. OD	Stock No.	50′	Stock No.	100′	Stock No.	500′	Stock No.	1000′
9259	RG-59/U	UL1354	50	22 stranded	.242″	37F2457WB	8.00	37F2457WA	13.65	37F2457WF	40.90	37F2457WM	81.75

HI-FI AND STEREO CABLES

Phono Pick-Up Cable. Type 8421, Hi-Fi connecting cable, spiral wrapped shield, chrome vinyl jacket with cellular polyethylene insulated conductor, 8431 is rubber insulated, shield and brown cotton braid. 8419, and 8429, are vinyl insulated. * No shield, no jacket. color-coded polyethylene insulation and individual spiral wrapped shields; chrome vinyl jacket.

Dual-Channel Audio Cable, Type 8416. Designed for stereo and language lab hookup applications. Tinned copper—copperweld conductors, with color-coded polyethylene and individual spiral wrapped shields; chrome vinyl jacket. † per channel, +50 ft. below.

Miniature Audio Connecting Cable, Type 8417. Double BELFOIL aluminum-mylar shields provide total shielding for critical audio and instrumentation applications. Copper-copperweld conductor cellular polyethylene insulation, chrome vinyl jacket.

Type	No. of Cond.	AWG and (stranding)	Nom. O.D.	Nom. mmf/ft.	Stock No:	25 Ft.	Stock No.	100 Ft.	Stock No.	250 Ft.
8430*	2	32 (7x40)	.050″	21	36F158WC	1.95	.....	.....	36F158WE	9.70
9435	3	32 (7x40)	.058″	22	37F2459WC	2.77	37F2459WA	6.65	.....	.....
9436	4	32 (7x40)	.065″	22	37F2460WC	3.42	37F2460WA	7.95	.....	.....
8429	2	32 (7x40)	.057″	22	36F150WC	3.07	.....	.....	36F150WE	17.85
8419	3	32 (7x40)	.067″	30	36F159WC	3.63	.....	.....	36F159WE	22.00
8431	1	24 (16x36)	.095″	96	36F152WC	2.89	36F152WA	9.30	.....	.....
8421	1	25 (7x33)	.180″	18	36F226WC	3.47	36F226WA	10.25	36F226WE	19.60
8416	2	25 (7x33)	.213″	35†	36F126WC	3.75	36F126WA	12.35	36F126WE	23.95
9454**	2	30 (7x38)	.049″	12	36F051WC	8.60	36F051WA	23.65	.....	.....
8417	1	25 (7x33)	.140″	25	36F127WC	2.86	36F127WA	8.35	36F127WE	15.55

**Low Capacitance—Quad Systems.

RUBBER-VINYL MULTICONDUCTOR PORTABLE CORDAGE—300V —60°C

Types 8462 and 8888 are standard household "lamp cord;" other types have color-coded rubber insulation, black rubber jacket overall. All conductors are of stranded copper. *Rubber insulated, in brown, white or black—specify color. †Vinyl insulation, in brown, white or grey—specify color.

Mfr. No.	U/L Type	AWG & Cond.	Nom. O.D.	Stk. No.	25′	Stk. No.	50′	Stk. No.	100′	Stk. No.	250′	Stk. No.	500′	Stk. No.	1000′
8462*	SP-1	18-2	.223″	36F047WC	2.77	.....	.....	36F047WA	8.45	36F047WE	17.05	.....	.....	.....	.....
8888†	SPT-1	18-2	.207″	36F048WC	2.72	.....	.....	36F048WA	7.55	36F048WE	13.90	.....	.....	.....	.....
8452	SV	18-2	.245″	.....	.....	36F030WB	7.20	36F030WA	12.90	36F030WE	24.70	36F030WF	49.35	36F030WM	98.70
8453	SV	18-3	.265″	.....	.....	36F031WB	9.10	36F031WA	17.60	.....	.....	36F031WF	71.40	.....	.....
8454	.....	18-4	.265″	.....	.....	36F032WB	10.45	36F032WA	19.90	.....	.....	36F032WF	78.25	.....	156.45
8478	SJ	18-2	.298″	.....	.....	.....	.....	36F1811WA	14.20	36F1811WE	28.90	.....	.....	36F1811WM	115.50
8472	SJ	16-2	.325″	.....	.....	.....	.....	36F049WA	19.60	36F049WE	39.30	.....	.....	.....	.....
8474	.....	14-2	.360″	.....	.....	.....	.....	36F050WA	24.80	36F050WE	51.10	.....	.....	.....	.....
8479	.....	14-3	.380″	.....	.....	.....	.....	36F1352WA	25.00	36F1352WE	60.55	.....	.....	.....	.....

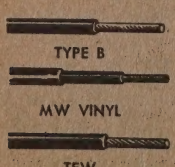
TWO CONDUCTOR SPEAKER CABLES

Parallel conductor cables for speaker lines. Also ideal for a variety of other audio and instrumentation applications. Chrome vinyl insulation, stranded. *solid.

Type No.	AWG and Cond.	Cable Width	Work Volt	Stock No.	100′	Stock No.	500′	Stock No.	1000′
9708	18-2	.225″	300	36F052WA	6.65	36F052WF	22.35	36F052WM	44.75
8649	20-2	.146″	300	36F1816WA	5.10	36F1816WF	15.60	36F1816WM	31.20
8781*	22-2	.120″	100	36F133WA	3.66	36F133WF	9.30	36F133WM	18.60
8782	24-2	.115″	300	36F105WA	3.29	36F105WF	9.40	36F105WM	18.75

MIL-W-16878D TYPE B VINYL 600V-105C TIGHT NO- FRAY STRANDING

Tinned copper wire stranded for greater flexibility. Wall thickness .010 Vinyl insulation for high resistance to moisture, flame, ozone, solvents and most chemicals. SPECIFY COLOR AND COLOR NO. WHEN ORDERING. **Colors available only in sizes listed. See stock color columns.** *For tracer colors add 12c per 100 ft. Shipping weight 100′ 1 lb.; 1000′ 6 lbs.



Mfr. Types	Mil. Types	AWG and Stranding	O.D.	100′ and 1000′ Stock Colors	Stock No.	100 Ft.	Stock No.	1000 Ft.
8505	B-26	26 (7x34)	.039″	1-10. 14-22*	36F595WA	2.72	36F595WM	16.95
8509	B-24	24 (19x36)	.045″	1-10. 14-22	36F602WA	3.28	36F602WM	17.55
8504	B-24	24 (7x32)	.044″	1-10. 14-22*	36F594WA	2.54	36F594WM	14.40
8503	B-22	22 (7x30)	.050″	1-10. 14-22*	36F593WA	2.86	36F593WM	15.75
8502	B-20	20 (7x28)	.058″	1-10. 14-22*	36F592WA	3.50	36F592WM	19.05
8501	B-18	18 (7x26)	.068″	1-10. 14-22*	36F591WA	3.75	36F591WM	24.30
8500	B-16	16 (19x29)	.077″	1-10. 14-22*	36F590WA	4.76	36F590WM	32.25

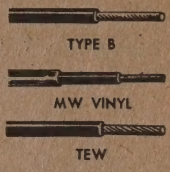
Mil Spec, and U/L Hookup Wire

BELDEN

MIL-W-76B TYPE MW—VINYL AND VINYL-NYLON—1000V

Tinned copper conductor with vinyl insulation rated at 80°C. Flame and ozone resistant; inert to most chemicals, oil and solvents. Specify color and color No. when ordering—SEE CHART BELOW. *For tracer colors add 18c per 100 ft.

Type	Mil. No.	AWG and Stranding	Nom. O.D."	100' Spools Stk. No.	Net	1000' Spools Stk. No.	Net	Stock Colors
8525	MW-C-24-7U	24 (7x32)	.058	36F641WA	2.49	36F641WM	13.95	1-22
8530	MW-C-22-1U	22 (solid)	.059	36F640WA	2.38	36F640WM	12.75	1-22
8524	MW-C-22-7U	22 (7x30)	.064	36F660WA	2.79	36F660WM	16.35	1-22
8529	MW-C-20-1U	20 (solid)	.066	36F650WA	2.82	36F650WM	16.05	1-22
8523	MW-C-20-10U	20 (10x30)	.070	36F670WA	3.26	36F670WM	18.60	1-22
8528	MW-C-18-1U	18 (solid)	.074	36F642WA	3.68	36F642WM	22.05	1-13
8522	MW-C-18-16U	18 (16x30)	.080	36F690WA	3.87	36F690WM	24.90	1-22
8521	MW-C-16-26U	16 (26x30)	.098	36F632WA	5.40	36F632WM	35.85	1-22
8520	MW-C-14-41U	14 (41x30)	.111	36F643WA	7.60	36F643WM	56.10	1-22
8527	MW-C-12-65U	12 (65x30)	.130	36F644WA	11.65	36F644WM	81.00	1-10



COLOR CODING

First color in stripe combination is body color and second color is tracer. **Specify color when ordering. All colors are not available in all types. See stock color columns.**

1. Brown
2. Red
3. Orange
4. Yellow
5. Green
6. Light Blue
7. Violet
8. Gray
9. White
10. Black
11. Tan
12. Pink
13. Dark Blue

Tracer colors. Add 18c/100 ft.

14. White/Black
15. White/Red
16. White/Green
17. White/Yellow
18. White/Blue
19. White/Brown
20. White/Orange
21. White/Gray
22. White/Violet

STYLE 1015—105° C-600V VINYL (CSA TYPE TEW)

Vinyl plastic insulation is fast stripping. Resists oil, solvents, and ozone. Colors are bright and remain distinct after processing. USES: motors, transformers, flourescent ballasts and fixtures, switchboards, panels, controls, rectifiers, and electronic circuits. Recommended maximum baking cycles: 105°C wires, 275°F (48 hrs.), 300°F (24 hrs.); 80°C wires, 275°F, 24 hrs. UL rated 2500V peak, for electronic use only in sizes 24 thru 10 AWG.

UL, CSA Type TEW approved. Tinned copper stranded. Unistrand* (*stranded bare copper overall tin no-fray) Vinyl insulated.

Type No.	AWG and Stranding	Insl. Thick.	Nom. OD	Stock Colors	Stk. No.	250'	Stk. No.	500'	Stk. No.	1000'	Stk. No.	4000'	Stk. No.	5000'
9720	24 Solid	.031"	.085"	2, 4, 10									37F2600WX	58.50
9722	22 Solid	.031"	.090"	2, 4, 5, 9, 10, 13									37F2601WX	72.75
8920	22 (7x30)	.031"	.095"	1-5, 9, 10, 13					36F580WM	20.25				
8919	20 (10x30)	.031"	.102"	1-5, 9, 10, 13					36F581WM	25.65				
8918	18 (16x30)	.031"	.112"	1-5, 9, 10, 13					36F582WM	30.75				
8917	16 (26x30)	.031"	.126"	1-5, 9, 10, 13			36F583WF	22.50						
8916	14 (41x30)	.031"	.141"	1-5, 9, 10, 13			36F584WF	31.80						
9822*	22 (7x30)	.031"	.094"	2, 4, 5, 9, 10, 13									37F2603WX	92.00
9820*	20 (7x28)	.031"	.100"	2, 5, 9, 10, 13							37F2605WT	91.80		
9818*	18 (16x30)	.031"	.110"	2, 4, 9, 10							37F2607WT	123.60		
9912	12 (65x30)	.031"	.162"	10	37F2610WE	22.20								
9910	10 (65x28)	.031"	.185"	10	37F2611WE	31.30								
9908	8 (84x27)	.045"	.253"	10	37F2612WE	55.05								
9924	24 (7x32)	.031"	.088"	1, 2, 3, 4, 5, 8, 9, 10, 13					36F1178WM	20.70				

STYLE 1007 300V-80°C HOOK-UP WIRE

9922*	22 (7x30)	1/64"	.064"	2, 4, 5, 9, 10, 13									37F2613WX	86.75
9920*	20 (7x28)	1/64"	.070"	9, 10									37F2614WX	107.75
9918	18 (16x30)	1/64"	.080"	10									37F2615WX	112.50
9978	30 (Solid)	.009"	.028"	1, 2, 3, 4, 5, 7, 8, 9, 10, 13					36F1179WM	13.50				
9977	28 (Solid)	.009"	.031"	1, 2, 3, 4, 5, 7, 8, 9, 10, 13					36F1180WM	10.65				
9976	26 (Solid)	.009"	.034"	1, 2, 3, 4, 5, 7, 8, 9, 10, 13					36F1181WM	9.30				
9975	24 (Solid)	.009"	.038"	1, 2, 3, 4, 5, 7, 8, 9, 10, 13					36F1184WM	9.90				
9828	28 (7x36)	.012"	.041"	2, 4, 5, 8, 9, 10, 13					36F1183WM	15.30			36F1183WX	72.00
9826	26 (7x34)	.012"	.045"	2, 4, 5, 8, 9, 10, 13					36F1185WM	17.40			36F1185WX	81.00
9824	24 (7x32)	.012"	.051"	2, 4, 5, 8, 9, 10, 13					36F1186WM	16.20			36F1186WX	74.25

TEFLON HOOK-UP WIRE

Concentrically stranded silver coated copper conductor, extruded TFE Teflon insulated. Recommended for miniature cable applications, because of thermal and electrical properties. Suitable for internal wiring soldering applications where insulation melt is a problem. Outstanding in their resistance to oil, oxidation, heat, sunlight, flame. Remain flexible at low temperatures. Resistant to ozone, water, alcohol, gasoline, acids, alkalis, aromatic carbon and solvents. Specify color: 1-10 (see color chart).

COLOR CHART

1. Brown
2. Red
3. Orange
4. Yellow
5. Green
6. Light Blue
7. Violet
8. Gray
9. White
10. Black

TYPE E MIL-W-16878 TEFLON 600V-200°C

Type No.	AWG and Stranding	Nom O.D. (Inches)	Insul. Thickness	Specify Color	Stk. No.	100'	Stk. No.	500'	Stk. No.	1000'
83000	30 (7x38)	.033	.010"	1-10	36F610 WA	7.85	36F610 WF	19.73	36F610 WM	37.95
83001	28 (7x36)	.036	.010"	1-10	36F611 WA	8.20	36F611 WF	20.83	36F611 WM	40.15
83002	26 (7x34)	.041	.010"	1-10	36F612 WA	9.05	36F612 WF	23.70	36F612 WM	45.90
83003	24 (19x36)	.046	.010"	1-10	36F613 WA	11.20	36F613 WF	31.35		
83004	24 (7x32)	.045	.010"	1-10	36F614 WA	9.55	36F614 WF	26.23	36F614 WM	50.95
83005	22 (7x30)	.051	.010"	1-10	36F615 WA	11.05	36F615 WF	30.95	36F615 WM	60.40
83006	22 (19x34)	.052	.010"	1-10	36F1187 WA	12.20	36F1187 WF	35.23	36F1187 WM	68.95
83007	20 (19x32)	.060	.010"	1-10	36F1188 WA	14.10	36F1188 WF	42.35	36F1188 WM	83.20
83008	20 (7x28)	.059	.010"	1-10	36F1189 WA	13.15	36F1189 WF	39.60	36F1189 WM	79.20

TEFLON HOOK-UP WIRE (Cont'd)

Note: See color code on preceding page

TYPE EE-MIL-16878 TEFLON 1000V-200°C U/L STYLE 1180

Type No.	AWG Stranding	Nom. O.D. (Inches)	Insul. Thickness	Specify Color	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
83023	24 (19x36)	.053	.014″	1-10	36F1719WA	14.30	36F1719WF	40.85	.....	.....
83025	22 (7x30)	.058	.014″	1-10	36F1720WA	14.70	36F1720WF	42.08	.....	.....
83026	22 (19x34)	.060	.014″	1-10	36F1721WA	15.95	36F1721WF	48.28	36F1721WM	95.05
83027	20 (19x32)	.068	.014″	1-10	36F1722WA	18.75	36F1722WF	56.93	36F1722WM	112.35
83028	20 (7x28)	.066	.014″	1-10	36F1723WA	17.50	36F1723WF	53.48	.....	.....
83029	18 (19x30)	.079	.014″	1-10	36F1724WA	24.60	36F1724WF	78.58	36F1724WM	155.65
83030	16 (19x29)	.086	.014″	1-10	36F1176WA	25.00	36F1176WF	91.58	36F1176WM	181.65

TYPE ET-MIL-W-16878 TEFLON 250V-200°C MINIATURE HOOK-UP WIRE

83041	32 (7x40)	.021	.006″	1-10	36F1725WA	7.70	.....	.....	36F1725WM	40.80
83043	30 (7x38)	.024	.006″	1-10	36F1726WA	7.70	.....	.....	36F1726WM	40.00
83045	28 (7x36)	.027	.006″	1-10	36F1727WA	7.70	.....	.....	36F1727WM	39.75
83046	26 (7x34)	.031	.006″	1-10	36F1728WA	8.85	.....	.....	36F1728WM	43.75
83047	24 (7x32)	.036	.006″	1-10	36F1729WA	9.10	.....	.....	36F1729WM	48.70
83049	22 (7x30)	.042	.006″	1-10	36F1730WA	10.10	.....	.....	36F1730WM	55.15

SPECIAL FEP TEFLON INSULATED INSTRUMENTATION CABLES

Tinned copper, insulated with FEP TEFLON, conductors cabled, noise reducing tape, 22 AWG (7x30) nickel coated copper drain wire, special BELDFOIL shield, red silicone rubber jacket except *yellow jacket. +150°C maximum operating temperature. Jacket working voltage: 1000V DC, shield to ground. Conductor colors: 9, 10, 2, 5.

Type No.	No. of Cond.	AWG Stranding	Nom. O.D.	Insul. Thickness	Jacket Thickness	Stk. No.	100′	Stk. No.	500′
83393*	2	20 (7x28)	.245″	.020	.030	36F1359WA	62.70	36F1359WF	303.20
83394	2	22 (7x30)	.204″	.015	.030	36F1481WA	43.60	36F1481WF	217.58
83395	3	22 (7x30)	.213″	.015	.030	36F1482WA	54.15	36F1482WF	264.00
83396	4	22 (7x30)	.222″	.015	.030	36F1483WA	63.00	36F1483WF	305.25

TEFLON E SHIELDED TEFLON CABLES

Stranded silver coated copper conductors, type E extruded TFE teflon insulation, color coded, cabled, braided silver plated copper shield, white TFE Teflon tape wrapped jacket. Mil. Spec: MIL-W-16878 Type E. Temperature rating: −65C to 200C. 90% shield coverage. Suggested working voltage: 600 volts (RMS). Passes the FR-1 vertical flame test.

TWO CONDUCTOR

Type No.	AWG Stranding	Nom. O.D. (Inches)	Insul. Thickness	Jacket Thickness	Conductor Color Coding	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
83315	30 (7x38)	.106	.010	.010	9, 10	36F1685WA	55.75	36F1685WF	230.18	36F1685WM	460.35
83316	28 (7x36)	.112	.010	.010	9, 10	36F1686WA	58.45	36F1686WF	235.88	36F1686WM	471.75
83317	26 (7x34)	.120	.010	.010	9, 10	36F1731WA	61.75	36F1731WF	246.68	36F1731WM	493.35
83318	24 (19x36)	.132	.010	.010	8, 10	36F1732WA	65.70	36F1732WF	262.95	36F1732WM	525.90
83319	22 (19x34)	.144	.010	.010	9, 10	36F1733WA	75.90	36F1733WF	292.05	36F1733WM	584.10
83320	20 (19x32)	.162	.010	.012	9, 10	36F1734WA	80.05	36F1734WF	329.40	36F1734WM	658.80
83321	18 (19x30)	.188	.010	.012	9, 10	36F1735WA	100.80	36F1735WF	419.10	36F1735WM	838.20
83322	16 (19x29)	.200	.011	.012	9, 10	36F1736WA	130.35	36F1736WF	545.18	36F1736WM	1090.35
					THREE CONDUCTOR						
83330	30 (7x38)	.111	.010	.010	2, 9, 10	36F1737WA	74.40	36F1737WF	295.35	36F1737WM	590.70
83331	28 (7x36)	.117	.010	.010	2, 9, 10	36F1738WA	75.45	36F1738WF	303.15	36F1738WM	606.30
83332	26 (7x34)	.126	.010	.010	2, 9, 10	36F1739WA	80.70	36F1739WF	332.63	36F1739WM	665.25
83333	24 (19x36)	.136	.010	.010	2, 9, 10	36F1740WA	89.25	36F1740WF	367.50	36F1740WM	735.00
83334	22 (19x34)	.156	.010	.012	2, 9, 10	36F1741WA	99.70	36F1741WF	410.85	36F1741WM	821.70
83335	20 (19x32)	.175	.010	.012	2, 9, 10	36F1742WA	116.35	36F1742WF	479.75	36F1742WM	959.50
83336	18 (19x30)	.196	.010	.012	2, 9, 10	36F1773WA	138.75	36F1773WF	568.43	36F1773WM	1136.85
83337	16 (19x29)	.218	.011	.012	2, 9, 10	36F1774WA	196.05	36F1774WF	819.98	36F1774WM	1639.95

SHIELDING & BONDING CABLE

Tinned copper braid provides approx. 90% shield coverage when applied over recommended diameter.

Type	Oval I.D.	Flat Width	Cir. Mil area	Stk. No.	10′	Stk. No.	50′	Stk. No.	250′
8676	1/32″	3/64″	400	36F215WG	1.40	36F215WB	2.61	36F215WE	10.00
8674	3/64″	1/16″	600	36F216WG	1.56	36F216WB	3.68	36F216WE	13.95
8660	3/64″	3/16″	3800	36F220WG	1.89	36F220WB	5.60	36F220WE	23.05
8668	5/32″	7/32″	4700	36F223WG	2.56	36F223WB	7.10	36F223WE	27.15
8663	7/32″	1/4″	6700	36F225WG	2.72	36F225WB	8.95	36F225WE	34.65
8661	9/32″	5/16″	7600	36F221WG	2.61	36F221WB	8.35	36F221WE	34.00
8669	13/32″	7/16″	13,300	36F224WG	4.06	36F224WB	17.25	36F224WE	69.30
8672	.....	9/16″	13,200	36F217WG	4.64	36F217WB	19.70	36F217WE	79.45
8662	.....	13/32″	22,900	36F222WG	5.75	36F222WB	24.25	36F222WE	100.35
8670	.....	3/4″	48,000	36F218WG	8.70	36F218WB	37.20	36F218WE	162.15
8671	.....	15/16″	21,600	36F219WG	6.20	36F219WB	25.00	36F219WE	115.65
8655	.....	5/8″	36,000	36F2153WG	6.80	36F2153WB	28.35	36F2153WE	124.95
8656	.....	7/8″	57,600	36F2154WG	10.85	36F2154WB	45.75	36F2154WE	206.55
8657	.....	1 1/16″	76,800	36F2155WG	14.55	36F2155WB	61.45	.....	.....
8658	.....	1 3/8″	105,600	36F2156WG	20.30	36F2156WB	86.10	.....	.....
8659	.....	1 1/2″	168,000	36F2157WG	26.65	36F2157WB	134.05	.....	.....

Bus, Test Prod, and Hook-up Wire

BELDEN

BUS BAR WIRE

Type	AWG	Stk. No.	100′	Stk. No.	1000′	Type	AWG	Stk. No.	100′	Stk. No.	1000′
8025	30	36F1022WA	1.63	36F1022WM	5.85	8020	20	36F1027WA	2.17	36F1027WM	13.05
8024	28	36F1023WA	1.63	36F1023WM	6.30	8019	18	36F1028WA	2.91	36F1028WM	18.90
8023	26	36F1024WA	1.70	36F1024WM	7.05	8013	16	36F1029WA	4.06	36F1029WM	29.85
8022	24	36F1025WA	1.75	36F1025WM	7.80	8012	14	36F0130WA	6.20	36F1030WM	43.95
8021	22	36F1026WA	1.82	36F1026WM	9.60	8011	12	36F1031WA	9.30	.....	.....

Made in accordance with Federal spec. QQ-W-343. Solid tinned copper; available in standard spools of 100′ and 1000′ only.

TEST. PROD WIRE—STRAIGHT AND COILED

Stranded tinned copper conductors, separator wrapping, red or black rubber insulated. Working voltages listed are AC RMS values

Straight types. 8897 is manufactured per MIL-W-13169 specs; 8890 is miniature type. See following page for retractible types.

Type	Color	A.W.G.	Nom. O.D.	WV	10′	NET	25′	NET	100′	NET	500′	NET	1000′	NET
8898	Black	18-65x36	.230″	10000	36F001WG	2.19	36F001WC	3.92	36F001WA	10.25	36F001WF	36.90	.....	.....
8898	Red	18-65x36	.230″	10000	36F000WG	2.19	36F000WC	3.92	36F000WA	10.25	36F000WF	36.90	.....	.....
8899	Red	18-65x36	.144″	5000	36F005WG	1.51	36F005WC	2.40	36F005WA	7.65	36F005WF	24.25	36F005WM	48.45
8899	Black	18-65x36	.144″	5000	36F006WG	1.51	36F006WC	2.40	36F006WA	7.65	36F006WF	24.25	36F006WM	48.45
8897	Red	18-65x36	.144″	5000	.....	.....	.....	.....	.....	.....	36F128WF	27.60	.....	.....
8897	Black	18-65x36	.144″	5000	.....	.....	.....	.....	.....	.....	36F129WF	27.60	.....	.....
8890	Black	24-45x40	.066″	1000	.....	.....	36F007WC	1.98	36F007WA	4.89	36F007WF	17.95	.....	.....
8890	Red	24-45x40	.066″	1000	.....	.....	36F008WC	1.98	36F008WA	4.89	36F008WF	17.95	.....	.....

36F004J. Type 8899. 14 Ft. Spool, consists of 7 Ft. Red and 7 Ft. Black. Ready for use. **NET** 1.68

COILED (RETRACTILE) TEST PROD WIRE

Type	AWG (Stranding)	O.D.	WV	Stk. No.	NET
8878	20 (42x36)	.173″	5000	36F130	6.45
8879	20 (42x36)	.173″	5000	36F131	2.73

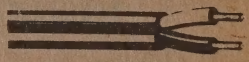
Retracted length 8″. Stretches to 5′. 8878 with prods. 8879 without prods. One black, one red lead.

2, 3, AND 4-CONDUCTOR PRIMARY WIRE

Cables especially designed for primary circuits and other applications requiring heavily insulated high amperage cable. All types are color coded. Sold only in lengths listed.

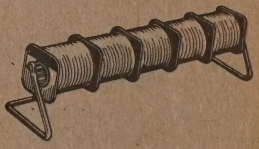
Duplex. Two parallel conductors, stranded and tinned, with vinyl insulation and chrome vinyl jacket.

Mfr. No.	AWG & Cond.	Nom. Width	Insul. Thickness	Stk. No.	100 Ft.	Stk. No.	500 Ft.
8677	16-2	.164 x .276	.032″	36F170WA	12.60	36F170WF	46.50
8675	14-2	.189 x .326	.037″	36F171WA	16.40	36F171WF	64.90
8673	12-2	.213 x .384	.040″	36F172WA	23.90	36F172WF	96.60



BELDEN WORKBENCH HOOKUP WIRE KITS

For R&D labs, engineers, servicemen, hobbyists. Belden hookup wire in an assortment of colors. Each kit contains a portable metal dispenser rack for work bench or wall mounting. The dispenser rack provides a complete, compact, and convenient wire department for every working area.



Type	Stk. No.	No. of Spools	Spool Length	Type of Wire	Colors in kit	NET
8822	36F179	10	25′	20 solid Type MW vinyl (8529-25)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	13.15
8823	36F180	5	100′	20 solid Type MW vinyl (8529-100)	2, 5, 6, 9, 10	14.10
8824	36F181	8	25′	20 strd. Type MW vinyl (8523-25)	1, 2, 3, 4, 5, 6, 9, 10	12.05
8825	36F182	5	100′	20 strd. Mil-W-16878D vinyl (8502-100)	2, 4, 5, 9, 10	17.50

Type	Stock No.	No. of Spools	Spool Length	Type of Wire	Colors in Kit	NET
8816	36F1350	8	25′	18 stranded vinyl (8522-25)	1, 2, 3, 4, 5, 6, 9, 10	13.05
9530	36F2158	10	25′	22 Solid vinyl (8530-25)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	12.10
9531	36F2159	5	100′	22 stranded vinyl (8524-100)	2, 5, 6, 9, 10	13.95

COLORS

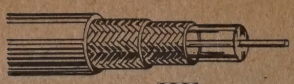
1. Brown	3. Orange	5. Green	7. Violet	9. White
2. Red	4. Yellow	6. Lt. Blue	8. Gray	10. Black

MAKE NEWARK ELECTRONICS YOUR ONE STOP SOURCE FOR YOUR WIRING NEEDS

- **Phone, Write or Wire for Price Quotations on Larger Quantities.**
- **Same Day Shipment from On-the-Shelf Stocks.**

BELDEN TV Cables, Portable Cordage

TV STUDIO CABLE



8281

PL-259

8299

Type 8281. 75 ohm precision video cable. Single #20AWG solid copper conductor; polyethylene insulated, double copper braid shield; black polyethylene jacket. Nom. O.D. .304". Nom. capacitance, 21 pF/ft. 100% sweep tested. Wt. 37 lbs. per 500'.

Type 8279. Similar to 8281 except with #23 AWG stranded conductor. Single tinned copper braid shield. O.D. .220".

Type 8280. 28 conductor TV (monochrome) camera cable. Arranged as follows: 4-#18 and 3 groups of 7-#22 AWG stranded tinned copper conductors, all color-coded, vinyl insulated; 3 color-coded coaxial cables of 51 ohm nom. imp.; tinned copper braid shield, chrome vinyl jacket. Nom. O.D. .750".

Type 8286. Miniature 75 ohm cable similar to 8280 except BELDFOIL shield over 4-#18 AWG conductors; BELDFOIL shield over 3 group of 7 conductors; 3-75 ohm coaxial cables; black hypalon jacket. Nom. O.D. .730".

Type	Stk. No.	Feet	Each
8281		100	
		250	
	36F141WF	500	155.25
	36F141WM	1000	310.50
8279	36F1340WA	100	19.55
	36F1340WE	250	36.45
	36F1340WF	500	72.85
		1000	

Type	Stk. No.	Feet	Each
8280	36F140WA	100	145.00
	36F140WE	250	361.25
	36F140WF	500	722.50
	36F140WM	1000	1445.00
8286	36F1339WA	100	145.00
	36F1339WE	250	361.75
	36F1339WF	500	723.50
	36F1339WM	1000	1447.00

ADAPTER

Type 8299. Adapter for use with 8281 cable only. Increases O.D. to fit PL-259 connector.
36F143. Box of 25. **NET** **5.80**

HIGH VOLTAGE AND CATHODE RAY TUBE CABLE

Type 8866. Small dia. 40 KVDC tinned copper cable. Repairs cathode ray tube leads in color TV and oscilloscopes. Breakdown voltage 110,000 KVDC.
36F1362WC. 25'. **NET** 3.98
36F1362WA. 100'. **NET** 11.40
36F1362WF. 500'. **NET** 41.25

Type 8870. 80 KVDC cable. #22 AWG solid copperweld conductor, polyethylene dielectric and jacket. Breakdown: 160 KVDC. Nom. O.D. .440".
36F059WA. 100'. **NET** 57.40

Type 8868. CRT cable. #22 (7x30) conductor. Polyethylene insulation, red vinyl jacket. 50 KV breakdown Voltage. O.D. .150".
36F070WC. 25'. **NET** 2.63
36F070WA. 100'. **NET** 6.65
36F070WF. 500'. **NET** 21.60

Type 8869. #22 AWG. Polyethylene insulation. Black vinyl jacket. 35 KV breakdown Voltage. O.D. .120".
36F1325WC. 25'. **NET** 2.10
36F1325WA. 100'. **NET** 5.35
36F1325WF. 500'. **NET** 16.75

Type 9865. Underwriter's Laboratories Inc. listed, style 3239. 50 kVDC tinned copper cable.
36F1115. 25'. **NET** 5.45
36F1115. 100'. **NET** 13.25
36F1115. 500'. **NET** 44.10

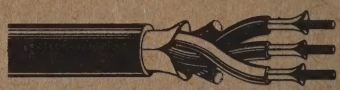
Type 9867. Underwriter's Laboratories Inc. listed, style 3239. 30 kVDC tinned copper cable. Passes the FR-1 vertical flame test.
36F1116. 25'. **NET** 3.47
36F1116. 100'. **NET** 8.40
36F1116. 500'. **NET** 28.00

ELECTRICAL POWER CORDS, CORD SETS AND EXTENSION CORDS MEET O.S.H.A. REQUIREMENTS

PORTABLE CORDAGE

SJ-3

SJO-3



Quality cordage designed for extra flexible service in many higher amperage applications. Cables available in various types of insulation and meet the higher standards of quality control. Thoroughly tested. In spools of 250 feet. Covered with black rubber. Listed by Underwriters Laboratories.

S-3 CONDUCTOR-RUBBER JACKET 600V-60°C

Type	Stk. No.	Size AWG & Strand	Nom. O.D. (Inches)	Lbs.	250' Coil 1-3	4-19	20-Up
19109	36F1363	18 (41x34)	.401	11	49.14	45.73	42.33
19108	36F1364	16 (65x34)	.426	14	61.38	57.13	52.87
19107	36F1365	14 (41x30)	.558	23	99.37	92.47	85.58

SO-2 CONDUCTOR-NEOPRENE JACKET 600V-60°C

Type	Stk. No.	Size AWG & Strand	Nom. O.D. (Inches)	Lbs.	1-3	4-19	20-Up
19204	36F1366	18 (41x34)	.386	12	54.64	50.85	47.07
19203	36F1367	16 (65x34)	.401	13	63.50	59.09	54.69
19202	36F1368	14 (41x30)	.528	20	99.83	92.89	85.97

SO-3 CONDUCTOR-NEOPRENE JACKET 600V-60°C

Type	Stk. No.	Size AWG & Strand	Nom. O.D. (Inches)	Lbs.	1-3	4-19	20-Up
19209	36F1369	18 (41x34)	.401	12	62.47	58.13	53.79
19208	36F1370	16 (65x34)	.426	14	76.93	71.59	66.25
19207	36F1371	14 (41x30)	.558	24	128.23	119.33	110.43

TV INTERLOCK CORD

Molded plastic 8895. TV power supply line cord. 6 ft. long. Mold-on all-rubber female connector. U. L. approved. Shpg. wt. 8 oz.
36F880. NET ..... **.91**
Male Connector. Flush mounting type for use with cord above. Wt. 2 oz.

Stk. No.	Type	1-24	25-49	50-99	100-249
36F881	2RP-1	.20	.15	.14	.12

SJ-2 CONDUCTOR-RUBBER JACKET 300V-60°C (*) Flex

Type	Stk. No.	Size AWG & Strand	Nom. O.D. (Inches)	Lbs.	250' Spool 1-3	4-19	20-Up
19127	36F982	18 (16x30)*	.298	13	27.44	25.54	23.64
19128	36F983	16 (26x30)*	.323	16	35.08	32.65	30.22

SJ-3 CONDUCTOR-RUBBER JACKET 300V-60°C (*) Flex

19129	36F1372	18 (16x30)*	.328	18	36.04	33.54	31.04
19130	36F1373	16 (26x30)*	.353	21	46.43	43.20	39.98

SJO-2 CONDUCTOR-NEOPRENE JACKET 300V-60°C (*) Flex

19227	36F984	18 (16x30)*	.298	14	33.84	31.49	29.14
19228	36F985	16 (26x30)*	.323	18	41.07	38.22	35.37

SJO-3 CONDUCTOR-NEOPRENE JACKET 300V-60°C (*) Flex

19229	36F1374	18 (16x30)*	.328	18	41.98	39.07	36.15
19230	36F1375	16 (26x30)*	.353	21	53.98	50.24	46.49

SJT-3 CONDUCTOR-VINYL JACKET 300V-60°C

19348	36F1167	18 (41x34)	.328"	15	35.53	33.07	30.60
19349	36F1169	16 (65x34)	.353"	19	43.60	40.58	37.55

SVT-3 CONDUCTOR-PLASTIC JACKET 300V-60°C

19350	36F1172	18 (41x34)	.253"	11	26.17	24.35	22.54
19351	36F1175	17 (52x34)	.268"	13	30.49	28.37	26.25

BELDEN

ELECTRICAL POWER CORDS, CORD SETS AND EXTENSION CORDS MEET O.S.H.A. REQUIREMENTS

POWER CORD INDEX

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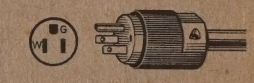
Bulk power cord (19000 numbers) listed on Page 488.

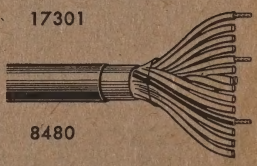
Designed to meet the special electrical needs and environmental requirements of a broad range of specific light and heavy duty applications in home and industry. Built to withstand rugged everyday wear under predictable conditions of use.

NEW SJT TYPE LOW LEAKAGE POWER CORDS AND CORDAGE

8480 Cord: Low leakage 60 cycle power cord reduces hazards of shock resulting from current leakage. Especially suited for use in hospitals and other critical medical applications. Minimizes current leakage between the two conductors and from the conductors through the jacket. Maximum leakage at 120 VAC; 6 microamps to green, 16 microamps to jacket. Low dielectric fillers symmetrically arranged with conductors using multi-lead slip planes. Provides crush resistance, improved flexlife and minimizes ground wire breakage. Flame retardant. **17301 Cords:** Tough, impact resistant Nylon plug. Opaque. Cord exits at 180° to wall.



17301



8480

Type No.	Length	UL Type	No. of Cond.	Nom. O.D.	AWG and Stranding	Color	Stock No.	NET
17301	8′	SJT	3	.580″	16(65x34)	Gray	**36F1828**	**11.76**

NEW SJT TYPE LOW LEAKAGE BULK CORDAGE

Type No.	UL Type	Cond. Insul.	No. of Cond.	AWG and Stranding	Insul. Thick.	Jacket	Jack. Thick.	Nom. O.D.	Stock No.*	100′	Stock No.*	250′	Stoc. No.*	500′	Stock No.*	1000′
8480	SJT	Polyethylene	3	16(65x34)	.031″	Vinyl	.045″	.580″	**36F1826WA**	**69.85**	**36F1826WE**	**145.20**	**36F1826WF**	**290.40**	**36F1826WM**	**581.00**

(*) Specify color when ordering. Gray, white, brown or bisque.

U/L APPROVED 2 CONDUCTOR SPECIAL PURPOSE AND APPLIANCE CORDS

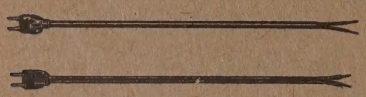
17866: Miniature appliance plug for all standard coffeemakers. Slotted to fit frypans. 10 Amps. 125V.
17826: Replacement appliance cord. 10 Amps. 125V. Terminal end has eyelets for #8 screw.
17806: Replacement appliance cord. 10 Amps. 125V. Terminal end stripped 5/8″.
17116: Replacement cord for small appliances, mixers, can openers, etc. 125V.
17139: Same as above except length.

Type No.	Stock No.	Lgth.	AWG and Stranding	U/L Type	Spec. Color	1-24
17866	**36F873**	6′	18(14x34)	HPN	Black	**1.04**
17826	**36F970**	6′	16(65x34)	HPN	Black	**.77**
17806	**36F1036**	6′	18(41x34)	HPN	Black	**.62**
17116	**36F971**	6′	18(41x34)	SPT-2	White	**.50**
17139	**36F972**	9′	18(41x34)	SPT-2	White	**.67**

BELDEN Power & Tool Cords — Cord Sets

ELECTRICAL POWER CORDS, CORD SETS AND EXTENSION CORDS MEET O.S.H.A. REQUIREMENTS

U/L APPROVED TWO CONDUCTOR POWER SUPPLY



10 amps—125V 1250 watts (*)13A-125V 1625 watts

Mfr. No.	Stk. No.	Lgth. ft.	AWG & Stranding	U/L Type	Specify Color	Each
17106	36F950	6	18(41x34)	SPT-1	Brown, Gray, Ivory	.62
17109	36F953	9	18(41x34)	SPT-1	Brown, White	.61
17112	36F955	12	18(41x34)	SPT-1	Brown, White	.80
17126	36F854	6	18(41x34)	SP-1	Brown	.61
17129	36F839	9	18(41x34)	SP-1	Brown	1.02
17205	36F840	6	18(41x34)	SVT	Black	.93
17206	36F851	6	18(41x34)	SV	Gray	.94
17308	36F973	8	18(16x30)	SJ	Black	1.10
17310	36F974	10	18(16x30)	SJ	Black	1.26
17328*	36F975	8	16(26x30)	SJ	Black	1.30
17330*	36F976	30	16(26x30)	SJ	Black	1.52
17249	36F841	1-6	18(41x34)	SVO	Black	2.21

U/L APPROVED TWO CONDUCTOR CORD SETS

Vacuum and extension cords

10 amps—125V—1250 watts

Connector for blade prong

Mfr. No.	Stk. No.	Lgth. ft.	AWT & Stranding	U/L Type	Color	Each
17270	36F855	20	18(41x34)	SV	Gray	2.67
17272	36F977	20	18(41x34)	SVT	Gray	2.10
17274	36F978	32	18(41x34)	SVT	Gray	3.12

Business machine cords 7 amps—125V—875 watts

17359	36F979	10	18(16x30)	SJT	Gray	1.63
17260	36F980	8	18(41x34)	SVT	Gray	1.44

Extension cords

10 amps—125 V, 1250 W (*)13 amps—125 V, 1625 W, (†)15 amps—125 V, 1875 W

17870†	36F981	8	16(65x34)	HPN	Black	1.18
17259	36F846	9	18(41x34)	SV	Gray	1.66
17361*	36F868	10	16(26x30)	SJ	Black	2.00

U/L APPROVED 3-CONDUCTOR POWER SUPPLY CORD

MOLDED PLUG—OTHER END STRIPPED

17410 17420

17430

17447

10 AMPS-125V-1250 WATTS (†)13A-125V-1625 WATTS TOOL CORDS WITH STRAIN RELIEF

For most portable tools requiring a strain relief. Fits Black & Decker, PET, Ram, Sioux, Thor and others.

Mfr. No.	Stock No.	Lgth. ft.	AWG & Stranding	U/L Type	Color	Each
17410	36F1380	6	18 (16x30)	SJT	Black	1.28
17420†	36F1381	10	16 (26x30)	SJT	Black	1.84
17430†	36F1382	10	16 (26x30)	SJO	Black	2.56

13 AMPS-125 V-1625 WATTS (†)10 AMPS-125V-1250 WATTS RETRACTILE CORDS

Stay neat, allow free movement of the appliance or tool and prevent accidents.

Mfr. No.	Stock No.	Lgth. ft.	AWG & Stranding	U/L Type	Spec. Color	Each
17447†	36F844	1-6	18 (41x34)	SJO	Black	2.96
17448	36F845	1-6	16 (65x34)	SJO	Black	3.14
17449	36F1250	2-12	16 (65x34)	SJO	Black	4.37

TOOL CORDS WITHOUT STRAIN RELIEF

SV & SVT for small tools, business machines and instruments. SJ, SJT & SJO for tools such as sanders, saws, grinders and polishers. S for heavy duty power tools and equipment.

10 AMPS-125V-1250W (†)13 A-125V-1625W (*)15A-125V-1875W

Mfr. No.	Stock No.	Lgth. ft.	AWG & Stranding	U/L Type	Color	Each
17236	36F1037	6	18 (41z34)	SV	Black	1.20
17238	36F1038	8	18 (41x34)	SV	Black	1.38
17237	36F1821	6	18 (41x34)	SVT	Gray	1.04
17239	36F1822	8	18 (41x34)	SVT	Gray	1.18
17406	36F842	6	18 (16x30)	SJ	Black	1.30
17405	36F957	6	18 (16x30)	SJT	Gray	1.10
17408	36F857	8	18 (16x30)	SJ	Black	1.46
17407	36F958	8	18 (16x30)	SJT	Gray	1.36

Mfr. No.	Stock No.	Lgth. ft.	AWG & Stranding	U/L Type	Color	Each
17409	36F959	8	18 (16x30)	SJO	Black	1.55
17412	36F960	12	18 (41x34)	SJ	Black	2.11
17419†	36F843	9	16 (65x34)	SJ	Black	2.21
17422†	36F961	12	16 (65x34)	SJ	Black	2.51
17425†	36F849	15	16 (65x34)	SJ	Black	3.49
17276†	36F1251	20	16 (26x30)	SJT	Gray	3.59
17403†	36F1252	32	16 (26x30)	SJT	Gray	6.28
17629*	36F1823	9	14 (41x30)	S	Black	3.60
17635*	36F1253	15	14 (41x30)	S	Black	6.34

U/L APPROVED 3-CONDUCTOR CORD SETS WITH PLUG AND CONNECTOR

7 AMPS-125V-875W (†)10 A-125V-1250W BUSINESS MACHINE AND PROJECTOR CORDS

17258 17257 17250, 17251, 17254 17252

17258: Revere and Eastman Kodak projectors, Friden, Victor, Hewlett-Packard, Marchant business machines, and DuKane audio equipment. **17257:** Wollensak tape recorder and other equipment with .109" pins. **17250 & 17252:** U.S. and Canadian electronic instruments, business machines, test equipment, desk top computers and appliances. (**) I.E.C. Color Code-Brown, Lt. Blue and Green with Yellow stripe. **17254** has one end stripped.

Mfr. No.	Stock No.	Lgth. ft.	AWG & Stranding	U/L Type	Spec. Color	Each
17258	36F1324	8	18 (41x34)	SVT	Gray	1.76
17257	36F1254	8	18 (41x34)	SVT	Gray	1.76
17250†	36F1255	7½	18 (41x34)	SVT	Black	2.05
17252	36F1256	Recessed 3 blade con. for 17250.				.80
17255	36F888	7½	16 (65x34)	SJT	Black	2.48
17251**	36F889	7½	18 (41x34)	SVT	Black	2.05
17254**	36F890	7½	18 (41x34)	SVT	Black	1.89

ELECTRICAL POWER CORDS, CORD SETS AND EXTENSION CORDS MEET O.S.H.A. REQUIREMENTS

U/L APPROVED 3-CONDUCTOR CORD SETS WITH PLUG AND CONNECTOR

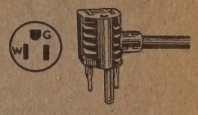
Added convenience of an outlet in the adapter plug so you can Add-A-Line.

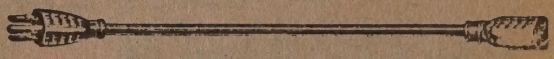
Type	Stk. No.	Lgth. Ft.	AWG and Stranding	U/L Type	Spec. Color	Each
17462	36F965	8	18 (16x30)	SJT	Black	3.34
17463	36F1257	15	18 (16x30)	SJT	Black	4.65

For use with heavy-duty floor maintenance equipment and other appliances requiring grounding.

17460†	36F1039	10	18 (16x30)	SJ	Black	2.37
17461†	36F964	10	16 (26x30)	SJ	Black	2.78
17664	36F1258	25	14 (41x30)	SO	Gray	12.64
17665	36F1259	50	14 (41x30)	SO	Gray	22.64
17656	36F1260	6	14 (41x30)	ST	Gray	3.86
17659	36F1035	9	14 (41x30)	ST	Gray	5.02
17662	36F1261	12	14 (41x30)	ST	Gray	6.10

10 AMP-250V-1250 WATTS
3 COND. ADD-A-LINE
EXTENSION CORDS





15 AMP-125V-1875 WATTS
(†)10 AMP 125V-1250 WATTS
3 CONDUCTOR
EXTENSION CORDS

10 AMP-125V-1250W *13 AMP 125V 1625W †15 AMP 125V 1875W HEAVY DUTY OUTDOOR LAWN MOWERS AND EXTENSION CORDS

For lawnmowers and hedge clippers using three conductor power supply cordage.

Type No.	Stock No.	Lgth. ft.	AWG & Strand.	U/L Type	Color	Each
17491	36F848	25	18 (16x30)	SJT	Yellow	4.06
17492	36F1262	50	18 (16x30)	SJT	Yellow	7.63
17494*	36F1263	25	16 (26x30)	SJT	Yellow	5.09
17495*	36F1264	50	16 (26x30)	SJT	Yellow	9.90
17497*	36F1265	100	16 (26x30)	SJT	Yellow	17.55
17694†	36F1266	25	14 (41x30)	ST	Yellow	10.19
17695†	36F1267	50	14 (41x30)	ST	Yellow	18.82
17697†	36F1268	100	14 (41x30)	ST	Yellow	32.91

15 AMP 125V 1875W †13 AMP 125V 1625W *10 AMP 125V 1250W LIGHT DUTY FLAT PARALLEL EXTENSION CORDS

FLAT YELLOW 3 conductor extension cords for most light duty purposes.

Type No.	Stock No.	Lgth. ft.	AWG & Strand.	U/L Type	Color	Each
17194†	36F847	25	16 (65x34)	SPT-2	Yellow	4.88
17195†	36F1269	50	16 (65x34)	SPT-2	Yellow	8.14
17191*	36F1270	100	16 (26x30)	SPT-3	Yellow	16.85
17196	36F1271	25	14 (41x30)	SPT-3	Yellow	7.12
17198	36F1272	50	14 (41x30)	SPT-3	Yellow	11.74
17192†	36F1273	100	14 (41x30)	SPT-3	Yellow	22.13
17197	36F1274	25	12 (65x30)	SPT-3	Yellow	12.00
17199	36F1275	50	12 (65x30)	SPT-3	Yellow	19.41
17193	36F1276	100	12 (65x30)	SPT-3	Yellow	35.60

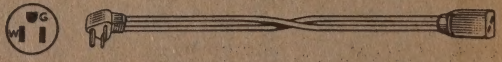
FLAT AIR CONDITIONER EXTENSION CORDS

15 AMPS 250V 3750 WATTS

Type No.	Stock No.	Lgth. ft.	AWG & Strand.	U/L Type	Color	Each
17768	36F1286	3	14 (41x30)	SPT-3	Gray	2.98
17769	36F1287	6	14 (41x30)	SPT-3	Gray	3.46
17770	36F1288	9	14 (41x30)	SPT-3	Gray	4.02
17771	36F1289	12	14 (41x30)	SPT-3	Gray	4.75

20 AMP 250V 5000 WATTS

17760	36F1290	3	12 (65x30)	SPT-3	Gray	3.66
17761	36F1291	6	12 (65x30)	SPT-3	Gray	4.29
17762	36F1292	9	12 (65x30)	SPT-3	Gray	5.02
17763	36F1293	12	12 (65x30)	SPT-3	Gray	5.97



Right-angle grounding plug so the cord will lay flat against the wall. For all makes of air conditioners.

15 AMPS 125V 1875 WATTS

Type No.	Stock No.	Lgth. ft.	AWG & Strand.	U/L Type	Color	Each
17764	36F1282	3	14 (41x30)	SPT-3	Gray	2.69
17765	36F1283	6	14 (41x30)	SPT-3	Gray	2.98
17766	36F1284	9	14 (41x30)	SPT-3	Gray	3.46
17767	36F1285	12	14 (41x30)	SPT-3	Gray	4.11

AIR CONDITIONER CORDS WITH PLUG, OTHER END STRIPPED

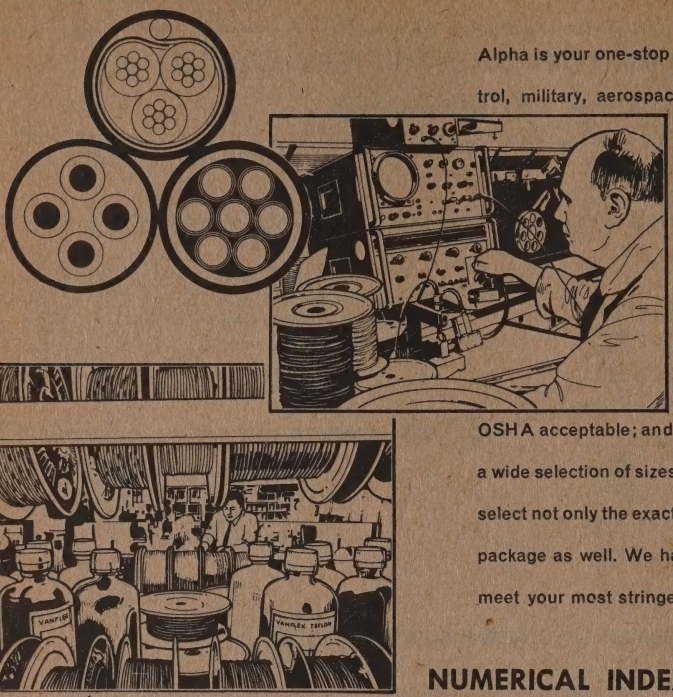
For room air conditioners and domestic automatic washers.

17140	36F1295	6	14 (41x30)	SPT-3	Gray	2.42
17141	36F1296	6	14 (41x30)	SPT-3	Gray	2.42

15 AMP 125V 1875W

15 AMP 250V 3750W

Alpha Wire Corporation



Alpha is your one-stop source for your requirements in communications, control, military, aerospace, installation, maintenance, and repair. The widest selection of wire, cable, and tubing in the electronics industry. From audio cables to vinyl hook-up wire, Alpha can fill your requirements. Among the newest Alpha products in this section are two styles of flat cables—both bonded and laminated—and matching connectors for mass termination, in 57 styles; a new line of cables that are UL listed, CSA certified, and OSHA acceptable; and the revolutionary plastic-blade wire stripper. Alpha has a wide selection of sizes, packages, spools, and colors making it easy for you to select not only the exact item to suit your requirement, but the most economical package as well. We have the necessary MIL, CSA, and OSHA approvals to meet your most stringent requirements.

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292	503	1253	498	1721	498	2164	503	3221	498	3561	496, 500	5074	493	5244	494	5322	494	5851	501	9055	502
295	503	1254	498	1723	498	2166	503	3222	498			5076	493	5245	494	5323	494	5852	501	9058	502
296	503	1255	498	1726	498	2168	503	3230	498	3562	496, 500	5078	493	5246	494	5324	494	5853	501	9059	502
297	503	1300	500	1728	498	2170	503	3231	498			5080	493	5247	494	5325	494	5854	501	9062	502
298	503	1302	500	1736	500	2172	503	3232	498	3563	496, 500	5121	495	5248	494	5326	494	5855	501	9063	502
299	503	1307	500	1737	500	2174	503	3240	498			5122	495	5250	494	5327	494	5856	501	9071	502
615	503	1309	500	1738	500	2176	503	3241	498	3570	496, 500	5123	495	5251	494	5328	494	5857	501	9174	502
616	503	1310	500	1741	500	2254	500	3242	498			5124	495	5252	494	5330	494	5858	501	9178	502
618	503	1313	500	1742	500	2256	500	3245	498	3571	496, 500	5125	495	5253	494	5331	494	5874	501	9179	502
702	503	1316	500	1746	500	2258	500	3246	498			5126	495	5254	494	5332	494	5875	501	9180	502
703	503	1317	500	1747	500	2260	500	3247	498	3572	496, 500	5129	495	5255	494	5333	494	5877	501	9187	502
704	503	1318	500	1748	500	2402	499	3302	495			5133	495	5256	494	5334	494	6000	499	9188	502
705	503	1319	500	1750	500	2403	499	3303	495	3573	496, 500	5136	495	5257	494	5335	494	6002	499	9195	502
706	503	1320	500	1751	500	2404	499	3304	495			5139	495	5258	494	5336	494	6004	499	9196	502
707	503	1322	500	1793	500	2411	499	3306	495	3580	496	5200	494	5261	495	5337	494	6006	499	9212	502
708	503	1323	500	1794	500	2412	499	3308	495	5002	493	5201	494	5262	495	5338	494	6008	499	9213	502
710	503	1324	500	1795	500	2413	499	3310	495	5003	493	5202	494	5263	495	5340	494	6010	499	9214	502
712	503	1327	500			2414	499	3312	495	5004	493	5203	494	5264	495	5341	494	6012	499	9215	502
715	503	1328	500	1797	500	2421	499	3315	495	5006	493	5204	494	5265	495	5342	494	6014	499		
1120	499	1329	500	1805	501	2422	499	3320	495	5008	493	5205	494	5266	495	5343	494	6016	499	9217	502
1121	499	1449	498	1806	501	2423	499	3405	495	5010	493	5206	494	5269	495	5344	494	6018	499	9218	502
1122	499	1450	498	1807	501	2424	499	3408	495	5012	493	5207	494	5271	495	5345	494	6020	499	9219	502
1172	500	1451	498	1808	501	2432	499	3410	495	5013	493	5208	494	5272	495	5346	494	6022	499	9223	502
1173	500	1452	498	1850	501	2433	499	3412	495	5014	493	5210	494	5273	495	5347	494	6023	499	9830	502
1174	500	1550	501	1851	501	2460	499	3415	495	5016	493	5211	494	5274	495	5348	494	6024	499	9840	502
1175	500	1551	501	1852	501	2461	499	3420	495	5018	493	5212	494	5275	495	5350	494	6025	499	9843	502
1176	500	1553	501	1853	501	2824	498	3430	495	5020	493	5213	494	5276	495	5351	494	6026	499	9844	502
1177	500	1555	501	1854	501	2826	498	3530	496, 500	5021	495	5214	494	5279	495	5352	494	6027	499	9846	502
1178	500	1557	501	1855	501	2827	498			5022	495	5215	494	5283	495	5353	494	6874	501	9847	502
1179	500	1559	501	1856	501	2829	498	3531	496, 500	5023	495	5216	494	5286	495	5354	494	6875	501	9848	502
1180	500	1560	501	1857	501	2831	498			5024	495	5217	494	5289	495	5355	494	6876	501	BLD-5	499
1181	500	1561	501	1858	501	2834	498	3532	496, 500	5025	495	5218	494	5293	495	5356	494	6877	501	FCC-110	497
1221	503	1563	501	1859	501	2837	498			5026	495	5220	494	5296	495	5357	494	6878	501	FCC-120	497
1222	503	1565	501	1864	501	2840	501	3533	496, 500	5029	495	5221	494	5299	495	5358	494	7130	501	FCC-140	497
1223	503	1632	503	1865	501	2841	501			5033	495	5222	494	5300	494	5504	493	7131	501	FCC-151	497
1224	503	1635	503	1866	501	2842	501	3540	496, 500	5036	495	5223	494	5301	494	5505	493	7132	501	FCC-152	497
1229	503	1636	503	1867	501	2843	501			5039	495	5224	494	5302	494	5507	493	7133	501	FCC-153	497
1230	503	1638	503	1868	501	2844	501	3541	496, 500	5041	493	5225	494	5303	494	5509	493	7134	501	FCC-154	497
1231	503	1639	503	1869	501	2845	501			5042	493	5226	494	5304	494	5514	493	7149	501	FCC-161	497
1232	503	1702	498	1891	500	3050	501	3542	496, 500	5043	493	5227	494	5305	494	5515	493	7150	501	FCC-162	497
1233	503	1703	498	1893	500	3051	501			5052	493	5228	494	5306	494	5517	493	7151	501	FCC-163	497
1234	503	1704	498	1894	500	3053	501	3543	496, 500	5053	493	5230	494	5307	494	5519	493	7153	501	FCC-164	497
1235	503	1705	498	1895	500	3055	501			5054	493	5231	494	5308	494	5524	493	7155	501	FCT-10	497
1239	503	1706	498	1896	500	3057	501	3550	496, 500	5056	493	5232	494	5310	494	5525	493	7157	501	FCT-30	497
1240	503			1897	500	3071	501			5058	493	5233	494	5311	494	5527	493	7161	501	FCT-60	497
1241	503			1898	500	3073	501	3551	496, 500	5060	493	5234	494	5312	494	5529	493	7163	501	STRP-25	499
1242	503	1709	498	1899	500	3075	501			5062	493	5235	494	5313	494	5534	493	9006	502		
1244	498	1710	498	2132	503	3077	501	3552	496, 500	5063	493	5236	494	5314	494	5535	493	9008	502		
1245	498	1712	498	2138	503	3079	501			5064	493	5237	494	5315	494	5537	493	9009	502		
1246	498	1713	498	2140	503	3210	498	3553	496, 500	5066	493	5238	494	5316	494	5539	493	9011	502		
1247	498	1715	498	2142	503	3211	498			5068	493	5240	494	5317	494	5544	493	9012	502		
1250	498	1716	498	2144	503	3212	498			5070	493	5241	494	5318	494	5545	493	9014	502		

UL/CSA/OSHA Cables

alpha

All conductors stranded, tinned, copper color coded PVC insulation, mylar wrap, gray PVC outer jacket. All cables pass FR-1 vertical flame test.

UL LISTED
CSA CERTIFIED
OSHA ACCEPTABLE

80°C MULTICONDUCTOR 300V UL 2464
24AWG (7/32) UNSHIELDED

Alpha No.	No. Conds.	Nom. O.D.	Stock No.	100′ EACH	Stock No.	500′ EACH
5012	2	.160	37F1776WA	13.76	37F1776WF	59.56
5013	3	.165	37F1777WA	15.75	37F1777WF	68.14
5014	4	.180	37F1778WA	17.70	37F1778WF	76.58
5016	6	.205	37F1779WA	21.80	37F1779WF	94.32
5018	8	.220	37F1780WA	26.06	37F1780WF	112.77
5020	10	.245	37F1781WA	30.47	37F1781WF	131.83
5020/15	15	.275	37F1451WA	44.72	37F1451WF	193.51
5020/20	20	.300	37F1452WA	57.12	37F1452WF	247.17
5020/25	25	.340	37F1453WA	69.66	37F1453WF	301.43
5020/30	30	.360	37F1454WA	82.15	37F1454WF	355.46
5020/40	40	.400	37F1455WA	107.22	37F1455WF	463.95
5020/50	50	.440	37F1456WA	119.22	37F1456WF	573.20
5020/60	60	.470	37F1457WA	142.21	37F1457WF	683.69
5020/70	70	.510	37F1458WA	164.95	37F1458WF	793.04
5020/80	80	.530	37F1459WA	187.38	37F1459WF	900.86
5020/90	90	.560	37F1460WA	209.92	37F1460WF	1009.21
5020/00	100	.640	37F1461WA	237.77	37F1461WF	1143.10

22AWG (7/30) UNSHIELDED

Alpha No.	No. Conds.	Nom. O.D.	Stock No.	100′ EACH	Stock No.	500′ EACH
5002	2	.170	37F1462WA	14.30	37F1462WF	61.89
5003	3	.180	37F1463WA	16.72	37F1463WF	72.35
5004	4	.195	37F1464WA	20.33	37F1464WF	87.97
5006	6	.225	37F1465WA	24.15	37F1465WF	104.48
5008	8	.240	37F1466WA	29.26	37F1466WF	126.59
5010	10	.270	37F1467WA	34.57	37F1467WF	149.57
5010/15	15	.300	37F1468WA	50.66	37F1468WF	219.19
5010/20	20	.340	37F1469WA	65.15	37F1469WF	281.90
5010/25	25	.375	37F1470WA	79.76	37F1470WF	345.11
5010/30	30	.400	37F1471WA	94.25	37F1471WF	407.80
5010/40	40	.445	37F1472WA	111.02	37F1472WF	533.76
5010/50	50	.485	37F1473WA	137.87	37F1473WF	662.83
5010/60	60	.525	37F1474WA	163.94	37F1474WF	788.18
5010/70	70	.610	37F1475WA	195.15	37F1475WF	938.21
5010/80	80	.630	37F1476WA	221.28	37F1476WF	1063.83
5010/90	90	.660	37F1477WA	248.82	37F1477WF	1196.23
5010/00	100	.710	37F1478WA	274.46	37F1478WF	1319.51

20AWG (10/30) UNSHIELDED

Alpha No.	No. Conds.	Nom. O.D.	Stock No.	100′ EACH	Stock No.	500′ EACH
5052	2	.220	37F1479WA	15.80	37F1479WF	68.35
5053	3	.225	37F1480WA	19.19	37F1480WF	83.04
5054	4	.245	37F1483WA	22.64	37F1483WF	97.97
5056	6	.285	37F1484WA	30.33	37F1484WF	131.25
5058	8	.315	37F1485WA	36.42	37F1485WF	157.58
5060	10	.360	37F1486WA	44.07	37F1486WF	190.69
5060/15	15	.405	37F1487WA	63.75	37F1487WF	275.86
5060/20	20	.450	37F1488WA	82.25	37F1488WF	355.88
5060/25	25	.500	37F1489WA	102.64	37F1489WF	444.12
5060/30	30	.535	37F1490WA	109.49	37F1490WF	526.42
5060/40	40	.635	37F1491WA	148.68	37F1491WF	714.80
5060/50	50	.695	37F1492WA	183.72	37F1492WF	883.28
5060/60	60	.750	37F1493WA	218.15	37F1493WF	1048.81
5060/70	70	.885	37F1496WA	264.74	37F1496WF	1272.74
5060/80	80	.915	37F1497WA	299.65	37F1497WF	1440.65
5060/90	90	.955	37F1498WA	334.74	37F1498WF	1609.33
5060/00	100	1.030	37F1499WA	370.88	37F1499WF	1783.09

18AWG (16/30) UNSHIELDED

Alpha No.	No. Conds.	Nom. O.D.	Stock No.	100′ EACH	Stock No.	500′ EACH
5062	2	.230	37F1698WA	18.67	37F1698WF	80.77
5063	3	.245	37F1699WA	23.54	37F1699WF	101.84
5064	4	.265	37F1700WA	28.49	37F1700WF	123.28
5066	6	.320	37F1701WA	38.57	37F1701WF	166.88
5068	8	.345	37F1702WA	48.49	37F1702WF	209.79
5070	10	.395	37F1703WA	58.83	37F1703WF	254.58
5070/15	15	.445	37F1704WA	85.64	37F1704WF	370.56
5070/20	20	.495	37F1705WA	101.28	37F1705WF	486.92
5070/25	25	.555	37F1706WA	125.10	37F1706WF	601.46
5070/30	30	.625	37F1707WA	153.38	37F1707WF	737.40
5070/40	40	.700	37F1708WA	201.35	37F1708WF	968.03
5070/50	50	.770	37F1709WA	249.66	37F1709WF	1200.28
5070/60	60	.895	37F1710WA	308.83	37F1710WF	1484.78
5070/70	70	.975	37F1711WA	358.49	37F1711WF	1723.50
5070/80	80	1.010	37F1713WA	406.01	37F1713WF	1951.95
5070/90	90	1.055	37F1714WA	454.12	37F1714WF	2183.27
5070/00	100	1.135	37F1715WA	503.44	37F1715WF	2420.37

16AWG (26/30) UNSHIELDED

Alpha No.	No. Conds.	Nom. O.D.	Stock No.	100′ EACH	Stock No.	500′ EACH
5072	2	.260	37F1716WA	23.40	37F1716WF	101.25
5073	3	.275	37F1717WA	31.00	37F1717WF	134.13
5074	4	.300	37F1718WA	38.46	37F1718WF	166.41
5076	6	.365	37F1719WA	53.56	37F1719WF	231.73
5078	8	.395	37F1720WA	68.40	37F1720WF	295.95
5080	10	.455	37F1721WA	93.82	37F1721WF	405.95
5080/15	15	.515	37F1722WA	110.92	37F1722WF	533.28
5080/20	20	.610	37F1723WA	150.21	37F1723WF	722.17
5080/25	25	.680	37F1724WA	185.72	37F1724WF	892.87
5080/30	30	.725	37F1725WA	220.34	37F1725WF	1059.32
5080/40	40	.875	37F1726WA	301.82	37F1726WF	1451.05
5080/50	50	.960	37F1727WA	373.06	37F1727WF	1793.57
5080/60	60	1.030	37F1728WA	444.19	37F1728WF	2135.51

COMBINATION GAUGES UNSHIELDED

Alpha No.	No. Conds.	Nom. O.D.	Stock No.	100′ EACH	Stock No.	500′ EACH
5041	4-22 (7/30) 2-18 (16/30)	.280	37F1729WA	23.25	37F1729WF	100.59
5042	5-22 (7/30) 2-18 (16/30)	.295	37F1730WA	31.76	37F1730WF	137.44
5043	6-22 (7/30) 2-18 (16/30)	.365	37F1731WA	34.76	37F1731WF	150.39

105°C MULTICONDUCTOR 600V UL 2501
22AWG (7/30) UNSHIELDED

Alpha No.	No. Conds.	Nom. O.D.	Stock No.	100′ EACH	Stock No.	500′ EACH
5504	4	.390	37F1732WA	45.28	37F1732WF	195.94
5505	5	.420	37F1733WA	51.15	37F1733WF	221.30
5507	7	.450	37F1734WA	59.64	37F1734WF	258.05
5509	9	.510	37F1735WA	75.44	37F1735WF	326.42
5509/12	12	.555	37F1736WA	90.06	37F1736WF	389.69
5509/15	15	.610	37F1737WA	108.59	37F1737WF	469.88
5509/19	19	.650	37F1738WA	114.64	37F1738WF	551.15
5509/25	25	.745	37F1739WA	142.60	37F1739WF	685.57

20AWG (10/30) UNSHIELDED

Alpha No.	No. Conds.	Nom. O.D.	Stock No.	100′ EACH	Stock No.	500′ EACH
5514	4	.410	37F1740WA	49.72	37F1740WF	215.14
5515	5	.440	37F1741WA	60.71	37F1741WF	262.71
5517	7	.470	37F1742WA	70.50	37F1742WF	305.03
5519	9	.535	37F1743WA	86.34	37F1743WF	373.60
5519/12	12	.595	37F1744WA	105.68	37F1744WF	457.25
5519/15	15	.640	37F1745WA	113.04	37F1745WF	543.47
5519/19	19	.685	37F1746WA	134.71	37F1746WF	647.66
5519/25	25	.735	37F1747WA	180.18	37F1747WF	866.26

18AWG (16/30) UNSHIELDED

Alpha No.	No. Conds.	Nom. O.D.	Stock No.	100′ EACH	Stock No.	500′ EACH
5524	4	.435	37F1748WA	58.60	37F1748WF	253.57
5525	5	.465	37F1749WA	69.55	37F1749WF	300.93
5527	7	.500	37F1750WA	85.17	37F1750WF	368.54
5529	9	.570	37F1751WA	102.92	37F1751WF	445.34
5529/12	12	.635	37F1752WA	115.79	37F1752WF	556.68
5529/15	15	.685	37F1753WA	139.26	37F1753WF	669.53
5529/19	19	.735	37F1754WA	164.06	37F1754WF	788.75
5529/25	25	.885	37F1755WA	215.76	37F1755WF	1037.30

16AWG (26/30) UNSHIELDED

Alpha No.	No. Conds.	Nom. O.D.	Stock No.	100′ EACH	Stock No.	500′ EACH
5534	4	.465	37F1756WA	73.67	37F1756WF	318.75
5535	5	.500	37F1757WA	86.13	37F1757WF	372.67
5537	7	.540	37F1758WA	107.04	37F1758WF	463.15
5539	9	.630	37F1759WA	119.29	37F1759WF	573.51
5539/12	12	.690	37F1760WA	149.92	37F1760WF	720.76
5539/15	15	.750	37F1761WA	177.74	37F1761WF	854.54
5539/19	19	.805	37F1762WA	215.14	37F1762WF	1034.33
5539/25	25	.965	37F1763WA	296.68	37F1763WF	1426.33

14AWG (41/30) UNSHIELDED

Alpha No.	No. Conds.	Nom. O.D.	Stock No.	100′ EACH	Stock No.	500′ EACH
5544	4	.505	37F1764WA	94.04	37F1764WF	406.90
5545	5	.545	37F1765WA	109.84	37F1765WF	475.25
5547	7	.600	37F1766WA	126.05	37F1766WF	606.02
5549	9	.690	37F1768WA	156.34	37F1768WF	751.61
5549/12	12	.765	37F1770WA	197.64	37F1770WF	950.18
5549/15	15	.835	37F1771WA	237.69	37F1771WF	1142.76
5549/19	19	.930	37F1773WA	299.43	37F1773WF	1439.56
5549/25	25	1.070	37F1775WA	383.69	37F1775WF	1844.66

Computer Cables

UNSHIELDED UL STYLE 2343 CABLE

Stranded tinned copper conductor with .010" color-coded PVC insulation. Cabled singly or in pairs, with gray vinyl jacket overall. Specifications: Cable rated at 80°C. Individual conductors rated 80°C, 300 volts. Nominal jacket thickness, .063". For control and signal applications in computers, industrial equipment and instrumentation.

SHIELDED UL STYLE 2343 CABLE

Stranded tinned copper conductor has .010" color-coded PVC insulation and braided tinned copper shield. Cabled singly or in pairs, with gray vinyl jacket overall. Specifications: Cable rated at 80°C. Individual conductors rated 80°C, 300 volts. For control and signal applications in computers. Nominal jacket thickness, .063".

24 GAUGE, MULTI. Strand, 7/32.

Alpha No.	No. of Cond.	Nom. O.D.	Stock No.	NET 100′	Stock No.	NET 500′
5200	5	.218	37F1692WA	55.05	37F1692WF	225.15
5201	7	.251	37F1693WA	59.50	37F1693WF	243.41
5202	12	.301	37F1694WA	82.22	37F1694WF	336.24
5203	15	.328	37F1695WA	100.56	37F1695WF	457.16
5204	19	.341	37F1696WA	108.99	37F1696WF	495.48
5205	27	.394	37F1697WA	145.74	37F1697WF	662.46
5206	37	.418	37F1821WA	200.85	37F1821WF	912.93
5207	48	.470	37F1822WA	252.50	37F1822WF	1147.68
5208	60	.508	37F1823WA	301.41	37F1823WF	1370.07

24 GAUGE, PAIRED. Strand, 7/32.

5230	5 pr.	.332	37F1824WA	79.30	37F1824WF	324.39
5231	7 pr.	.352	37F1825WA	91.02	37F1825WF	372.30
5232	12 pr.	.438	37F1826WA	118.02	37F1826WF	536.55
5233	15 pr.	.488	37F1827WA	150.86	37F1827WF	685.71
5234	19 pr.	.507	37F1828WA	171.35	37F1828WF	778.80
5235	27 pr.	.595	37F1829WA	232.46	37F1829WF	1056.66
5236	37 pr.	.665	37F1830WA	311.67	37F1830WF	1416.63
5237	48 pr.	.747	37F1831WA	389.04	37F1831WF	1768.38
5238	60 pr.	.819	37F1832WA	496.85	37F1832WF	2258.37

22 GAUGE, MULTI. Strand, 7/30.

5210	5	.202	37F1833WA	59.57	37F1833WF	243.63
5211	7	.272	37F1834WA	63.90	37F1834WF	461.42
5212	12	.332	37F1835WA	90.00	37F1835WF	368.19
5213	15	.352	37F1836WA	108.69	37F1836WF	494.10
5214	19	.372	37F1837WA	119.54	37F1837WF	543.38
5215	27	.432	37F1838WA	159.29	37F1838WF	724.05
5216	37	.481	37F1839WA	219.83	37F1839WF	999.15
5217	48	.533	37F1840WA	274.61	37F1840WF	1248.27
5218	60	.574	37F1841WA	340.70	37F1841WF	1548.70

22 GAUGE, PAIRED. Strand, 7/30.

5240	5 pr.	.368	37F1842WA	86.98	37F1842WF	355.88
5241	7 pr.	.393	37F1843WA	100.70	37F1843WF	411.98
5242	12 pr.	.475	37F1844WA	133.11	37F1844WF	604.98
5243	15 pr.	.551	37F1845WA	174.95	37F1845WF	795.23
5244	19 pr.	.563	37F1846WA	196.64	37F1846WF	893.76
5245	27 pr.	.604	37F1847WA	260.76	37F1847WF	1185.30
5246	37 pr.	.755	37F1848WA	350.19	37F1848WF	1591.80
5247	48 pr.	.856	37F1849WA	452.58	37F1849WF	2057.16
5248	60 pr.	.984	37F1885WA	560.07	37F1885WF	2545.80

20 GAUGE, MULTI. Strand, 19/32.

5220	5	.277	37F1886WA	67.58	37F1886WF	276.50
5221	7	.293	37F1887WA	75.60	37F1887WF	309.35
5222	12	.363	37F1888WA	107.73	37F1888WF	440.73
5223	15	.393	37F1889WA	130.37	37F1889WF	592.65
5224	19	.412	37F1890WA	147.84	37F1890WF	672.03
5225	27	.494	37F1891WA	196.63	37F1891WF	893.76
5226	37	.521	37F1892WA	270.69	37F1892WF	1230.48
5227	48	.584	37F1893WA	342.38	37F1893WF	1556.22
5228	60	.644	37F1894WA	416.16	37F1894WF	1891.58

20 GAUGE, PAIRED. Strand, 19/32.

5250	5 pr.	.398	37F1895WA	103.73	37F1895WF	424.31
5251	7 pr.	.445	37F1896WA	112.32	37F1896WF	510.54
5252	12 pr.	.545	37F1897WA	168.33	37F1897WF	765.12
5253	15 pr.	.607	37F1898WA	204.15	37F1898WF	927.99
5254	19 pr.	.634	37F1899WA	255.33	37F1899WF	1160.67
5255	27 pr.	.749	37F1901WA	341.48	37F1901WF	1552.11
5256	37 pr.	.826	37F1902WA	469.14	37F1902WF	2132.45
5257	48 pr.	.955	37F1903WA	591.09	37F1903WF	2686.79
5258	60 pr.	1.045	37F1904WA	730.80	37F1904WF	3321.83

24 GAUGE. MULTI. Strand 7/32.

Alpha No.	No. of Cond.	Nom. O.D.	Stock No.	NET 100′	Stock No.	NET 500′
5300	5	.247	37F1905WA	66.23	37F1905WF	271.01
5301	7	.277	37F1906WA	72.92	37F1906WF	298.38
5302	12	.328	37F1907WA	98.70	37F1907WF	403.79
5303	15	.353	37F1908WA	116.85	37F1908WF	531.06
5304	19	.367	37F1909WA	126.78	37F1909WF	576.23
5305	27	.418	37F2560WA	166.82	37F2560WF	758.27
5306	37	.447	37F2561WA	226.77	37F2561WF	1030.64
5307	48	.497	37F2562WA	283.95	37F2562WF	1290.69
5308	60	.538	37F2563WA	336.05	37F2563WF	1527.50

24 GAUGE, PAIRED. Strand, 7/32.

5330	5 pr.	.357	37F2564WA	97.70	37F2564WF	399.68
5331	7 pr.	.378	37F2565WA	100.56	37F2565WF	457.16
5332	12 pr.	.378	37F2566WA	146.94	37F2566WF	667.92
5333	15 pr.	.513	37F2567WA	182.76	37F2567WF	830.81
5334	19 pr.	.533	37F2568WA	205.95	37F2568WF	936.20
5335	27 pr.	.622	37F2569WA	274.01	37F2569WF	1245.53
5336	37 pr.	.693	37F2570WA	358.62	37F2570WF	1630.13
5337	48 pr.	.778	37F2571WA	442.94	37F2571WF	2013.38
5338	60 pr.	.847	37F2572WA	556.46	37F2572WF	2529.36

22 GAUGE, MULTI. Strand, 7/30.

5310	5	.287	37F2573WA	72.92	37F2573WF	298.38
5311	7	.298	37F2574WA	78.97	37F2574WF	323.03
5312	12	.357	37F2575WA	108.42	37F2575WF	443.46
5313	15	.382	37F2576WA	127.07	37F2576WF	577.61
5314	19	.397	37F2577WA	139.11	37F2577WF	632.36
5315	27	.458	37F2578WA	185.18	37F2578WF	841.77
5316	37	.513	37F2579WA	251.75	37F2579WF	1144.25
5317	48	.563	37F2580WA	311.06	37F2580WF	1413.89
5318	60	.603	37F2581WA	375.80	37F2581WF	1708.14

22 GAUGE, PAIRED. Strand, 7/30.

5340	5 pr.	.392	37F2582WA	108.07	37F2582WF	442.11
5341	7 pr.	.418	37F2583WA	111.41	37F2583WF	506.42
5342	12 pr.	.497	37F2584WA	166.22	37F2584WF	755.54
5343	15 pr.	.578	37F2585WA	202.19	37F2585WF	918.99
5344	19 pr.	.584	37F2586WA	236.37	37F2586WF	1074.45
5345	27 pr.	.672	37F2587WA	307.76	37F2587WF	1398.83
5346	37 pr.	.784	37F2588WA	405.32	37F2588WF	1842.29
5347	48 pr.	.883	37F2589WA	515.19	37F2589WF	2341.86
5348	60 pr.	.960	37F2590WA	635.66	37F2590WF	2889.33

20 GAUGE, MULTI. Strand, 19/32.

5320	5	.302	37F2591WA	82.63	37F2591WF	338.07
5321	7	.318	37F2592WA	92.02	37F2592WF	376.41
5322	12	.387	37F2593WA	115.62	37F2593WF	525.59
5323	15	.417	37F2594WA	150.86	37F2594WF	685.71
5324	19	.437	37F1948WA	168.03	37F1948WF	763.74
5325	27	.518	37F1949WA	227.94	37F1949WF	1036.11
5326	37	.552	37F1975WA	305.94	37F1975WF	1390.61
5327	48	.612	37F1976WA	351.95	37F1976WF	1599.68
5328	60	.673	37F1977WA	461.91	37F1977WF	2099.60

20 GAUGE, PAIRED. Strand, 19/32.

5350	5 pr.	.422	37F1978WA	114.12	37F1978WF	518.75
5351	7 pr.	.468	37F1979WA	139.41	37F1979WF	633.54
5352	12 pr.	.572	37F1980WA	205.95	37F1980WF	936.20
5353	15 pr.	.633	37F1981WA	260.46	37F1981WF	1183.94
5354	19 pr.	.665	37F1982WA	300.50	37F1982WF	1365.96
5355	27 pr.	.778	37F1983WA	395.37	37F1983WF	1797.12
5356	37 pr.	.854	37F1984WA	530.87	37F1984WF	2413.04
5357	48 pr.	.983	37F1985WA	668.19	37F1985WF	3037.17
5358	60 pr.	1.074	37F1986WA	815.42	37F1986WF	3706.46

Communication, Control & Data Cables

80°C TWISTED PAIRS 300V UL2464 —UNSHIELDED

All conductors stranded tinned, copper, color coded PVC insulation, conductors paired, pairs cabled, Mylar wrap gray PVC jacket, all cables pass FR-1 vertical flame test.

24 AWG (7/32) Tinned Copper

Alpha No.	No. Pairs	Nom. O.D.	Stock No.	100′	Stock No.	500′
5261	1	.160	37F1209WA	13.77	37F1209WF	59.56
5262	2	.215	37F1210WA	18.63	37F1210WF	80.61
5263	3	.235	37F1211WA	23.52	37F1211WF	101.76
5264	4	.270	37F1212WA	28.58	37F1212WF	123.68
5265	5	.275	37F1213WA	33.47	37F1213WF	144.78
5266	6	.285	37F1214WA	38.35	37F1214WF	165.96
5269	9	.355	37F1215WA	53.57	37F1215WF	231.75
5269/11	11	.370	37F1216WA	63.40	37F1216WF	274.33
5269/15	15	.425	37F1217WA	84.35	37F1217WF	365.00
5269/19	19	.440	37F1200WA	103.75	37F1200WF	448.91
5269/27	27	.510	37F1201WA	129.51	37F1201WF	622.64
5269/51	51	.710	37F1202WA	243.02	37F1202WF	1168.39
5269/77	77	.905	37F1203WA	379.16	37F1203WF	1822.88
5269/02	102	1.005	37F1204WA	499.86	37F1204WF	2403.17

22 AWG (7/30) Tinned Copper

Alpha No.	No. Pairs	Nom. O.D.	Stock No.	100′	Stock No.	500′
5021	1	.170	37F1205WA	14.30	37F1205WF	61.89
5022	2	.230	37F1206WA	20.23	37F1206WF	87.52
5023	3	.260	37F1207WA	25.95	37F1207WF	112.25
5024	4	.295	37F1208WA	31.88	37F1208WF	137.94
5025	5	.310	37F1218WA	37.55	37F1218WF	162.45
5026	6	.320	37F1219WA	43.23	37F1219WF	187.05
5029	9	.395	37F1220WA	60.90	37F1220WF	263.52
5029/11	11	.415	37F1221WA	72.30	37F1221WF	312.84
5029/15	15	.470	37F1222WA	96.83	37F1222WF	419.00
5029/19	19	.505	37F1223WA	107.57	37F1223WF	517.14
5029/27	27	.620	37F1224WA	153.47	37F1224WF	737.82
5029/51	51	.785	37F1225WA	279.69	37F1225WF	1344.67
5029/77	77	1.000	37F1226WA	435.39	37F1226WF	2093.21
5029/02	102	1.115	37F1227WA	573.80	37F1227WF	2758.63

20 AWG (10/30) Tinned Copper

Alpha No.	No. Pairs	Nom. O.D.	Stock No.	100′	Stock No.	500′
5283	3	.345	37F1228WA	32.33	37F1228WF	139.88
5286	6	.425	37F1229WA	55.32	37F1229WF	239.36
5289	9	.525	37F1230WA	79.51	37F1230WF	344.03
5289/12	12	.570	37F1231WA	102.31	37F1231WF	442.69
5289/15	15	.675	37F1232WA	118.60	37F1232WF	570.21
5289/19	19	.720	37F1233WA	146.11	37F1233WF	702.46
5289/27	27	.900	37F1234WA	213.47	37F1234WF	1026.29

18 AWG (16/30) Tinned Copper

Alpha No.	No. Pairs	Nom. O.D.	Stock No.	100′	Stock No.	500′
5033	3	.375	37F1235WA	41.43	37F1235WF	179.30
5036	6	.470	37F1236WA	73.82	37F1236WF	319.38
5039	9	.620	37F1237WA	101.51	37F1237WF	488.01
5039/12	12	.670	37F1238WA	130.63	37F1238WF	628.02
5039/15	15	.745	37F1239WA	160.18	37F1239WF	770.09
5039/19	19	.795	37F1240WA	198.55	37F1240WF	954.57
5039/27	27	.990	37F1241WA	289.40	37F1241WF	1391.33

80°C TWISTED PAIRS 300V UL2464 —SHIELDED

All conductors stranded, tinned copper, color coded PVC insulation, conductors paired, pairs cabled, overall braided tinned copper shield, overall gray PVC jacket, all cables pass FR-1 vertical flame test.

24 AWG (7/32)

Alpha No.	No. Pairs	Nom. O.D.	Stock No.	100′	Stock No.	500′
5271	1	.180	37F1242WA	22.72	37F1242WF	98.32
5272	2	.240	37F1243WA	30.09	37F1243WF	130.19
5273	3	.260	37F1244WA	36.14	37F1244WF	156.37
5274	4	.290	37F1245WA	43.47	37F1245WF	188.08
5275	5	.300	37F1246WA	48.55	37F1246WF	210.05
5276	6	.315	37F1247WA	53.54	37F1247WF	231.68
5279	9	.380	37F1248WA	71.71	37F1248WF	310.30
5279/11	11	.395	37F1249WA	81.86	37F1249WF	354.19
5279/15	15	.445	37F1250WA	108.91	37F1250WF	471.25
5279/19	19	.465	37F1251WA	118.87	37F1251WF	571.47
5279/27	27	.540	37F1252WA	159.14	37F1252WF	765.09
5279/51	51	.745	37F1253WA	283.44	37F1253WF	1362.69
5279/77	77	.945	37F1254WA	432.09	37F1254WF	2077.38
5279/02	102	1.045	37F1255WA	561.66	37F1255WF	2700.31

22 AWG (7/30)

Alpha No.	No. Pairs	Nom. O.D.	Stock No.	100′	Stock No.	500′
5121	1	.195	37F1256WA	24.77	37F1256WF	107.18
5122	2	.255	37F1257WA	33.03	37F1257WF	142.92
5123	3	.280	37F1258WA	39.81	37F1258WF	172.28
5124	4	.325	37F1259WA	47.73	37F1259WF	206.51
5125	5	.335	37F1119WA	53.91	37F1119WF	233.24
5126	6	.345	37F1120WA	59.52	37F1120WF	257.52
5129	9	.415	37F1121WA	83.96	37F1121WF	363.30
5129/11	11	.435	37F1124WA	96.50	37F1124WF	417.57
5129/15	15	.495	37F1125WA	112.79	37F1125WF	542.25
5129/19	19	.535	37F1126WA	137.03	37F1126WF	658.80
5129/27	27	.655	37F1127WA	187.72	37F1127WF	902.50
5129/51	51	.885	37F1128WA	334.67	37F1128WF	1609.01
5129/77	77	.975	37F1129WA	493.04	37F1129WF	2370.39
5129/02	102	1.160	37F1130WA	641.35	37F1130WF	3083.41

20 AWG (10/30)

Alpha No.	No. Pairs	Nom. O.D.	Stock No.	100′	Stock No.	500′
5293	3	.365	37F1167WA	48.18	37F1167WF	208.49
5296	6	.445	37F1169WA	78.32	37F1169WF	338.87
5299	9	.555	37F1172WA	110.97	37F1172WF	480.15
5299/12	12	.635	37F1175WA	125.96	37F1175WF	605.57
5299/15	15	.705	37F1177WA	151.66	37F1177WF	729.14
5299/19	19	.755	37F1179WA	183.35	37F1179WF	881.51
5299/27	27	.940	37F1181WA	258.47	37F1181WF	1242.67

18 AWG (16/30)

Alpha No.	No. Pairs	Nom. O.D.	Stock No.	100′	Stock No.	500′
5133	3	.400	37F1182WA	63.45	37F1182WF	274.54
5136	6	.490	37F1183WA	102.48	37F1183WF	443.40
5139	9	.650	37F1185WA	136.42	37F1185WF	655.87
5139/12	12	.700	37F1186WA	166.32	37F1186WF	799.63
5139/15	15	.780	37F1187WA	202.04	37F1187WF	971.33
5139/19	19	.895	37F1188WA	255.65	37F1188WF	1229.09
5139/27	27	1.030	37F1189WA	348.09	37F1189WF	1673.50

MULTICONDUCTOR SHIELDED CABLE PER MIL-W-16878D

Multiconductor shielded cable has stranded tinned copper-conductor, color coded PVC insulation, cabled with mylar wrap. Shield is braided tinned copper with 90% coverage. Jacket is chrome-gray PVC. Specifications: −55°C to +105°C, 600 volts and 1000 volts. Designed for applications including instrumentation and control, telemetry data transmission, remote control.

HEAVY DUTY—1000 VOLTS

Alpha No.	Cond. No.	Nom. Jacket	Nom. O.D.	Stock No.	100 Feet	Stock No.	1000 Feet
3405	5	.025″	.300″	37F1281WA	104.47	37F1281WM	911.58
3408	8	.025″	.350″	37F1987WA	141.59	37F1987WM	1225.83
3410	10	.035″	.405″	37F1282WA	166.20	37F1282WM	1629.92
3412	12	.035″	.430″	37F1988WA	225.90	37F1988WM	1955.67
3415	15	.040″	.450″	37F1283WA	225.81	37F1283WM	2225.45
3420	20	.045″	.530″	37F1284WA	304.07	37F1284WM	3009.09
3430	30	.050″	.650″	37F1285WA	454.58	37F1285WM	4450.94

MINIATURE—600 VOLTS

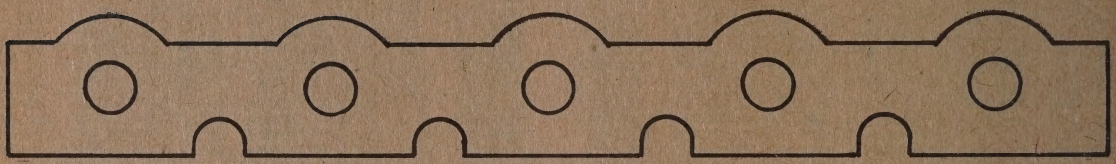
Alpha No.	Cond. No.	Nom. Jacket	Nom. O.D.	Stock No.	100 Feet	Stock No.	1000 Feet
3302	2	.012″	.125″	37F1272WA	25.80	37F1272WM	216.99
3303	3	.012″	.130″	37F1273WA	34.10	37F1273WM	289.70
3304	4	.012″	.140″	37F1274WA	41.18	37F1274WM	353.61
3306	6	.015″	.170″	37F1275WA	52.02	37F1275WM	451.98
3308	8	.015″	.175″	37F1276WA	59.00	37F1276WM	514.68
3310	10	.018″	.210″	37F1277WA	74.38	37F1277WM	653.60
3312	12	.018″	.215″	37F1278WA	85.78	37F1278WM	739.79
3315	15	.022″	.230″	37F1279WA	103.15	37F1279WM	898.95
3320	20	.022″	.260″	37F1280WA	115.37	37F1280WM	1122.18

Flat Cable

- **Long flex life**
- **Mates with mass termination connectors**
- **Lightweight, extremely flexible**
- **Accurately spaced conductors**

Bonded or ribbon flat cable is constructed of individual conductor bonded together to form a single unit. Laminated flat cable is constructed by laminating critically spaced conductors between sheets of PVC. While the two are quite similar, laminated flat cable has the extra advantage of being able to mate with the mass termination connectors on the facing page.

LAMINATED FLAT CABLE

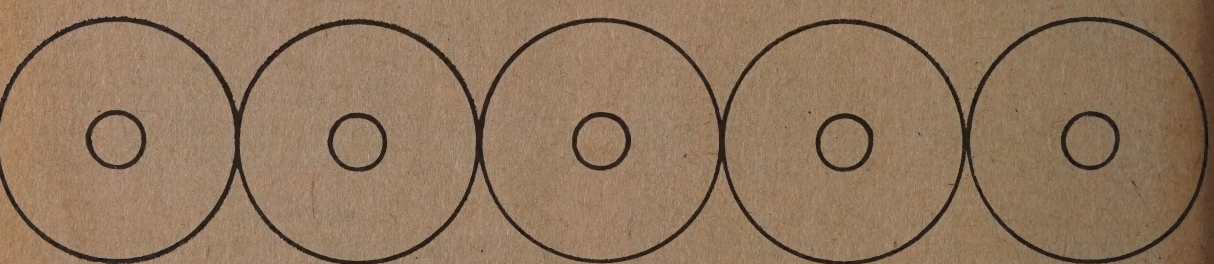


CABLE PROFILE

Laminated flat cable is manufactured to the exacting tolerances required with mass termination connectors. It is lightweight, extremely flexible and able to supply the electrical characteristics required for logic level signals.
Compatible with all mass termination insulation displacement connectors designed for cable with 0.050" (1.27mm) conductor spacing. It has a long flex life enabling the cable to be folded back on itself without damage to the insulation or conductors, for applications requiring intricate cable routing. Excellent teardown characteristics make it easy to cleanly separate the conductors for applications that require the cable to be routed to more than one insulation. Exclusive footage estimator gives a visual indication of the amount of cable remaining on each spool. UL listed, UL Style 2651 rated at 300 volts and 105°C. Self-extinguishing PVC insulation passes UL's FR-1 vertical flame test. Conductors are 28 AWG (7/36) stranded tinned copper.

Alpha No.	No. Conductors	Width	Stock No.	100'
3580/14	14	.700	**37F1111WA**	**27.00**
3580/16	16	.800	**37F1112WA**	**30.77**
3580/20	20	1.000	**37F1113WA**	**38.50**
3580/26	26	1.300	**37F1114WA**	**49.95**
3580/34	34	1.700	**37F1115WA**	**65.28**
3580/40	40	2.000	**37F1116WA**	**76.85**
3580/50	50	2.500	**37F1117WA**	**96.10**

BONDED "RIBBON" FLAT CABLE



CABLE PROFILE

- **Meets MIL-W-16878D**
- **Stranded, tinned copper conductors**
- **Ratings to 1000 V.**
- **Temperatures −55° to +105°C**
- **Saves Space**
- **Simplifies Identification**
- **Color-Coded PVC**

Meets MIL-W-16878D. Round conductor flat bonded ribbon cable has all the advantages of a flat, compact profile plus ease of termination and stripping. Saves space, simplifies cable identification. Simple to separate and terminate individual conductors. Each conductor is stranded tinned copper with color-coded PVC insulation with conductors specially bonded into flat configuration. Specifications: Type B, 600 volts, −55°C to +105°C; Type C, 1000 volts, −55°C to +105°C. Conductors coded as follows: (1) brown, (2) red, (3) orange, (4) yellow, (5) green, (6) blue, (7) violet, (8) grey, (9) white, (10) black.

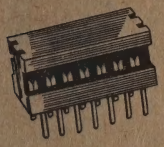
MIL-W-16878D Type B

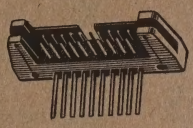
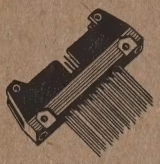
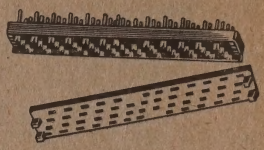
Nominal Wall Thickness .010"

Alp. No.	Stock No.	No. of Cond.	Conductor Size	Conductor Strand	Width"x Thick.	Net 100
3530	**37F143WA**	10	22	19/34	.510x.051	**64.56**
3531	**37F144WA**	15	22	19/34	.765x.051	**96.83**
3532	**37F145WA**	20	22	19/34	1.05x.051	**116.19**
3533	**37F146WA**	30	22	19/34	1.57x.051	**174.27**
3540	**37F147WA**	10	24	19/36	.440x.044	**54.15**
3541	**37F148WA**	15	24	19/36	.662x.044	**81.23**
3542	**37F149WA**	20	24	19/36	.883x.044	**108.30**
3543	**37F150WA**	30	24	19/36	1.35x.044	**146.22**
3550	**37F151WA**	10	26	7/34	.392x.039	**41.87**
3551	**37F152WA**	15	26	7/34	.587x.039	**62.77**
3552	**37F153WA**	20	26	7/34	.783x.039	**83.67**
3553	**37F154WA**	30	26	7/34	1.19x.039	**112.98**
3560	**37F155WA**	10	28	7/36	.351x.035	**48.13**
3561	**37F156WA**	15	28	7/36	.523x.035	**72.22**
3562	**37F157WA**	20	28	7/36	.701x.035	**96.28**
3563	**37F158WA**	30	28	7/36	1.06x.035	**129.96**
3570	**37F200WA**	10	30	7/38	.311x.032	**56.62**
3571	**37F201WA**	15	30	7/38	.482x.032	**84.93**
3572	**37F202WA**	20	30	7/38	1.05x.032	**101.91**
3573	**37F203WA**	30	30	7/38	.965x.032	**150.44**

Flat Cable & Connectors

Designed to provide superior reliability, ease of assembly, and compatibility with other flat cable systems. Design enables the cable to be crimped onto the connector prior to snapping on the cover. This allows for visual inspection during the assembly process. Patented off-set tines place forces on the conductor in opposite direction in two different planes, keeping the conductor under constant tension, ensuring a gas-tight connection. Each tine is micro-etched to remove any burrs or rough edges which could sever strands of conductors during the termination process. Female Socket Connectors feature dual cantilevered contacts insuring good electrical contact when inserted into a header.



DIP CONNECTORS

Patented off-set tines insure reliable gas-tight termination; mates with all standard DIP sockets; accepts 28-30 AWG stranded or solid conductors.

Stock No.	Alpha No.	No. Pins	1-19	20-99
64F200	FCC-130-14	14	1.40	1.25
64F201	FCC-130-16	16	1.60	1.45

FEMALE SOCKET CONNECTORS

Mates with all standard headers and 0.025" wire wrap posts; recessed cover design allows cable to remain within connector profile; self-locking cover; patented off-set tine design insures reliable gas-tight termination; terminations can be inspected before cover is put on.

With Strain Relief

Stock No.	Alpha No.	No. Pins	1-19	20-99
64F202	FCC-110-20	20	2.95	2.80
64F203	FCC-110-26	26	3.60	3.45
64F204	FCC-110-34	34	4.45	4.30
64F205	FCC-110-40	40	5.25	5.10
64F206	FCC-110-50	50	6.20	6.05

Without Strain Relief

64F207	FCC-120-20	20	2.45	2.30
64F208	FCC-120-26	26	3.15	3.00
64F209	FCC-120-34	34	4.05	3.90
64F210	FCC-120-40	40	4.70	4.55
64F211	FCC-120-50	50	5.85	5.70

PCB CONNECTORS

Integral strain relief; patented tine design insures reliable gas-tight termination; terminations can be inspected before cover is put on.

Stock No.	Alpha No.	No. Pins	1-19	20-99
64F212	FCC-140-20	20	1.25	1.10
64F213	FCC-140-26	26	1.60	1.45
64F214	FCC-140-34	34	1.85	1.70
64F215	FCC-140-40	40	2.15	2.00
64F216	FCC-140-50	50	2.65	2.50

ASSEMBLY TOOLS

Designed to be easy to use, reduce set-up time, and improve through-put, thereby reducing costs. FCT-60 Universal Adapter adapts other bench presses to the Alpha System without modification.

Stock No.	Alpha No.	Description	1-99
64F217	FCT-10	Bench Press & Universal Adapter	225.00
64F218	FCT-60	Universal Adapter	100.00
64F219	FCT-30	Accepts 14 & 16 Pin Connectors	24.95

HEADER CONNECTORS

Mates with all standard female socket connectors. Gold-plated phosphor bronze contact. UL 94 VE-0 flame retardant plastic body.

Header Connectors—Right Angle Style

Stock No.	Alpha No.	No. Pins	1-19	20-99
64F220	FCC-151-20†	20	1.60	1.45
64F221	FCC-151-26†	26	2.00	1.85
64F222	FCC-151-34†	34	2.45	2.30
64F223	FCC-151-40†	40	2.85	2.70
64F224	FCC-151-50†	50	3.40	3.25
64F225	FCC-152-20*	20	3.50	3.35
64F226	FCC-152-26*	26	4.25	4.10
64F227	FCC-152-34*	34	4.95	4.80
64F228	FCC-152-40*	40	5.65	5.50
64F229	FCC-152-50*	50	6.50	6.35

Right Angle—With Locking Tabs

Stock No.	Alpha No.	No. Pins	1-19	20-99
64F230	FCC-153-20†	20	2.30	2.15
64F231	FCC-153-26†	26	2.70	2.55
64F232	FCC-153-34†	34	3.25	3.10
64F233	FCC-153-40†	40	3.55	3.40
64F234	FCC-153-50†	50	4.10	3.95
64F235	FCC-154-20*	20	4.20	4.05
64F236	FCC-154-26*	26	4.95	4.80
64F237	FCC-154-34*	34	5.65	5.50
64F238	FCC-154-40*	40	6.25	6.10
64F239	FCC-154-50*	50	7.20	7.05

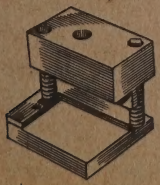
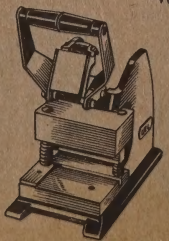
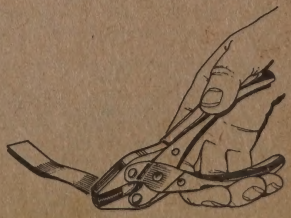
Header Connectors—Straight Style

Stock No.	Alpha No.	No. Pins	1-19	20-99
64F240	FCC-161-20†	20	1.60	1.45
64F241	FCC-161-26†	26	2.00	1.85
64F242	FCC-161-34†	34	2.45	2.30
64F243	FCC-161-40†	40	2.85	2.70
64F244	FCC-161-50†	50	3.40	3.25
64F245	FCC-162-20*	20	3.50	3.35
64F246	FCC-162-26*	26	4.25	4.10
64F247	FCC-162-34*	34	4.95	4.80
64F248	FCC-162-40*	40	5.65	5.50
64F249	FCC-162-50*	50	6.50	6.35

Straight Headers with Locking Tabs

Stock No.	Alpha No.	No. Pins	1-19	20-99
64F250	FCC-163-20†	20	2.30	2.15
64F251	FCC-163-26†	26	2.70	2.55
64F252	FCC-163-34†	34	3.15	3.10
64F253	FCC-163-40†	40	3.55	3.40
64F254	FCC-163-50†	50	4.10	3.95
64F255	FCC-164-20*	20	4.20	4.05
64F256	FCC-164-26*	26	4.95	4.80
64F257	FCC-164-34*	34	5.65	5.50
64F258	FCC-164-40*	40	6.25	6.10
64F259	FCC-164-50*	50	7.20	7.05

†Solder Terminals
*Wire Wrap Terminals

Shielded Wire & Cable

BRAIDED SHIELDED CONTROL CABLE

20 gauge stranded tinned copper conductor with color-coded polyethylene insulation, cabled with nylon wrap. Nominal wall thickness, .015". Shield is braided tinned copper. Jacket is .014" polyvinyl chloride except 1712, .030". Specifications: −20°C to +80°C, 600 volts. Each has between 2 and 20 conductors, cabled with fillers where necessary. 1712 is UL style 2373, 1713 is UL 2093, 1715 is UL 2094.

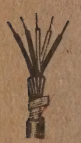
Alpha No.	No. Cond.	Conductor Size	Conductor Strand	Nom. O.D.	Stock No.	100 Feet	Stock No.	500 Feet
1712	2	20	26/34	.245"	37F515WA	28.00	37F515WF	123.36
1713	3	20	26/34	.250"	37F1410WA	22.50	37F1410WF	89.55
1715	4	20	26/34	.260"	37F1411WA	24.17	37F1411WF	98.55
1716	5	20	26/34	.275"	37F473WA	27.70	37F473WF	115.28
1717	6	20	26/34	.300"	37F474WA	59.22	37F474WF	257.04
1719	8	20	26/34	.330"	37F475WA	78.07	37F475WF	348.53
1721	10	20	26/34	.375"	37F476WA	96.87	37F476WF	427.92
1723	12	20	26/34	.380"	37F1516WA	136.62	37F1516WF	741.33
1726	15	20	26/34	.410"	37F1517WA	210.66	37F1517WF	1047.33
1728	20	20	26/34	.455"	37F1518WA	274.55	37F1518WF	1363.64

RUBBER AND NEOPRENE SHIELDED CABLES

Stranded tinned copper conductor with color-coded rubber wall, nominal thickness, .020". Cabled with fillers where necessary, cotton wrap. Shield is braided tinned copper with cotton wrap. Jacket is black rubber or heavy duty neoprene. Specifications: −20°C to +60°C, 300 volts. For use in video and audio interconnecting systems, broadcast applications, and heavy duty studio use.

Alpha No.	No. Cond.	Conductor Size	Conductor Strand	Nom. O.D.	Stock No.	100 Feet	Stock No.	500 Feet
1250/18	2	18	41/34	.295"	37F1519WA	47.07	37F1519WF	207.05
1250	2	20	26/34	.270"	37F1520WA	24.83	37F1520WF	103.17
1251	3	20	26/34	.285"	37F1521WA	27.25	37F1521WF	115.13
1252	4	80	26/34	.305"	37F1522WA	30.67	37F1522WF	129.90
1253	5	20	26/34	.330"	37F1523WA	37.17	37F1523WF	158.57
1254	6	20	26/34	.345"	37F1524WA	45.75	37F1524WF	196.61
1255/8	8	20	26/34	.385"	37F1526WA	56.42	37F1526WF	240.96
1255/10	10	20	26/34	.440"	37F1527WA	139.46	37F1527WF	665.81
1255/12	12	20	26/34	.525"	37F1528WA	203.07	37F1528WF	982.10
1255/15	15	20	26/34	.595"	37F1529WA	263.00	37F1529WF	1281.57
1255/20	20	20	26/34	.660"	37F1530WA	326.60	37F1530WF	1597.92

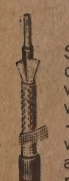
RUBBER JACKETED UNSHIELDED CABLE



20 gauge, 26/34 tinned copper conductor with color-coded rubber wall, nominal thickness .020" over, cabled with cotton wrap. Jacket is black rubber with .035" nominal thickness wall. Specifications: −20°C to +60°C, 300 volts. Suggested applications include heavy duty control and interconnecting systems, audio-visual control, and instrumentation.

Alpha No.	No. of Cond.	Nom. Cond.	Stock No.	100 Ft.	Stock No.	500 Ft.
1244	2	.240"	37F1350WA	28.13	37F1350WF	120.51
1245	3	.255"	37F1351WA	30.80	37F1351WF	134.01
1246	4	.275"	37F1352WA	34.67	37F1352WF	151.85
1247	5	.300"	37F1353WA	46.50	37F1353WF	196.97
1247/6	6	.315"	37F1354WA	56.55	37F1354WF	242.33
1247/7	7	.325"	37F1355WA	68.52	37F1355WF	293.69
1247/8	8	.360"	37F1356WA	71.25	37F1356WF	308.40
1247/10	10	.410"	37F1357WA	104.90	37F1357WF	487.26
1247/12	12	.435"	37F1358WA	145.68	37F1358WF	696.66

NEOPRENE JACKETED SHIELDED CABLE



Shielded control cable has stranded tinned copper conductor with color-coded rubber insulation, .040" nominal wall thickness. Cabled with fillers where necessary, cotton wrap. Jacket is heavy duty black neoprene. Specifications: −20°C to +60°C, 300 volts. Braided tinned copper shield with cotton wrap. Designed for application in such areas as heavy duty control and interconnection. Oil and grease resistant.

Alpha No.	No. Cond.	Conductor Size	Conductor Strand	Nom. O.D.	Stock No.	100 Feet	Stock No.	500 Feet
1449	1	18	41/34	.240"	37F689WA	41.40	37F689WF	178.86
1450	2	18	41/34	.295"	37F690WA	54.00	37F690WF	238.44
1451	3	18	41/34	.305"	37F691WA	99.90	37F691WF	412.73
1452	4	18	41/34	.330"	37F692WA	110.07	37F692WF	513.60
1450/16	2	16	65/34	.335"	37F470WA	103.97	37F470WF	431.10
1451/16	3	16	65/34	.355"	37F471WA	112.52	37F471WF	525.87
1452/16	4	16	65/34	.385"	37F472WA	128.12	37F472WF	603.78

TEFLON MULTICONDUCTOR CABLE

Stranded silver plated copper conductor cable conforms to MIL-W-16878D. Extruded color-coded Type E Teflon insulation, .010" wall. Jacket is white, TFE cables tape wrapped, FEP cables extruded. Braided silver-plated copper shield. −65°C to +200°C, 600 V.

TFE

Alpha No.	Stock No.	No. Cond.	Conductor Size	Conductor Strand	Nom. O.D.	100 Feet
2824	37F1029WA	1	22	19/34	.102"	54.08
2824/2	37F1042WA	2	22	19/34	.154"	84.33
2824/3	37F2256WA	3	22	19/34	.162"	110.75
2824/4	37F2257WA	4	22	19/34	.176"	133.65
2826	37F1028WA	1	16	19/29	.130"	84.50
2826/2	37F1027WA	2	16	19/29	.210"	130.35
2827	37F1045WA	1	20	19/32	.110"	60.67
2827/2	37F1046WA	2	20	19/32	.170"	88.92
2827/3	37F2258WA	3	20	19/32	.180"	116.33
2827/4	37F2259WA	4	20	19/32	.195"	145.05
2829	37F1049WA	1	18	19/30	.120"	73.00
2829/2	37F1050WA	2	18	19/30	.190"	100.80

FEP

2831	37F1053WA	1	24	19/36	.085"	52.72
2831/2	37F1054WA	2	24	19/36	.130"	73.20
2831/3	37F1055WA	3	24	19/36	.135"	100.70
2834	37F1056WA	1	22	19/34	.091"	52.72
2834/2	37F1057WA	2	22	19/34	.150"	77.87
2834/3	37F1058WA	3	22	19/34	.158"	102.51
2837	37F1059WA	1	20	19/32	.100"	57.38
2837/2	37F1060WA	2	20	19/32	.168"	86.05
2837/3	37F1061WA	3	20	19/32	.178"	112.79

MIL-SPEC CABLES

Stranded tinned copper wire cables meet MIL-W-16878D Type B. Color-coded PVC wall has .010" nominal thickness. Clear nylon jacket, cabled. Braided tinned copper shield has 90% coverage. White PVC jacket. Specifications: −55°C to +105°C, 600 volts. Color code: 1—white, 2—black, 3—red. Resistant to acids, alkalis, oil, flame, moisture, fungus, solvents.

Alpha No.	No. Cond.	Conductor Size	Conductor Strand	Nom. O.D.	Stock No.	100 Feet	Stock No.	500 Feet
3210	1	24	19/36	.092"	37F1260WA	9.42	37F1260WF	39.23
3211	2	24	19/36	.152"	37F1261WA	13.08	37F1261WF	56.33
3212	3	24	19/36	.161"	37F1262WA	16.92	37F262WF	72.45
3213	4	24	19/36	.172"	37F1504WA	20.92	37F1504WF	87.98
3220	1	22	19/34	.100"	37F1263WA	11.13	37F1263WF	44.82
3221	2	22	19/34	.168"	37F1264WA	19.30	37F1264WF	81.63
3222	3	22	19/34	.178"	37F1265WA	24.87	37F1265WF	106.14
3230	1	20	19/32	.106"	37F1266WA	10.58	37F1266WF	43.13
3231	2	20	19/32	.186"	37F1505WA	19.58	37F1505WF	79.35
3232	3	20	19/32	.196"	37F1268WA	24.00	37F1268WF	104.40
3240	1	18	19/30	.120"	37F1269WA	14.85	37F1269WF	61.20
3241	2	18	19/30	.210"	37F1270WA	24.53	37F1270WF	104.66
3242	3	18	19/30	.227"	37F1271WA	32.30	37F1271WF	140.06
3245	1	16	19/29	.137"	37F1508WA	14.00	37F1508WF	57.98
3246	2	16	19/29	.236"	37F1509WA	23.58	37F1509WF	102.68
3247	3	16	19/29	.240"	37F1510WA	32.58	37F1510WF	140.40

Shielded Microphone Cable UL Style 1150

Numbers **1702** to **1706**, single conductor, stranded tinned copper, white PE insulation, tinned copper shield, gray PVC jacket overall. Numbers **1709** to **1710**, each conductor stranded tinned copper, color coded PE insulation cabled with fillers, tinned copper shield, gray PVC jacket. Suggested operating temperature −20°C to +80°C.

Alpha No.	Size & Strand	Nom. O.D.	Stk. No.	100 Feet	Stk. No.	1000 Feet
1702*	26 (4)	.110"	37F1376WA	12.03	37F1376WM	85.61
1703	24 (10)	.145"	37F1377WA	10.40	37F1377WM	82.07
1704	24 (10)	.190"	37F1378WA	11.08	37F1378WM	83.55
1705*	24 (10)	.110"	37F1379WA	13.68	37F1379WM	98.88
1706*	20 (26)	.175"	37F1380WA	20.95	37F1380WM	165.39
1709*	24 (10)	.190"	37F1381WA	20.52	37F1381WM	161.66
1710	22 (16)	.230"	37F1382WA	16.08	37F1382WM	124.65

*Spiral wrapped

Audio & Data Cables, Wire Stripper

ALUMINUM FOIL SHIELDED PLASTIC CABLE

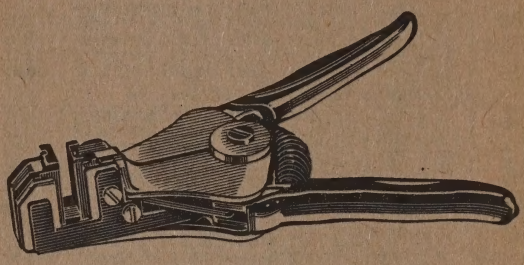
16 to 22 gauge stranded tinned copper conductor with color-coded polyethylene insulation with .016" wall except (*) .008". Shield is mylar supported aluminum foil. Drain wire is parallel, with foil facing outward for maximum ground. 100% shield. Gray PVC jacket. Specifications: −20°C to +60°C, 400 volts. May be used where light weight and 100% shielding are required. Audio, RF, sound circuits.

Alpha No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. O.D.	Stock No.	Net 100′	Stock No.	Net 500′
2402	2	22	7/30	.170"	37F1286WA	8.40	37F1286WF	30.35
2403	3	22	7/30	.185"	37F1287WA	8.92	37F1287WF	32.78
2404	4	22	7/30	.210"	37F1288WA	20.37	37F1288WF	85.34
2411	2	20	10/30	.186"	37F2252WA	8.92	37F2252WF	32.78
2412	2	20	10/30	.186"	37F1289WA	9.33	37F1289WF	37.22
2413	3	20	10/30	.205"	37F1290WA	11.27	37F1290WF	41.40
2414	4	20	10/30	.225"	37F1291WA	21.15	37F1291WF	87.80
2421	2	18	16/30	.210"	37F2253WA	10.70	37F2253WF	39.30
2422	2	18	16/30	.210"	37F1292WA	10.93	37F1292WF	44.39
2423	3	18	16/30	.230"	37F1293WA	14.35	37F1293WF	52.73
2424	4	18	16/30	.255"	37F1294WA	24.95	37F1294WF	104.67
2432	2	16	26/30	.245"	37F1531WA	13.20	37F1531WF	60.03
2433	3	16	26/30	.270"	37F1532WA	21.43	37F1532WF	89.01
2460	2	22	Solid	.118"*	37F2254WA	7.60	37F2254WF	24.75
2461	2	22	7/30	.135"*	37F2255WA	8.13	37F2255WF	28.80

ALPHA PLASTIC-BLADE WIRE STRIPPER

A TOTALLY NEW CONCEPT IN WIRE STRIPPERS

- **Outstrips Old-Fashioned Metal Blades**
- **Saves Time, Money, And Labor**
- **Space-Age Plastic Blades Can't Damage Conductors**



The secret's in the plastic blades

It starts with space-age plastic blades with a cutting edge made from STILAN. This newly engineered patented polymer is harder than most insulating materials, yet too soft to damage the copper conductor inside. The blades insert easily and quickly into the stripper. They are durable and will last up to 50,000 strips depending on the type of wire being stripped.

Goof-proof design prevents damage to conductors

Enjoy peace of mind. The Plastic-Blade Stripper protects against careless workers and defects in the wire (a conductor off-center, for example). Because the blade cuts through the insulation and deforms around the wire, there's no chance of damage to the conductor. Component failures due to nicked wires are eliminated. No inspection time is required.

Strips them all

No more one-at-a-time stripping. Multiple conductor configurations and more than one hook-up wire are stripped simultaneously. There is no need to separate the conductors. One strip gives you neat, even leads. Not so with all other strippers. Use the Alpha Plastic-Blade Stripper on any wire from #12 through #28 AWG—twisted pairs, multiple conductor cable, ribbon cable, TV twinlead antenna wire, lamp cord, electrical cable, telephone wire and even hook-up wire two, three or more at one time. Strips vinyl polyethylene, rubber, neoprene irradiated vinyls—most insulating materials in use today—except Teflon and Kynar.

No locating grooves

Steel blades have pre-set grooves for various sizes of wire. The Stilan plastic blade is grooveless. Requires no positioning. Put any size wire anywhere between the blades. A worker doesn't even have to know the guage size he is stripping or look for the groove. He can almost operate the Plastic-Blade Stripper in the dark. It's goof-proof.

Time studies show Plastic-Blade Stripper faster

Studies have proven the Plastic-Blade Stripper to be more than 25% faster than strippers using steel blades. And as the operator becomes confident that he can't damage the conductors, stripping speed increases, fatigue decreases, and the savings mount.

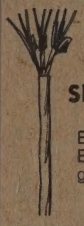
Save time replacing blades

Change blades in seconds just like using an injector razor. Up to 50,000 strips on the more popular hook-up wire constructions.

Alpha Plastic-Blade Stripper with 3 sets of blades.

Disc of 5 sets of replacement blades.

Stock No.	Alpha No.	Description	Each
37F040	STRP-25	Plastic-Blade Stripper	39.95
37F041	BLD-5	Replacement Blade Pack	9.95



SHIELDED AUDIO & DATA CABLE

Each conductor tinned copper high density PE insulation. Each pair with AL/Mylar foil shield and drain wire overall gray PVC Jacket.

#22—SOLID

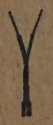
Alpha No.	No. Pairs	Nom. O.D.	Stock No.	100′	Stock No.	500′
6000	3	.235	37F1535WA	18.92	37F1535WF	77.25
6002	6	.318	37F1536WA	38.58	37F1536WF	161.25
6004	9	.371	37F1537WA	52.42	37F1537WF	229.20
6006	11	.414	37F1538WA	63.08	37F1538WF	272.03
6008	15	.485	37F1539WA	86.92	37F1539WF	372.45

#22—STRANDED

Alpha No.	No. Pairs	Nom. O.D.	Stock No.	100′	Stock No.	500′
6010	3	.252	37F1540WA	21.33	37F1540WF	89.78
6012	6	.342	37F1541WA	43.25	37F1541WF	188.40
6014	9	.410	37F1542WA	70.08	37F1542WF	276.38
6016	11	.457	37F1543WA	76.42	37F1543WF	327.60
6018	15	.523	37F1544WA	100.17	37F1544WF	433.88
6020	19	.570	37F1545WA	122.33	37F1545WF	579.00
6022	27	.687	37F1546WA	168.23	37F1546WF	823.50

#18—Stranded

Alpha No.	No. Pairs	Nom. O.D.	Stock No.	100′	Stock No.	500′
6023	3	.372	37F1190WA	32.67	37F1190WF	138.68
6024	6	.555	37F1191WA	64.87	37F1191WF	283.65
6025	9	.620	37F1192WA	96.98	37F1192WF	427.88
6026	12	.765	37F1193WA	115.74	37F1193WF	569.55
6027	15	.830	37F1194WA	146.57	37F1194WF	710.10



MINIATURE SHIELDED CABLE

Each conductor is stranded tinned copper with color-coded PVC insulation. Conductors are twisted, with fine braided tinned copper shield overall. Clear polyvinyl-chloride jacket overall. Recommended operating temperature: −20°C to −80°C. Suggested operating voltage: 200 volts, 28 ga., 7/36 strand

Alpha No.	No. of Cond.	Nom. O.D.	Stock No.	NET 100′	Stock No.	NET 500′
1120	2	.105"	37F2020WA	18.97	37F2020WF	78.09
1121	3	.115"	37F2021WA	21.95	37F2021WF	91.86
1122	4	.120"	37F2022WA	27.23	37F2022WF	115.77

alpha Audio & Instrumentation Cable

UNSHIELDED INTERCOM CABLE

Has 22 gauge solid tinned copper conductor, color-coded PVC insulation with conductors paired. Wall is .010" thick. Jacket of gray PVC. Specifications: −20°C to +80°C, 200 volts. Applications include balanced intercoms, telephones, call systems, control circuits, computers, speakers, alarm & signal systems. Suitable for outdoor installations.

22 GAUGE—SOLID CONDUCTORS—200 V.

Alpha No.	No. of Pairs	Nom. Jacket	Nom. O.D.	Stock No.	100 Feet	Stock No.	500 Feet
1300	1	.025"	.140"	37F1883WA	4.68	37F1883WF	15.08
1302	2	.025"	.208"	37F1884WA	7.85	37F1884WF	28.28
1307	6	.025"	.275"	37F1886WA	17.08	37F1886WF	69.60
1307/9	9	.025"	.320"	37F1888WA	24.92	37F1888WF	104.18
1309	13	.030"	.370"	37F1890WA	35.42	37F1890WF	151.58
1309/15	15	.030"	.393"	37F1891WA	42.83	37F1891WF	179.63
1310	16	.030"	.411"	37F1892WA	51.53	37F1892WF	222.11
1313	27	.040"	.521"	37F1893WA	68.90	37F1893WF	310.05
22 GAUGE—STRANDED CONDUCTORS—200 VOLTS							
1316	1	.025"	.150"	37F2235WA	7.28	37F2235WF	26.55
1317	2	.025"	.225"	37F2236WA	9.08	37F2236WF	33.30
1318	3	.025"	.238"	37F2237WA	13.05	37F2237WF	49.43
1319	4	.025"	.260"	37F2238WA	16.28	37F2238WF	63.23
1320	5	.025"	.290"	37F2239WA	20.05	37F2239WF	83.55
1322	6	.035"	.320"	37F2240WA	20.58	37F2240WF	84.98
1323	9	.035"	.370"	37F2241WA	30.75	37F2241WF	130.28
1324	11	.035"	.400"	37F2242WA	43.77	37F2242WF	195.03
1327	15	.040"	.450"	37F2243WA	51.50	37F2243WF	219.08
1327/19	19	.040"	.480"	37F2244WA	62.78	37F2244WF	275.85
1328	23	.040"	.530"	37F2245WA	80.23	37F2245WF	354.30
1329	27	.040"	.708"	37F2246WA	96.28	37F2246WF	413.78

UNSHIELDED AUDIO CABLE

22 gauge 7/30 stranded tinned copper conductor with color-coded PVC insulation. .010" wall. Conductors twisted in gray PVC jacket. Specifications: −20°C to +80°C, 200 volts. Applications include unbalanced intercoms, control cables, P.A. systems, computers, alarm & signal systems. For outside installation. Cond. strand 7/30. Cond. size: 22.

Alpha No.	No. of Cond.	Nom. O.D.	Stock No.	100 Feet	Stock No.	500 Feet
1172	2	.140"	37F1336WA	5.72	37F1336WF	17.93
1173	3	.145"	37F1337WA	6.05	37F1337WF	22.05
1174	4	.170"	37F1338WA	8.05	37F1338WF	30.08
1175	5	.175"	37F1339WA	9.42	37F1339WF	35.93
1176	6	.185"	37F1340WA	10.85	37F1340WF	41.48
1177	7	.190"	37F1341WA	12.00	37F1341WF	45.38
1178	8	.200"	37F1342WA	14.68	37F1342WF	56.16
1179	9	.225"	37F1343WA	17.25	37F1343WF	66.00
1180	10	.235"	37F1344WA	18.25	37F1344WF	74.93
1181	12	.255"	37F1345WA	20.58	37F1345WF	84.53
1181/15	15	.280"	37F1346WA	32.58	37F1346WF	130.13
1181/20	20	.310"	37F1347WA	38.85	37F1347WF	168.23
1181/25	25	.340"	37F1348WA	51.00	37F1348WF	210.23
1181/30	30	.365"	37F1349WA	53.65	37F1349WF	241.43
1181/40	40	.425"	37F1512WA	70.95	37F1512WF	319.28
1181/50	50	.500"	37F1513WA	88.55	37F1513WF	398.48
1181/60	60	.542"	37F1514WA	142.53	37F1514WF	605.75

UNSHIELDED AUDIO CABLE

14 to 22 gauge solid or stranded conductor with PVC wall—(*) .010", (**) .016", (***) .018", (†) .023", (††) .030". Gray PVC jacket. Specifications: −20°C to +60°C, 350 volts except suffix 93, 94, 94/4, 200 volts. Applications include intercoms, interconnecting cables, remote control circuits, telephones, telemetering connecting cable. Suitable for outdoor use.

SOLID

Alpha No.	No. of Cond.	Cond. Size	Nom. O.D.	Stock No.	100 Feet	Stock No.	500 Feet
1793 *	2	22	.130"	37F1642WA	6.38	37F1642WF	20.75
1794 *	3	22	.140"	37F1643WA	11.23	37F1643WF	41.75
1795**	2	20	.170"	37F1645WA	13.38	37F1645WF	51.66
1797**	2	18	.190"	37F1648WA	15.10	37F1648WF	57.69

STRANDED

Alpha No.	No. of Cond.	Cond. Size	Nom. O.D.	Stock No.	100 Feet	Stock No.	500 Feet
1893 *	2	22	.135"	37F1654WA	7.42	37F1654WF	23.00
1894 *	3	22	.145"	37F1655WA	7.42	37F1655WF	22.05
1894/4 *	4	22	.170"	37F1656WA	8.05	37F1656WF	30.08
1895 **	2	20	.180"	37F1657WA	6.37	37F1657WF	21.08
1896 **	3	20	.190"	37F1658WA	7.82	37F1658WF	30.30
1896/4***	4	20	.215"	37F1659WA	10.00	37F1659WF	39.53
1897 ***	2	18	.200"	37F1660WA	8.48	37F1660WF	32.97
1898 ***	3	18	.210"	37F1661WA	12.08	37F1661WF	49.26
1898/4***	4	18	.240"	37F1662WA	14.68	37F1662WF	60.44
1899 †	2	16	.225"	37F1663WA	11.27	37F1663WF	44.51
1891 ††	2	14	.260"	37F1666WA	16.92	37F1666WF	69.39
1891/3 ††	3	14	.280"	37F1667WA	41.42	37F1667WF	178.50

BRAIDED SHIELDED PLASTIC CABLE

14 to 22 gauge stranded tinned copper conductor with color-coded PVC .016" wall thickness, except (†) .020". Gray PVC jacket. Copper shield, 75% coverage for high flexibility and cable strength. Specifications: −20°C to +80°C, 350 volts except 1750, 1751, 450 volts. Applications include Public Address systems, sound systems, audio circuits, shielded power lines, or RF circuits. Suitable for outdoor installations in such applications as amateur radio transmitters or wherever economical shielded cable is required.

Alpha No.	No. Cond.	Cond. Size	Nom. O.D.	Stock No.	100 Feet	Stock No.	500 Feet
1736	2	22	.185"	37F1075WA	10.55	37F1075WF	41.18
1737	3	22	.200"	37F1076WA	11.25	37F1076WF	42.75
1738	4	22	.210"	37F1299WA	17.77	37F1299WF	75.09
1741	2	20	.200"	37F1077WA	19.02	37F1077WF	77.88
1742	3	20	.220"	37F1078WA	22.23	37F1078WF	92.70
1746	2	18	.235"	37F1079WA	23.22	37F1079WF	97.13
1747	3	18	.245"	37F1080WA	33.02	37F1080WF	141.24
1748	2	16	.250"	37F1081WA	32.75	37F1081WF	139.68
1750 †	2	14	.290"	37F1082WA	41.25	37F1082WF	177.98
1751 †	3	14	.295"	37F1409WA	62.17	37F1409WF	279.47

SPIRAL WRAP SHIELDED PLASTIC CABLE

16 to 22 gauge stranded tinned copper conductor with color coded PVC wall .020" thick. Gray PVC jacket. Shield is spiral wrapped tinned copper, for easy pigtailing, 85% shield coverage. Specifications: −20°C to +80°C, 350 volts. Easily strippable shield makes this wire ideal for production line work in such areas as audio interconnecting, PA and sound system use, radio receiving and transmitting equipment and shielded power applications.

Alpha No.	No. Cond.	Cond. Size	Nom. O.D.	Stock No.	100 Feet	Stock No.	500 Feet
2254/1	1	22	.115"	37F2247WA	6.73	37F2247WF	25.68
2254	2	22	.175"	37F1086WA	8.13	37F1086WF	31.65
2254/3	3	22	.190"	37F1087WA	18.98	37F1087WF	76.14
2254/4	4	22	.200"	37F2248WA	30.23	37F2248WF	126.90
2254/6	6	22	.235"	37F2249WA	41.05	37F2249WF	175.58
2256/1	1	20	.130"	37F1089WA	7.88	37F1089WF	29.90
2256	2	20	.195"	37F1090WA	10.25	37F1090WF	37.13
2256/3	3	20	.210"	37F1091WA	21.45	37F1091WF	87.26
2258	2	18	.230"	37F1092WA	12.65	37F1092WF	50.22
2258/3	3	18	.235"	37F1093WA	15.45	37F1093WF	62.24
2258/4	4	18	.245"	37F2250WA	42.90	37F2250WF	183.90
2260	2	16	.240"	37F2251WA	15.83	37F2251WF	65.18

RIBBON CABLE

- Ratings to 1000 V.
- Temperatures —55° to +105°C
- Saves Space
- Simplifies Identification
- Color-Coded PVC

Meets MIL-W-16878D. Round conductor flat bonded ribbon cable has all the advantages of a flat, compact profile plus ease of termination and stripping. Saves space, simplifies cable identification. Simple to separate and terminate individual conductors. Each conductor is stranded tinned copper with color-coded PVC insulation with conductors specially bonded into flat configuration. Specifications: Type B, 600 volts, −55°C to +105°C; Type C, 1000 volts, −55°C to +105°C. Conductors coded as follows: (1) brown, (2) red, (3) orange, (4) yellow, (5) green, (6) blue, (7) violet, (8) grey, (9) white, (10) black.

MIL-W-16878D Type B

Nominal Wall Thickness .010"

Alp. No.	Stock No.	No. of Cond.	Conductor Size	Conductor Strand	Width x Thick.	100 Feet
3530	37F143WA	10	22	19/34	.510x.051	64.56
3531	37F144WA	15	22	19/34	.765x.051	96.83
3532	37F145WA	20	22	19/34	1.05x.051	116.19
3533	37F146WA	30	22	19/34	1.57x.051	174.27
3540	37F147WA	10	24	19/36	.440x.044	54.15
3541	37F148WA	15	24	19/36	.662x.044	81.23
3542	37F149WA	20	24	19/36	.883x.044	108.30
3543	37F150WA	30	24	19/36	1.35x.044	146.22
3550	37F151WA	10	26	7/34	.392x.039	41.87
3551	37F152WA	15	26	7/34	.587x.039	62.77
3552	37F153WA	20	26	7/34	.783x.039	83.67
3553	37F154WA	30	26	7/34	1.19x.039	112.98
3560	37F155WA	10	28	7/36	.351x.035	48.13
3561	37F156WA	15	28	7/36	.523x.035	72.22
3562	37F157WA	20	28	7/36	.701x.035	96.28
3563	37F158WA	30	28	7/36	1.06x.035	129.96
3570	37F200WA	10	30	7/38	.311x.032	56.62
3571	37F201WA	15	30	7/38	.482x.032	84.93
3572	37F202WA	20	30	7/38	1.05x.032	101.91
3573	37F203WA	30	30	7/38	.965x.032	150.44

Mil-Spec & UL Hook-Up Wire and Cable

alpha

TYPE 1007 UL/CSA LISTED HOOKUP WIRE

Stranded tinned copper conductor with color-coded PVC .016" wall insulation. Specifications: −10°C to +80°C 300 volts. Std. spool put-up: 100 or 1000 ft. Stock Colors: 1-19. Specify color.

Alp. No.	Cond. Size	Nom. O.D.	Stock No.	Net 100 Ft.	Stock No.	Net 1000 Ft.
3050	24	.057"	37F1300WA	2.72	37F1300WM	16.29
3051	22	.065"	37F1301WA	3.33	37F1301WM	20.15
3053	20	.071"	37F1302WA	4.00	37F1302WM	26.60
3055	18	.080"	37F1303WA	5.57	37F1303WM	39.20
3057	16	.095"	37F1304WA	7.82	37F1304WM	59.94

TYPE 1015 UL/CSA LISTED HOOKUP WIRE

Combines stranded tinned copper conductor with color-coded Polyvinylchloride .032" wall insulation. Specifications: −10° to +105°C, 600 volts. Stock Colors: 1-10. Specify color.

Alp. No.	Cond. Size	Nom. O.D.	Stock No.	Net 100 Ft.	Stock No.	Net 1000 Ft.
3071	22	.095"	37F1305WA	3.13	37F1305WM	20.25
3073	20	.102"	37F1306WA	3.87	37F1306WM	25.65
3075	18	.112"	37F1307WA	4.78	37F1307WM	30.75
3077	16	.125"	37F1308WA	5.88	37F1308WM	45.00
3079	14	.142"	37F1309WA	8.28	37F1309WM	55.26

200°C UL Style 1164, 1180 Wire

Offers single conductor silver plated copper wire with TFE extruded Teflon insulation. Temperature rated −65°C to +200°C. Resistant to acid, alkalis, oil, flame, moisture, solvents and fungus. Stock Colors: 1-10 except 6878 which is stocked in white only. Specify color.

Alp. No.	Cond. Size	Nom. O.D.	Stock No.	Net 100 Ft.	Stock No.	Net 1000 Ft.
6874	24	.055"	37F114WA	13.55	37F114WM	81.48
6875	22	.062"	37F115WA	15.13	37F115WM	94.79
6876	20	.070"	37F116WA	17.80	37F116WM	112.08
6877	18	.080"	37F117WA	33.53	37F117WM	176.57
6878	16	.089"	37F118WA	26.35	37F118WM	181.20

Tefzel® Computer Wire

Solid silver plated OFHC copper conductor. Tefzel insulation provides high-temperature, thin wall suitable for wire wrap insulation. Low dielectric constant of 2.6. Temperature range: −100°C to +150°C continuous. Tefzel is chemically inert and rated non-burning. .005" wall. Stock colors: 1-10. Specify color.

Alp. No.	Cond. Size	Nom. O.D.	Stock No.	Net 100 Ft.	Stock No.	Net 1000 Ft.
1805	30	.019"	37F119WA	8.85	37F119WM	68.79
1806	28	.023"	37F120WA	9.43	37F120WM	74.13
1807	26	.026"	37F121WA	10.03	37F121WM	79.74
1808	24	.029"	37F122WA	11.15	37F122WM	89.87

GENERAL STOCK COLORS

1—White	8—Orange	15—White/Blue
2—Black	9—Gray (slate)	16—White/Brown
3—Red	10—Violet (purple)	17—White/Orange
4—Green	11—White/Black	18—White/Gray
5—Yellow	12—White/Red	19—White/Violet
6—Light Blue	13—White/Green	
7—Brown	14—White/Yellow	

PVC HOOK-UP WIRE

Meets MIL-W-16878D. Stranded tinned copper conductor, Type B color-coded PVC, .010" wall; Type C, .016" wall. Clear nylon jacket, .002" to .004" wall where indicated. Specifications: −55°C to +105°C (+115°C with nylon jacket). Type B: 600 volts; Type C: 1000 volts. Specify color 1-10.

Alp. No.	Cond. Size	Nom. O.D.	Stock No.	Net 100 Ft.	Stock No.	Net 1000 Ft.
1850	32	.028"	37F593WA	3.12	37F593WM	19.65
1851	30	.032"	37F544WA	2.48	37F544WM	15.60
1852	28	.034"	37F545WA	2.43	37F545WM	14.25
1853	26	.038"	37F546WA	2.42	37F546WM	15.45
1854	24	.043"	37F547WA	2.42	37F547WM	14.40
1854/19	24	.043"	37F1326WA	3.12	37F1326WM	17.55
1855	22	.050"	37F548WA	2.72	37F548WM	15.75
1855/19	22	.050"	37F1327WA	4.17	37F1327WM	23.63
1856	20	.058"	37F549WA	3.33	37F549WM	19.05
1856/19	20	.058"	37F1328WA	4.95	37F1328WM	31.91
1857	18	.068"	37F570WA	3.57	37F570WM	24.30
1857/19	18	.068"	37F1329WA	4.68	37F1329WM	30.32
1858/19	16	.077"	37F571WA	4.53	37F571WM	32.25
1859/19	14	.091"	37F1331WA	12.45	37F1331WM	82.97

TYPE B WITH PRE-BONDED CONDUCTOR

Same specifications as standard Type B with addition of pre-bonded conductor. Double-tinned, then heated for easy stripping. Provides non-fraying ends for quick, neat terminations.

TYPE B NYLON JACKET

Alp. No.	Cond. Size	Nom. O.D.	Stock No.	Net 100 Ft.	Stock No.	Net 1000 Ft.
1864/19	24	.049"	37F1321WA	3.57	37F1321WM	23.85
1865/19	22	.056"	37F1322WA	4.03	37F1322WM	27.45
1866/19	20	.064"	37F1323WA	4.32	37F1323WM	29.55
1867/19	18	.074"	37F1324WA	5.30	37F1324WM	37.65
1868/19	16	.085"	37F580WA	5.03	37F580WM	41.55
1869/19	14	.099"	37F1325WA	11.68	37F1325WM	95.74

Irradiated-Heat Resistant Hookup Wire

Irradiated PVC insulation will not shrink back, melt, blow or deform even in direct contact with soldering iron. Reduces wire deformation in forming bundles and harnesses. Eliminates production damage and results in less scrap; ideal for tight, high density systems. UL Style 1430 (105°C)—300 Volts. Stock Colors: 1-10. (*)-Solid.

Alp. No.	Cond. Size	Nom. O.D.	Stock No.	Net 100 Ft.	Stock No.	Net 1000 Ft.
7130	24	.056"	37F123WA	3.98	37F123WM	28.20
7131	22	.062"	37F124WA	4.70	37F124WM	34.19
7132	20	.070"	37F125WA	5.45	37F125WM	40.01
7133	18	.080"	37F126WA	6.63	37F126WM	46.94
7134	16	.091"	37F127WA	8.62	37F127WM	68.01
UL Style 1429 Solid & Stranded (+80°C)						
7149	26	.028"	37F128WA	3.43	37F128WM	24.11
7150	24	.043"	37F129WA	4.08	37F129WM	24.74
7151	22	.050"	37F130WA	4.28	37F130WM	26.90
7153	20	.068"	37F131WA	5.03	37F131WM	33.42
7155	18	.068"	37F132WA	6.22	37F132WM	43.86
7157	16	.077"	37F133WA	8.90	37F133WM	70.56
7161*	22	.045"	37F134WA	3.88	37F134WM	24.03
7161/24*	24	.040"	37F135WA	3.53	37F135WM	21.12
7163*	20	.054"	37F136WA	5.12	37F136WM	36.99

VINYL HOOK-UP WIRE

Solid or extra-flexible stranded tinned copper, color-coded medium wall PVC insulation (Nom. wall thickness is .016"). Temperature rating −40°C to +80°C, voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus. Colors from chart on facing page.

Stocked in Colors 1-10. Specify color

Alp. No.	Cond. Size	Nom. O.D.	Stock No.	Net 100 Ft.	Stock No.	Net 1000 Ft.
1550	24	.059"	37F500WA	2.37	37F500WM	13.95
1551	22	.064"	37F501WA	2.65	37F501WM	16.35
1553	20	.073"	37F502WA	3.10	37F502WM	18.60
1555	18	.084"	37F503WA	3.68	37F503WM	24.90
1557	16	.095"	37F504WA	5.13	37F504WM	35.85
1559	14	.110"	37F505WA	7.22	37F505WM	56.10
1560	12	.125"	37F506WA	11.08	37F506WM	81.00
1561	22	.060"	37F507WA	2.27	37F507WM	12.75
1563	20	.066"	37F508WA	2.68	37F508WM	16.05
1565	18	.074"	37F509WA	3.50	37F509WM	22.05

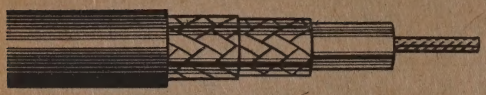
TEFLON HOOK-UP WIRE

Conforms to MIL-W-16878D. Solid or stranded silver-plated copper conductor. Extruded Teflon insulation; Type ET, .006" wall; Type E, .010" wall; Type EE. .014" wall. Specify color 1-10. Specifications: −65°C to +200°C.

Alpha No.	Cond. Size	Nom. O.D.	Stock No.	Net 100 Ft.	Stock No.	Net 1000 Ft.
E-STRANDED						
5851	30	.028"	37F650WA	7.43	37F650WM	39.45
5852	28	.031"	37F651WA	7.80	37F651WM	40.13
5853	26	.035"	37F652WA	8.62	37F652WM	45.90
5854	24	.040"	37F653WA	10.67	37F653WM	62.70
5854/7	24	.039"	37F561WA	9.08	37F561WM	50.93
5855	22	.046"	37F654WA	11.58	37F654WM	68.93
5855/7	22	.045"	37F562WA	10.50	37F562WM	60.38
5856	20	.054"	37F655WA	13.42	37F655WM	83.18
5856/7	20	.053"	37F563WA	12.50	37F563WM	79.20
5857	18	.064"	37F656WA	18.08	37F656WM	118.95
5858	16	.073"	37F657WA	22.00	37F657WM	149.63
EE-STRANDED						
5874	24	.055"	37F564WA	13.58	37F564WM	81.68
5875	22	.062"	37F565WA	15.17	37F565WM	95.03
5877	18	.080"	37F567WA	31.93	37F567WM	168.15
E SOLID						
5853/1	26	.036"	37F1964WA	5.90	37F1964WM	40.11
5854/1	24	.040"	37F1965WA	5.93	37F1965WM	44.28
5855/1	22	.045"	37F1966WA	8.23	37F1966WM	60.00
5856/1	20	.052"	37F1967WA	9.58	37F1967WM	72.63
5857/1	18	.060"	37F1968WA	11.97	37F1968WM	94.74
ET STRANDED						
2840/7	32	.021"	37F1954WA	7.33	37F1954WM	40.80
2841/7	30	.024"	37F1955WA	7.33	37F1955WM	39.98
2842/7	28	.027"	37F1956WA	7.33	37F1956WM	39.75
2842/19	28	.027"	37F1957WA	9.60	37F1957WM	75.90
2843/7	26	.031"	37F1958WA	8.42	37F1958WM	43.73
2843/19	26	.032"	37F1959WA	8.42	37F1959WM	65.24
2844/7	24	.036"	37F1960WA	8.67	37F1960WM	48.68
2844/19	24	.037"	37F1961WA	9.75	37F1961WM	55.80
2845/7	22	.042"	37F1962WA	9.56	37F1962WM	55.13
2845/19	22	.044"	37F1963WA	10.17	37F1963WM	58.43
ET SOLID						
2841/1	30	.022"	37F1950WA	5.53	37F1950WM	38.94
2842/1	28	.025"	37F1951WA	5.38	37F1951WM	37.88
2843/1	26	.028"	37F1952WA	5.53	37F1952WM	39.99
2844/1	24	.032"	37F1953WA	5.97	37F1953WM	43.91

Coaxial Cable

POLYETHYLENE DIELECTRIC COAXIAL CABLE



Conform to MIL-C-17, latest revision. C = Bare Copper; TC = Tinned Copper, SC = Silver Covered Copper, CW = Copper Covered Steel, PE = Solid Polyethylene, SSP = Semi Solid Polyethylene, BP = Black Polyethylene—Type IIIA, NP = Natural Polyethylene—Type III, V = Polyvinylchloride—Type I, NCV = Non-Contaminating Polyvinylchloride = Type IIA.

Alpha No.	Type	Inner Cond. Mat.	Inner Cond. Strand	Inner Cond. O.D.	Dielec. Mat.	Dielec. O.D.	Shields Inner	Shields Outer	Shields O.D.	Jacket Mat.	Jacket O.D.	Imped., Ohms	Stock No.	100 Feet	Stock No.	1000 Feet
9006A	6A/U	CW	1	.0285	PE	.189	SC	C	.264	NCV	.336	75	37F2052WA	61.04	37F2052WM	595.55
9008	8/U	C	7/.0285	.086	PE	.295	C	.....	.340	V	.415	52	37F2053WA	30.38	37F2053WM	258.38
9008A	8A/U	C	7/.0285	.086	PE	.295	C	.....	.340	NCV	.415	52	37F2054WA	35.70	37F2054WM	296.67
9009B	9B/U	SC	7/.0285	.086	PE	.285	SC	SC	.355	NCV	.430	50	37F2055WA	99.33	37F2055WM	973.17
9011	11/U	TC	7/.0159	.048	PE	.295	C	.....	.340	V	.415	75	37F2056WA	27.45	37F2056WM	229.02
9011A	11A/U	TC	7/.0159	.048	PE	.292	C	.....	.340	NCV	.412	75	37F2057WA	30.90	37F2057WM	263.85
9012A	12A/U	TC	7/.0159	.048	PE	.292	C	.....	.340	NCV	.412	75	37F2058WA	47.54	37F2058WM	443.39
9014A	14A/U	C	1	.102	PE	.383	C	C	.463	NCV	.558	52	37F2059WA	76.17	37F2059WM	741.68
9017A	17A/U	C	1	.188	PE	.695	C	.....	.760	NCV	.885	52	37F2060WA	155.78	37F2060WM	1516.16
9019A	19A/U	C	1	.250	PE	.925	C	.....	.990	NCV	1.135	52	37F2061WA	248.34	37F2061WM	2317.73
9055	55/U	C	1	.032	PE	.121	TC	TC	.176	NP	.206	53.5	37F2063WA	19.53	37F2063WM	179.31
9055B	55B/U	SC	1	.032	PE	.121	TC	TC	.176	BP	.206	53.5	37F2064WA	23.55	37F2064WM	222.45
9058	58/U	C	1	.032	PE	.121	TC	.....	.150	V	.200	53.5	37F2065WA	12.50	37F2065WM	79.88
9058A	58A/U	TC	19/.0071	.0375	PE	.120	TC	.....	.150	V	.199	50	37F2066WA	12.90	37F2066WM	81.77
9058C	58C/U	TC	19/.0071	.0375	PE	.120	TC	.....	.150	NCV	.199	50	37F2067WA	14.25	37F2067WM	96.77
9059	59/U	CW	1	.0253	PE	.150	C	.....	.191	V	.250	73	37F2068WA	12.75	37F2068WM	81.93
9059B	59B/U	CW	1	.023	PE	.150	C	.....	.191	NCV	.246	75	37F2069WA	14.85	37F2069WM	102.47
9062	62/U	CW	1	.025	SSP	.151	C	.....	.191	V	.250	93	37F2070WA	16.05	37F2070WM	114.62
9062A	62A/U	CW	1	.025	SSP	.151	C	.....	.191	NCV	.249	93	37F2071WA	16.43	37F2071WM	118.86
9063B	63B/U	CW	1	.0253	SSP	.295	C	.....	.340	NCV	.415	125	37F2072WA	41.25	37F2072WM	355.50
9071B	71B/U	CW	1	.025	SSP	.151	C	TC	.208	BP	.250	93	37F2073WA	22.26	37F2073WM	196.89
9174	174/U	CW	7/.0063	.019	PE	.060	TC	.....	.088	NCV	.105	50	37F2074WA	8.70	37F2074WM	56.93
9212	212/U	SC	1	.056	PE	.189	SC	SC	.265	NCV	.336	50	37F2075WA	87.29	37F2075WM	812.72
9213	213/U	C	7/.0296	.090	PE	.292	C	.....	.340	NCV	.412	50	37F2076WA	35.70	37F2076WM	296.67
9214	214/U	SC	7/.0296	.090	PE	.292	SC	SC	.360	NCV	.432	50	37F2077WA	112.50	37F2077WM	1001.75
9215	215/U	C	7/.0296	.090	PE	.292	C	.....	.340	NCV	.412	50	37F2078WA	48.96	37F2078WM	460.67
9217	217/U	C	1	.106	PE	.380	C	C	.463	NCV	.555	50	37F2079WA	76.29	37F2079WM	719.79
9218	218/U	C	1	.195	PE	.690	C	.....	.760	NCV	.880	50	37F2080WA	202.50	37F2080WM	1896.42
9219	219/U	C	1	.195	PE	.690	C	.....	.760	NCV	.880	50	37F2081WA	285.00	37F2081WM	2635.73
9223	223/U	SC	1	.036	PE	.120	SC	SC	.176	NCV	.216	50	37F2082WA	41.25	37F2082WM	371.99

All dimensions are maximum except where indicated

TEFLON DIELECTRIC COAXIAL CABLE

Conductors are silver plated copperweld. Operating temperature of 200° C. Meet MIL-C-17, latest revision. Cond., 7/.004 except Alpha No. 9188A, 7/.0067. Suitable for a wide variety of commercial or industrial application. In 100' or 1000' put-ups.

Alpha No.	Type	Wall Thick.	Jacket Thick.	Jacket Type	Max. O.D.	Cap. Nom.	Imped., Ohms	Stock No.	100 Feet	Stock No.	1000 Feet
9178B	178B/U	.012	.010	Extruded FEP	.075	27.9	50 ±2	37F2083WA	25.95	37F2083WM	199.25
9179B	179B/U	.021	.010	Extruded FEP	.105	20.4	75 ±3	37F2084WA	39.98	37F2084WM	339.23
9180B	180B/U	.045	.010	Extruded FEP	.145	15.3	93 ±2	37F2085WA	53.25	37F2085WM	470.58
9187A	187A/U	.024	.012	Fused TFE Tape	.110	19.5	75 ±3	37F1482WA	35.85	37F1482WM	325.44
9188A	188A/U	.020	.012	Fused TFE Tape	.110	27.5	50 ±2	37F2086WA	35.85	37F2086WM	315.03
9195A	195A/U	.045	.014	Fused TFE Tape	.155	14.5	95 ±3	37F2087WA	78.89	37F2087WM	750.39
9196A	196A/U	.011	.012	Fused TFE Tape	.080	28.5	50 ±2	37F2088WA	28.25	37F2088WM	230.30

CATV, MATV, CCTV COAXIAL CABLE

Designed specifically for commercial and CATV, MATV and CCTV applications.

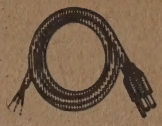
Alpha No.	Stock No.	Type	Dielec. Material	Shield	Jacket Material	O.D.	Imped., Ohms	Color	1000 Feet
9843	37F2050WM	6/U	Foam PE	Foil	PVC	.242	75	Black	66.66
9846	37F2089WM	8/U	Foam PE	BBC	PVC	.407	50	Black	253.53
9847	37F2090WM	11/U	Foam PE	BBC	PE	.405	75	Black	273.81
9848	37F2091WM	58/U	Foam PE	BTC	PVC	.195	50	Black	89.39
9830	37F1970WM	59/U	Solid PE	BBC	PVC	.242	75	Black	84.84
9840	37F1971WM	59/U	Foam PE	BBC	PVC	.242	75	Black	101.06
9844	37F2051WM	59/U	Foam PE	Foil	PVC	.218	80	Black	58.26

SHIELD AND JACKET MATERIAL: BBC—Braided Bare Copper BTC—Braided Tinned Copper
Foil—Aluminum Polyester Tape with 4-28 AWG Tinned Copperweld Drain Wires
PE—Unicellular Foamed Polyethylene

UL Service Cords, Retractiles, Test Lead Wire

alpha

REPLACEMENT CORD SETS



UL, CSA listed 2 and 3 conductor cords have molded male plug on one end, stripped leads on other. Specifications: 300 volts, heavy duty black rubber jacket. Use 3 conductor when 1 conductor requires grounding. For use in business machines, small tools, appliances.

#18—7 Amp. 2 Conductor Cord Sets #16—10 Amp

Alp. No.	Stock No.	Cond. Size	Cond. Strand	UL Type	Cord Lgth.	Net
615	37F1412	18	16/30	SJ	6	2.12
616	37F1413	18	16/30	SJ	9	2.42
618	37F1414	16	26/30	SJ	6	3.02

RUBBER TEST LEAD WIRE

Extra-flexible stranded tinned copper conductor with red or black rubber stain finish insulation. Specifications: Standard, Heavy-duty, or Mil-Spec. −20°C to +60°C, 1500 to 10,000 volts. For analyzers, oscillators, meters, etc.

Heavy Duty Type

Alp. No.	Color	Cond. Size	Nom. O.D.	Stock No.	100 Ft.	Stock No.	1000 Ft.
1638	Red	18	.230″	37F1403WA	8.78	37F1403WM	73.80
1638	Black	18	.230″	37F1404WA	8.78	37F1404WM	73.80

Military Type Meet MIL-W-13169B

1639	Red	18	.145″	37F1405WA	7.28	37F1405WM	55.20
1639	Black	18	.145″	37F1406WA	7.28	37F1406WM	55.20

Standard Type

Alp. No.	Color	Cond. Size	Nom. O.D.	Stock No.	100 Ft.	Stock No.	1000 Ft.
1632	Red	20	.125″	37F1397WA	5.94	37F1397WM	45.02
1632	Black	20	.125″	37F1398WA	5.94	37F1398WM	45.02
1635	Red	20	.140″	37F1399WA	6.18	37F1399WM	46.79
1635	Black	20	.140″	37F1400WA	6.18	37F1400WM	46.79
1636	Red	18	.140″	37F1401WA	6.56	37F1401WM	48.45
1636	Black	18	.140″	37F1402WA	6.56	37F1402WM	48.45

PVC RETRACTILE COMMUNICATIONS CORDS

Has stranded tinned copper conductor with PVC jacket plus PVC jacket overall. 1 ft. length below extends to 6 ft., 2 ft. to 12 ft., 3 ft. to 18 ft., 4 ft. to 25 ft. Characteristics: Suggested operating temperature, −20°C to +60°C. 23 AWG conductor, 21/36 strands, 120 volts, 1 amp. For mobile and ham equipment, head sets. Black.

UNSHIELDED

Alp. No.	Stock No.	Lgth. (ft.)	No. of Cond.	Coil O.D.	Cord O.D.	1-9	10-Up
702	37F1912	1	2	¾″	.200″	5.09	4.58
703	37F1913	1	3	¾″	.210″	5.51	4.95
704	37F1914	1	4	13/16″	.240″	6.26	5.63
705	37F1915	1	5	1″	.285″	7.34	6.60
706	37F1916	1	6	1⅛″	.305″	9.17	8.25
707	37F1917	1	7	1¼″	.320″	9.99	9.00
702/2	37F1918	2	2	¾″	.200″	8.84	7.95
703/2	37F1919	2	3	¾″	.210″	9.92	8.93
704/2	37F1920	2	4	13/16″	.240″	11.42	10.28
705/2	37F1921	2	5	1″	.285″	13.01	11.70
706/2	37F1922	2	6	1⅛″	.305″	16.67	15.00
707/2	37F1923	2	7	1¼″	.320″	18.26	16.43
702/3	37F1924	3	2	¾″	.200″	12.17	10.95
703/3	37F1925	3	3	¾″	.210″	13.76	12.38
704/3	37F1926	3	4	13/16″	.240″	15.84	14.25
705/3	37F1927	3	5	1″	.285″	17.84	16.05
706/3	37F1928	3	6	1⅛″	.305″	22.08	19.88
707/3	37F1929	3	7	1¼″	.320″	24.33	21.90
702/4	37F1930	4	2	¾″	.200″	15.42	13.88
703/4	37F1931	4	3	¾″	.210″	17.34	15.60
704/4	37F1932	4	4	13/16″	.240″	20.00	18.00
705/4	37F1933	4	5	1″	.285″	22.67	20.40
706/4	37F1934	4	6	1⅛″	.305″	27.84	25.05
707/4	37F1935	4	7	1¼″	.320″	30.42	27.38
708/4	37F1936	4	8	1 3/32″	.360″	43.02	38.72
710/4	37F1937	4	10	1 5/32″	.380″	50.25	45.24
712/4	37F1938	4	12	1 7/32″	.410″	68.13	61.31
715/4	37F1939	4	15	1 9/32″	.470″	74.22	66.78

TINNED COPPER FLAT BRAID

Woven braid is rolled flat at time of manufacture to a specific width. High current capacity and extreme flexibility. May be used for battery grounding, bonding strap, and electrical connection to moving parts.

Alpha No.	Flat Width	Thick	Cir. MILS	Amps	Stock No.	100 Ft.	Stock No.	1000 Ft.
1221	.025″	.015	200	4	37F1144WA	9.08	37F1144WM	75.50
1222	1/32″	.020	400	6	37F1145WA	9.75	37F1145WM	80.75
1223	3/64″	.020	600	7	37F1146WA	10.32	37F1146WM	86.18
1224	3/32″	.020	1200	11	37F1147WA	11.48	37F1147WM	101.19
1229	⅛″	.020	1800	16	37F1148WA	12.93	37F1148WM	113.04
1230	3/16″	.020	3000	25	37F1149WA	14.09	37F1149WM	125.84
1231	¼″	.030	4200	32	37F1150WA	19.10	37F1150WM	175.61
1232	⅜″	.030	7200	46	37F1151WA	30.56	37F1151WM	289.56
1233/2	½″	.030	9600	53	37F1152WA	38.73	37F1152WM	373.35
1233	⅜″	.030	9600	53	37F1153WA	40.98	37F1153WM	394.46
1234	¾″	.040	20800	85	37F1154WA	93.90	37F1154WM	907.55
1235	1″	.045	20800	85	37F1155WA	100.52	37F1155WM	973.56
1239	1⅛″	.050	33700	100	37F1547WA	113.96	37F1547WM	1108.07
1240	1½″	.060	53064	150	37F1548WA	159.66	.....	.....
1241	1¾″	.080	125424	280	37F1549WA	319.32	.....	.....
1242	2″	.120	154368	310	37F1550WA	400.77	.....	.....
1242/4	3″	.200	225000	390	37F1554WA	773.16	.....	.....

TINNED COPPER TUBULAR BRAID

Manufactured completely round as outlined in Mil Spec QQ-B-575. Each strand is soft drawn tinned copper wire. Provides 95% minimum coverage. Current rating below is in free air at 86°F.

Alpha No.	Stock No.	I.D.	AWG Equiv.	Cir. MIL	Amp.	100 Ft.
2160	37F1156WA	1/32″	22	600	7	7.02
2162	37F1157WA	1/16″	19	1200	11	14.82
2164	37F1158WA	7/64″	16	2400	19	23.09
2166	37F1159WA	⅛″	15	3000	25	24.09
2168	37F1160WA	11/64″	14	4200	32	30.12
2170	37F1161WA	13/64″	11	7630	46	42.68
2172	37F1162WA	3/16″	10	9600	53	59.51
2174	37F1163WA	½″	9	13200	62	81.56
2176	37F1164WA	2 3/32″	7	21600	88	110.40

TINNED COPPER OVAL BRAID

Woven tinned copper braid left in tubular configuration as it leaves braiding equipment. May be used as electrostatic shield over conductor or series of conductors, cable, or other components.

Alpha No.	Stock No.	Nom. I.D.	AWG Equiv.	Circ. Mills	Amps	NET 100
2132	37F2026WA	1/16	19	1192	11.0	9.08
2138	37F2027WA	1/64	14	4770	32.0	22.94
2140	37F2028WA	3/16	13	5724	38.0	25.07
2142	37F2029WA	¼	12	6678	41.0	29.81
2144	37F2030WA	⅜	11	7632	46.0	33.86

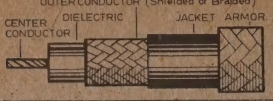
BUS BAR TINNED COPPER

Solid wire offers pure electrolytic soft drawn copper properly annealed and tinned for quick and convenient soldering. Meets or exceeds specifications MIL-W-3861 Type S, QQ-W-343 Type S, and ASTM-B-33. Designed for application in such areas as winding of coils, antenna wiring, point-to-point wiring, bus bar, component leads and grounding wire.

Alpha No.	MIL area	Nom. O.D.	Stock No.	NET 100	Stock No.	NET 1000
299/3	100.5	.010″	37F1131WA	1.61	37F1131WM	6.74
299/2	159.8	.013″	37F1132WA	1.61	37F1132WM	7.25
299/1	254.1	.016″	37F1133WA	1.68	37F1133WM	8.12
299	404.0	.020″	37F1134WA	1.73	37F1134WM	8.97
298	642.4	.025″	37F1135WA	1.80	37F1135WM	11.04
297	1022.0	.033″	37F1136WA	2.15	37F1136WM	15.02
296	1642.0	.040″	37F1137WA	2.87	37F1137WM	21.74
295	2583.0	.051″	37F1138WA	4.01	37F1138WM	34.29
286	4107.0	.065″	37F1139WA	6.09	37F1139WM	50.55
289	6530.0	.082″	37F1140WA	9.15	37F1140WM	75.36
292	10380.0	.103″	37F2031WA	18.00	37F2031WM	177.75
292/8	16510.0	.129″	37F2032WA	30.78	37F2032WM	276.15
292/6	26250.0	.162″	37F2033WA	47.63	37F2033WM	444.44

DEARBORN

Coaxial and Audio Cable



MIL Desig.	Jacket Type	Temperature Limits
Type I	Black*	−40°C to +80°C
Type IIA	Blk., Grey*	−¼" O.D. −55 to +90°C
		−¼" O.D. −40 to +90°C
Type V	Fiberglas Braid	−55 to +250°C
Type VII	Teflon (PTFE)	−55 to +250°C
Type IX	Teflon (FEP)	−55 to +200°C

*Polyvinylchloride

CABLE JACKET TYPES

Type I (MIL-C-17)—Black PVC. Excellent weathering and abrasion properties, but is of the contaminating type and will cause cable attenuation to increase with age. May be used for direct burial.

Type IIA (MIL-C-17)—Black or Grey PVC. Non-contaminating. Good weathering and abrasion resistant properties. May be used for direct burial.

Type V (MIL-C-17)—Fiberglas Braid. Impregnated with silicone varnish to provide abrasion resistance and moisture seal.

Type VII (MIL-C-17)—Teflon (Polytetrafluordethyene). Either extruded or tape wrapped. Withstands high temperatures; chemically inert; insoluble in liquids and gases.

Type IX (MIL-C-17)—Teflon (Fluorinated Ethylene Propylene). Excellent weathering properties and chemically inert. Max. oper. temp. of 200°C.

RG COAXIAL CABLE—POLYETHYLENE DIELECTRIC

RG/U No.	Type	Jkt. O.D.	Jkt. Type	Imp. Ohm	Cap. pF	Max. Volts	Stk. No.	100′	1000′
58	6058	.195	I	53.5	28.5	1900	37F2500	9.40	68.20
58A	6058A	.195	I	52.0	28.5	1900	37F2501	10.75	75.85
58B	6058B	.195	IIa	53.5	28.5	1900	37F2502	17.60	113.60
58C	6058C	.195	IIa	50.0	28.5	1900	37F2503	15.20	89.80
59	6059	.242	I	73.0	21.0	2300	37F2504	11.40	76.00
59A	6059A	.242	IIa	75.0	20.5	2300	37F2505	13.00	102.40
59B	6059B	.242	IIa	75.0	21.5	2300	37F2506	12.75	95.05
62A	6062A	.242	IIa	93.0	13.5	750	37F2507	12.00	90.60
	6075SM	.150	I	75.0	20.5	2500	37F2508	9.70	71.85
108A	6108A	.235	IIa	78.0	20.0	1000	37F2509	18.40	138.35
8	6008	.405	I	52.0	29.5	5000	37F2510	25.60	204.20
8A	6008A	.405	IIa	52.0	29.5	5000	37F2511	30.10	234.40
11	6011	.405	I	75.0	20.5	5000	37F2512	22.90	181.00
174	6174	.100	I	50.0	30.0	1500	37F2513	7.20	52.80
213	6213	.405	IIa	50.0	29.5	3000	37F2514	32.80	234.40
218	6218	.870	IIa	50.0	29.5	11000	37F2515	199.20	1776.00
223	6223	.216	IIa	50.0	29.5	1900	37F2516	33.85	293.95

RG COAXIAL CABLE TEFLON™ DIELECTRIC

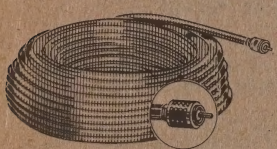
RG/U No.	Type	Jkt. O.D.	Jkt. Type	Imp. Ohms	Cap. pF	Max. Volts	Stk. No.	100′
141A	6141A	.190	V	50.0	28.5	1900	37F2517	108.80
142B	6142B	.195	IX	50.0	28.5	1900	37F2518	92.65
179B	6179B	.105	IX	75.0	19.5	1200	37F2519	47.55
180B	6180B	.145	IX	95.0	15.0	1500	37F2520	48.60
187A	6187A	.110	VII	75.0	19.5	1200	37F2521	38.25
188A	6188A	.110	VII	50.0	29.0	1200	37F2522	38.25
196A	6196A	.080	VII	50.0	28.5	1000	37F2523	30.25
303	6303	.170	IX	50.0	28.5	1900	37F2524	120.00
316	6316	.102	IX	50.0	29.0	1200	37F2525	35.20

LOW LOSS COAXIAL CABLE WITH (FOAM) CELLULAR POLYETHYLENE DIELECTRIC

Compared to ordinary RG/U cable of similar size, attenuation is reduced by as much as 35%. These cables are well suited for CATV, Closed Circuit or MATV; ideal for use in amateur, commercial or citizen band. Adapt to terrain problems, are weather resistant. RG/U type 59 is especially suitable for home use applications such as color television where low losses are important.

RG/U No.	Type	Jkt. O.D.	Jkt. Type	Shield	Imp. Ohms	Cap. pF	Max. Volts	Stk. No.	100′	1000′
8	6008F	.405	I	C	50	24.5	1500	37F2526	26.25	219.20
11	6011F	.405	I	C	75	16.5	1300	37F2527	28.80	216.00
58	6058F	.195	I	C	50	17.0	1000	37F2528	11.95	73.60
59	6059F	.242	I	C	75	17.3	1000	37F2529	15.60	72.20

LOW LOSS FOAM COAXIAL CABLE ASSEMBLIES

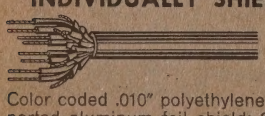


- WEATHER-SEALED & SOLDERED FOR SUPERIOR STRENGTH
- ANTI-TARNISH SILVER FINISH

Designed for Amateur, Commercial, Marine and Citizens Band installations, these ready-to-use coax assemblies offer tarnish proof PL-259 connectors and low loss Polyfoam dielectrics. Cuts transmission and receiving losses up to 35%. 50' and 100' cables have PL-259 connectors attached to both ends. 20' cable has PL-259 connector-on one end and spade lugs at opposite end.

Stk. No.	Type	Description	Each
37F2495	6058F/CL20	58/U foam, 20 feet, PL-259 (one)	6.03
37F2496	6058F/C50	58/U foam, 50 feet, PL-259 (two)	7.62
37F2497	6058F/C100	58/U foam, 100 feet, PL-259 (two)	10.76
37F2498	6008F/C50	8/U foam, 50 feet, PL-259 (two)	17.32
37F2499	6008F/C100	8/U foam, 100 feet, PL-259 (two)	28.26

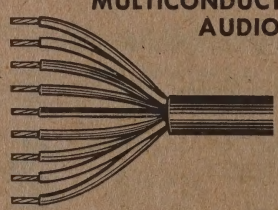
INDIVIDUALLY SHIELDED MULTIPLE PAIRS TINNED COPPER CONDUCTORS



Color coded .010" polyethylene insulation. Pairs have Mylar supported aluminum foil shield; 22 gauge stranded tinned copper drain wire; twisted. Grey PVC jacket overall. Mylar wrap between shields, jacket. Size & stranding: 22-7/30. *.008" polypropylene insulation.

Type	No. Pairs	No. Cond	Nom. Jkt. Thick.	Nom. O.D.	Stk. No.	100′	1000′
962201*	1	2	.020	.135	37F2542	7.70	61.45
962203	3	6	.025	.252	37F2543	20.50	191.55
962206	6	12	.030	.342	37F2544	41.55	400.80
962209	9	18	.035	.410	37F2545	67.20	589.60
962211	11	22	.040	.457	37F2546	73.30	698.90
962215	15	30	.040	.523	37F2547	96.20	925.60
962219	19	38	.050	.570	37F2548	130.40	1,235.20
962227	27	54	.055	.687	37F2549	179.45	1,756.80

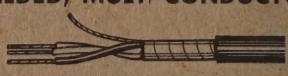
MULTICONDUCTOR UNSHIELDED AUDIO CABLE



Stranded tinned copper conductors. Color coded polyvinylchloride insulation. Conductors cabled and covered with gray PVC jacket overall. Can be used outdoors. All are No. 22 conductor, U.L. style 1061. Nom. wall thick., .010; nom. jacket thick., .020. Temp. rating, −10° to +80°C.

Type	No. of Cond	Stranding	Nom. O.D.	Stk. No.	100′	1000′
832202	2	7/30	.140	37F2530	6.20	38.25
832203	3	7/30	.145	37F2531	5.85	47.05
832204	4	7/30	.170	37F2532	7.80	64.20
832205	5	7/30	.175	37F2533	9.05	76.65
832206	6	7/30	.185	37F2534	10.40	86.80
832207	7	7/30	.190	37F2535	11.55	96.80
832208	8	7/30	.200	37F2536	14.10	117.45
832209	9	7/30	.225	37F2537	16.60	138.00
832210	10	7/30	.235	37F2538	17.55	158.60

FOIL SHIELDED, MULTI-CONDUCTOR CABLE



Conductors: stranded tinned copper; .015" color coded Polyethylene insulation; cabled; aluminum foil Mylar backed shield. No. 22 tinned copper stranded drain wire laid parallel. Gray PVC jacket overall. Temp.: −20° to +60°C. Oper. voltage: 400 V.

Type	No. Cond	AWG Size	Stranding	Nom. O.D.	Stk. No.	100′	1000′
972202	2	22	7/30	.167	37F2550	8.10	55.70
972203	3	22	7/30	.175	37F2551	8.60	69.95
972204	4	22	7/30	.190	37F2552	21.00	169.40
972002	2	20	10/30	.195	37F2553	8.60	69.95
972003	3	20	10/30	.200	37F2554	10.80	88.35
972004	4	20	10/30	.215	37F2555	20.20	184.10

Dearborn Wire and Cable

Color-Code Nos. for Dearborn Items on This Page—Specify Color Number

0. Black 1. Brown 2. Red 3. Orange 4. Yellow 5. Green 6. Blue 7. Violet 8. Gray 9. White

KYNAR® COMPUTER-TYPE HOOKUP WIRE APPROVED BY U.L. AND CSA

Kynar® insulation is flame retardant and self-extinguishing, highly resistant to ultra-violet. Its characteristics remain unchanged when exposed to 300 million roentgens. Operating temperature range is up to +125°C and is UL rated to 105°C. Conductor is solid annealed copper. Supplied on large hub reels. Available in black, red, orange, yellow, green, blue, gray, and white—**Specify color by number.**

Mfr's Type	AWG Size	Insul. Thk's.	Nom. O.D.	U.L. Style	Stock No.	PER 1000′ HUB 1	2-4	5-49
773001	30 (1)	.005″	.0195″	1422	37F2225WM	56.10	41.25	27.50
772801	28 (1)	.0035″	.020″	1423	37F2226WM	56.65	40.45	26.95
772601	26 (1)	.005″	.027″	1422	37F2227WM	57.75	42.10	28.05
772401	24 (1)	.010″	.042″	1327	37F2228WM	58.85	42.92	28.60

Kynar® is trademark of Pennwalt

"TEW" U.L. AND CSA HOOKUP WIRE FLAME RETARDANT FR-1

Stranded, tinned copper conductor in sizes AWG #18 through AWG #4/0. All sizes use polyvinylchloride insulation rated at 600 volts with a temperature rating of 105°C. Colors: black, brown, red, orange, yellow, green, blue, violet, gray, white—**Specify color by number.**

"F" Denotes Bonded Tinned Copper.

Type	AWG Size	Nom. O.D.	100′ Spool Stock No.	EACH	500′ Spool Stock No.	EACH
781816F	18 (16/30)	.110			37F2195WF	26.00
781626	16 (26/30)	.124			37F2197WF	38.50
781000	10 (105/30)	.194	37F2203WA	18.75		
788133	8 (133/29)	.255	37F2205WA	31.45		
786133	6 (133/27)	.335	37F2092WA	47.95		
784133	4 (133/25)	.390	37F2093WA	110.90		
782133	2 (133/23)	.460	37F2094WA	176.40		
782665	2 (665/30)	.470	37F2095WA	194.00		
781259	1 (259/25)	.525	37F2097WA	207.95		
781836	1 (836/30)	.535	37F2098WA	227.05		
780001	1/0 (1045/30)	.580	37F2099WA	279.45		
780002	2/0 (1330/30)	.640	37F2100WA	349.70		
780003	3/0 (1661/30)	.680	37F2101WA	402.60		
780004	4/0 (2107/30)	.785	37F2102WA	494.50		

CORONA RESISTANT HIGH VOLTAGE WIRE

Conductors are tinned, stranded copper and are flexible. Silver plated copper, nickel plated copper, and pure nickel conductors available on special order. Conductors are rated at 200°C, pure nickel at 260°C. High voltage, high temperature silicone rubber insulation rated at 150°C and is available in dielectric strengths ranging from 10 KVDC to 40 KVDC. Insulation is easy to strip. 100 foot put ups listed, 1000 foot put ups available on special order. Insulation: U.L. type 3239, Color: Natural.

Stk. No.	Type	AWG Size	Nom. O.D.	Max. D.C. Volt.	100′ EACH
37F2103	392240	22 (7/30TC)	.111	10KV	37.75
37F2104	392245	22 (7/30TC)	.121	15KV	39.85
37F2105	392250	22 (7/30TC)	.131	20KV	42.40
37F2106	392262	22 (7/30TC)	.181	30KV	43.45
37F2107	392275	22 (7/30TC)*	.181	30KV	55.95
37F2108	392297	22 (7/30TC)	.225	40KV	77.30
37F2109	392040	20 (10/30TC)	.118	10KV	43.05
37F2110	392045	20 (10/30TC)	.128	15KV	44.40
37F2111	392050	20 (10/30TC)	.138	20KV	45.55
37F2112	392062	20 (10/30TC)	.162	25KV	50.55
37F2113	392075	20 (10/30TC)	.188	30KV	58.90
37F2114	392097	20 (10/30TC)	.232	40KV	81.85
37F2115	391845	18 (16/30TC)	.140	15KV	55.70
37F2116	391862	18 (16/30TC)	.174	25KV	57.75
37F2117	391897	18 (16/30TC)	.244	40KV	89.50
37F2118	391645	16 (26/30TC)	.152	15KV	63.70
37F2119	391662	16 (26/30TC)	.186	25KV	72.15
37F2120	391697	16 (26/30TC)	.256	40KV	99.85
37F2121	391445	14 (41/30TC)	.170	15KV	68.65
37F2122	391462	14 (41/30TC)	.204	25KV	77.60

*Wall thickness slightly larger than type 392262.

X-L POLYETHYLENE INSULATED HOOKUP WIRE

Chemical cross-linking on insulation increases moisture resistance, solvent resistance and improves aging characteristics, Rated at 125°C, 600 Volts. Stranded copper wire, available in black only. UL. style 3173. 1000′ put ups only.

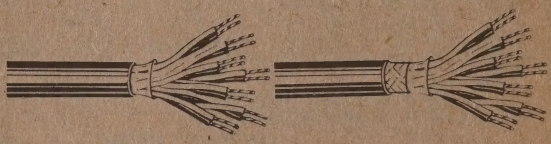
Stock No.	Type	AWG Size	Nom. O.D.	1000′ EACH
37F2123	752207	22 (7/30)	.094	31.95
37F2124	752010	20 (10/30)	.102	38.00
37F2125	751816	18 (16/30)	.112	40.40
37F2126	751626	16 (26/30)	.125	53.30
37F2127	751441	14 (41/30)	.143	84.50
37F2128	751265	12 (65/30)	.164	119.45
37F2129	751065	10 (65/28)	.187	177.15

U.L. LISTED HIGH TEMPERATURE TEFLON WIRE

U.L. styles 1212 and 1213 feature gauge sizes ranging from #20 to #32 with a choice of solid conductors or stranded. This high quality wire is flame retardant and satisfies the FR-1 designation of U.L. Available in 100′ and 1000′ put ups. Colors: Black and White only—**Specify color by number.**

Stock No.	Type	AWG Size	Stranding	Nom. O.D.	EACH 100′	1000′
37F2130	13201UL	32	Solid	.027	7.95	39.55
37F2131	13207UL	32	7/40	.029	8.80	41.00
37F2132	13219UL	32	19/44	.029	15.95	81.95
37F2133	13001UL	30	Solid	.029	7.40	37.80
37F2134	13007UL	30	7/38	.032	8.25	41.00
37F2135	13019UL	30	19/42	.032	11.45	56.35
37F2136	12801UL	28	Solid	.032	7.45	38.10
37F2137	12807UL	28	7/36	.035	8.65	40.20
37F2138	12819UL	28	19/40	.035	11.45	56.35
37F2139	12601UL	26	Solid	.035	7.95	37.45
37F2140	12607UL	26	7/34	.038	6.40	43.55
37F2141	12619UL	26	19/38	.038	11.05	53.80
37F2142	12401UL	24	Solid	.040	8.40	40.20
37F2143	12407UL	24	7/32	.043	9.40	44.35
37F2144	12419UL	24	19/36	.043	11.95	58.90
37F2145	12201UL	22	Solid	.046	9.70	46.10
37F2146	12207UL	22	7/30	.050	11.05	53.80
37F2147	12219UL	22	19/34	.050	13.30	66.60
37F2148	12001UL	20	Solid	.054	12.60	62.40
37F2149	12007UL	20	7/28	.058	14.60	74.25
37F2467	12019UL	20	19/32	.058	16.40	84.50

COMPUTER TYPE MINIATURE PAIRED CONTROL CABLES

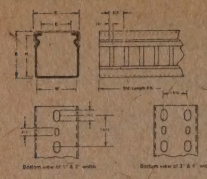


U.L. Styles 2343 and 2344 employ an overall shield surrounding all internal cables. The individual conductors are stranded tinned copper. Conductor sizes 22 and 24 are 7 strand and size 20 is 19 strand. Conductors are rated at 105°C and 600 volts DC working voltage. Pairs are cabled by planetary method and have a Mylar tape barrier placed under the shield. Shield is tinned copper braid with 85%-90% overall coverage. Insulator jacket is black 105°C Vinyl and cable is fungus resistant and self extinguishing. Cables are U.L. approved for computer usage to +80°C and 300 volts. 100 foot put up listed, 500 foot and 1000 foot put ups available on special order.

Stock No.	Type	# Pairs	Cond. Size	Nom. O.D.	100′ EACH
37F2468	592405	5	24	.355	93.00
37F2469	592407	7	24	.375	106.40
37F2470	592412	12	24	.460	152.80
37F2471	592415	15	24	.510	192.80
37F2472	592419	19	24	.530	216.35
37F2473	592427	27	24	.620	287.20
37F2474	592437	37	24	.690	379.40
37F2475	592448	48	24	.775	450.00
37F2476	592460*	60	24	.845	589.20
37F2477	592205	5	22	.390	102.60
37F2478	592207	7	22	.415	118.50
37F2479	592212	12	22	.495	174.60
37F2480	592215	15	22	.575	212.90
37F2481	592219	19	22	.580	249.00
37F2482	592227	27	22	.670	323.40
37F2483	592237	37	22	.780	429.05
37F2484	592248*	48	22	.880	546.10
37F2485	592260*	60	22	.960	674.40
37F2486	592005	5	20	.420	121.60
37F2487	592007	7	20	.465	147.40
37F2488	592012	12	20	.570	216.20
37F2489	592015	15	20	.630	276.90
37F2490	592019	19	20	.660	320.10
37F2491	592027	27	20	.775	417.95
37F2492	592037*	37	20	.850	561.80
37F2493	592048*	48	20	.980	706.90
37F2494	592060*	60	20	1.070	865.70

*Denotes U.L. style 2344; all others are style 2343

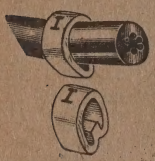
ELECTRO-DUCT® PVC WIRING DUCT



High-impact vinyl duct is non-flammable and warp-proof. Easily cut with any hand or power cutting tool for butt or mitred joints. Open slot design. Snap-on, non-slip cover. Mounting slots standard on all sizes. Temporary adhesive aids alignment and frees both hands for mounting. Scored snap-off plastic fingers permit slot enlargement for lead-offs; accommodate any size wire and/or bundle. Color: Grey. CSA approved. Supplied with channel and cover. Standard length, 6 ft. U/L Recognized **Sold in packages only.**

Stk. No.	Type	Nominal W x H	Standard Package	Lengths Per Pkg.	Net Per Package
80W265	1010AG	1 x 1	16	96 ft.	84.48
80W266	1020AG	1 x 2	15	90 ft.	104.40
80W267	1030AG	1 x 3	10	60 ft.	85.20
80W264	2010AG	2 x 1	18	108 ft.	131.76
80W268	2020AG	2 x 2	9	54 ft.	70.20
80W269	2030AG	2 x 3	6	36 ft.	57.60
80W270	3010AG	3 x 1	10	60 ft.	87.00
80W263	3020AG	3 x 2	6	36 ft.	57.60
80W271	3030AG	3 x 3	4	24 ft.	43.20

SLIP-ON "Z" MARKERS

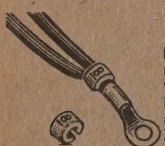


Cable markers permanently identify every wire or group of wires for instant recognition. Can be installed in seconds. Feature flexible "accordion" type backs for easy installation and sturdy gripping on wires. Made of durable PVC material. Comply with military, civil, and trade associations (J.I.C., MIL-E-5400B (ASG), MIL-E-4158A (USAF); etc.). White with black marking. Please specify Letter (A-Z) or Numeral (0-9) desired when ordering. **Minimum order is one package of 100 of any Letter or Numeral. Sold in packages only.**

Stock No.	Type No.	AWG Size	For Cable Diameter	Per Package 1-25	26-65	66-125	126-250
30F833	Z22P	22	.045"-.065"	1.62	1.46	1.29	1.24
30F834	Z20P	20	.066"-.085"				
30F835	Z18P	18	.086"-.115"				
30F820	Z16P	16	.110"-.135"				
30F821	Z14P	14	.130"-.160"				
30F822*	Z12P	12	.150"-.175"				

* Non-stock items, available on special order.
Packages may be combined for quantity prices.

CLIP-ON "C" MARKERS



Type C

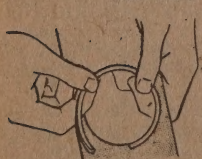
Designed for application either before or after terminal connection has been made. May be removed for re-coding without breaking terminal connection. Rigid PVC material. For single wire or cable. Same size fits a given range cable dia. Specify Letter (A-Z) or Numeral (0-9) when ordering. Minimum order is 1 pkg. of 100 of any letter or numeral. **Sold only in Packages.**

Stk. No.	Type	AWG Size	For Cable Diameter	Per Package 1-25	26-65	66-125	126-250
47F014	C2P	18/20	.080-.100	2.14	1.92	1.72	1.50
47F015	C3P	18	.100-.118	2.14	1.92	1.72	1.50
47F016	C4P	16	.118-.138	2.13	1.96	1.74	1.52
47F017	C5P	14	.138-.156	2.22	2.00	1.78	1.56
47F018*	C6P	10/12	.156-.218	2.34	2.10	1.88	1.65
47F019*	C7P	9	.187-.218	2.64	2.38	2.12	1.85

* Non-stock item, available on special order.
Packages may be combined for quantity prices.

GROMMET STRIPS

Meet MIL-C-17D, MIL-W-76B, and MIL-C-915A



You have the advantage of one strip only application to round, square, rectangular, and oval holes, Comes in 6 sizes. For all gauges, from 20 gauge to ¼" thick. Easily applied. No special tools required. **Sold in packages only.**

NATURAL POLYETHYLENE

Stk. No.	Type	Application Min. Max.	Pkg.	Per Package 1-5	6-49	50-99
30F315	GS2	.020-.039	100 ft.	6.47	5.82	5.18
30F320	GS2A	.040-.062	100 ft.	7.05	6.34	5.64
30F316	GS3	.063-.099	100 ft.	7.53	6.77	6.03
30F317	GS-4	.100-.144	100 ft.	8.65	7.79	6.92
30F318	GS-5	.145-.187	50 ft.	7.56	7.18	6.81
30F319	GS-6	.187-.250	50 ft.	10.91	10.36	9.82

SPIROBAND

Spiral wrapping for flexible electric harnes and cables. Unusual flexibility and elasty make it ideal for temporary and expmental as well as permanent applicatio Permits leadoffs or additions of wire at point. High dielectric strength provides exclent insulation. Nylon and Teflon types high temperature applications. (Nylon 250°F; Teflon to 500°F). **Sold in stand packages only.**

NATURAL POLYETHYLENE

Stock No.	Size	Wall Thick	Bundle Range	Std. Pkg.	Per Package 1-9	10-99	100-1
30F839	⅛"	.032	⅛"-½"	100'	4.38	4.24	4.16
30F840	¼"	.045	⅜"-2"	100'	7.27	7.06	6.90
47F005	⅜"	.055	⅜"-3"	50'	5.47	5.39	5.30

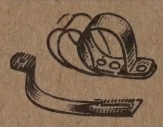
NYLON

Stock No.	Size	Wall Thick	Bundle Range	Std. Pkg.	Per Package 1-9	10-99	100-1
47F006	⅛"	.030	⅛"-½"	100'	12.87	12.49	12.22
47F007	¼"	.030	⅜"-2"	100'	23.23	22.53	22.06
47F008	⅜"	.030	⅜"-3"	50'	36.46	35.92	35.37
47F009	½"	.030	⅜"-4"	25'	19.40	19.12	18.83

TEFLON

47F010	⅛"	.030	⅛"-½"	25'	52.92	52.13	51.34

ADJUSTABLE P-CLIPS



Ratchet teeth provide positive locking action. Vir nylon, light weight, abrasion resistance. Ten strength: 11,000 psi. Melting point: 482 —500 self extinguishing. Endurance limit; 3000 psi; failures to 2,000,000 cycles. **Sold in packages onl**

Stk. No.	Size No.	Bundle Dia. Min.-Max.	Screw Clear.	Per pkg. of 100 1-9	10-59	60-10
30F842	AP-0	⅛-3/16	No. 4	3.72	3.35	2.98
30F843	AP-1	3/16-¼	No. 4	3.85	3.47	3.08
30F844	AP-2	¼-⅜	No. 6	4.05	3.65	3.24
30F845	AP-3	⅜-5/16	No. 6	5.19	4.65	4.13
47F001	AP-5	⅝-1 5/16	No. 10	8.88	8.00	7.11

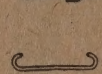
EL-CABLE TIES Meets MS 17821 and MS 18034

Molded of virgin nylon; light weight; abras resistant; high tensile strength; minimum sorption rate; resistant to common solvents, kalies, oils.
Sold in packages only.

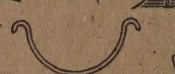
Stk. No.	Bundle Diameter Min.-Max.	Descrip.	Mil No.	Type	Per Pkg. of 100 1-24	25-4
30F847	1/16"-1"	Min	—4	EL-A	3.23	3.1
30F848	1/16"-1 1/16"	Intermed	—1	EL-B	4.87	4.7
30F849	1/16"-4 1/16"	Standard	—2	EL-C	10.75	10.4
47F000	3/16"-4"	Hvy. Duty	—3	EL-D	17.30	16.7

CRADLE CLIP

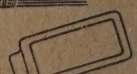
C1, C2, C3



B1



B12,B2



N1, N3, N5, N7

CO-NO

On the spot wiring changes without replacement or tools. Only 5 s onds per fixing point. Binders and cradles are nylon; clips are neopre Secure design will withstand vibration without damage to wire insulat Color: black. **Sold in packages only.**

Stk. No.	Type	Descrip.	Per Pkg. of 100 1-9	10-19	20-29
30F300	C1	Cradle	9.98	9.68	9.48
30F301	C2	Cradle	11.78	11.42	11.19
30F302	C3	Cradle	12.54	12.16	11.91
30F303	C1-M*	Cradle	22.83	22.15	21.68
30F304	C2-M*	Cradle	37.21	36.10	35.35
30F305	C3-M*	Cradle	38.57	37.41	36.63
30F307	B2	Binder	11.70	11.35	10.78
30F308	N1	Clip	5.63	5.46	6.40
30F309	N3	Clip	7.58	7.35	7.20
30F310	N5-	Clip	10.81	10.48	10.27
30F311	N7	Clip	13.28	12.88	12.62
30F312	CO-NO**	Crd. & Clip	14.88	14.43	14.13

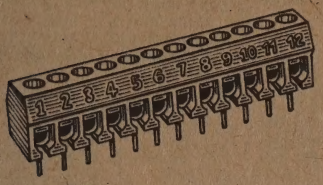
**cradle with captive clip *with captive nut
Cradles and Binders may be combined for quantity prices.
Clips may be combined for quantity prices.

Terminal Strips

GENERAL SPECIFICATIONS

Terminal strips have fully enclosed metal parts. Connections are corrosion resistant with screw terminals designed with a nickel plated phosphor bronze wire guard to prevent wire conductor damage. CSA approved/UL recognized **E60678.**

PRINTED CIRCUIT TERMINAL STRIPS



Fully enclosed, compact strips molded of polyamid for PC board or panel connections. Terminal poles numbered consecutively. Silver plated brass pressure connectors; terminal screws are nickel plated brass; Soldering pins hot tip tinned electrolytic copper. For 5.08 mm (.200") spacing. Available in 5 & 10 mm.

300V NO. 14 AWG MAX. 10 AMP.

Stock No.	Type	Poles	1-999	1000-4999	5000 & Up
31F2400	25•104•0453	4	.52	.50	.47
31F2401	25•104•0653	6	.72	.69	.65
31F2402	25•104•0853	8	.92	.87	.83
31F2403	25•104•1053	10	1.13	1.07	1.01
31F2404	25•104•1253	12	1.33	1.27	1.20
31F2405	25•104•1653	16	1.75	1.66	1.57
31F2406	25•104•2453	24	2.29	2.17	2.06

FLEXIBLE TERMINAL STRIP

Polyamid strip. Flexible. Easily cut to any number of poles. Nickel plated brass connectors.

6 EDS 300V NO. 16 AWG MAX. 10 AMP.

Stock No.	Type	Poles	1-999	1000-4999	5000 & Up
31F2407	21•311•0253	2	.14	.13	.13
31F2408	21•311•0353	3	.21	.20	.19
31F2409	21•311•0453	4	.27	.26	.25
31F2410	21•311•0553	5	.34	.32	.31
31F2411	21•311•0653	6	.41	.39	.37
31F2412	21•311•0753	7	.47	.45	.43
31F2413	21•311•0853	8	.54	.51	.49
31F2414	21•311•0953	9	.61	.58	.55
31F2415	21•311•1053	10	.67	.64	.61
31F2416	21•311•1253	12	.79	.75	.71

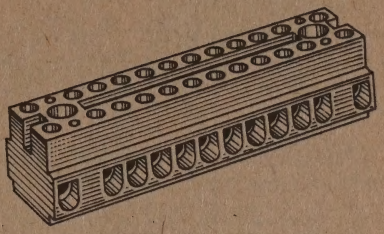
10 EDS 300V NO. 12 AWG MAX. 16 AMP.

Stock No.	Type	Poles	1-999	1000-4999	5000 & Up
31F2417	21•331•5253	2	.27	.25	.24
31F2418	21•331•5353	3	.38	.36	.35
31F2419	21•331•5453	4	.50	.48	.45
31F2420	21•331•5553	5	.62	.59	.56
31F2421	21•331•5653	6	.74	.70	.66
31F2422	21•331•5753	7	.86	.81	.77
31F2423	21•331•5853	8	1.00	.92	.88
31F2424	21•331•5953	9	1.09	1.04	.98
31F2425	21•331•6053	10	1.21	1.15	1.09
31F2426	21•331•6253	12	1.42	1.35	1.28

16 EDS 300V NO. 8 AWG MAX. 32 AMP.

Stock No.	Type	Poles	1-999	1000-4999	5000 & Up
31F2427	21•340•5253	2	.36	.34	.32
31F2428	21•340•5353	3	.52	.50	.47
31F2429	21•340•5453	4	.68	.65	.62
31F2430	21•340•5553	5	.84	.80	.76
31F2431	21•340•5653	6	1.01	.96	.91
31F2432	21•340•5753	7	1.17	1.11	1.05
31F2433	21•340•5853	8	1.33	1.26	1.20
31F2434	21•340•5953	9	1.49	1.42	1.34
31F2435	21•340•6053	10	1.66	1.57	1.49
31F2436	21•340•6253	12	1.95	1.85	1.75

COMPACT TERMINAL STRIP



- **Compact Strip**
- **Brass Connectors**

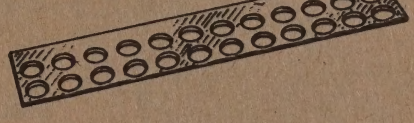
A very compact strip for applications where space is critical. Molded of flame retardant polypropylene with nickel plated brass connectors. Poles are consecutively numbered.

300V NO. 12 AWG MAX. 25 AMP.

Stock No.	Type	Poles	1-999	1000-4999	5000 & Up
31F2437	29•401•0452	4	.70	.67	.63
31F2438	29•401•0652	6	.96	.91	.86
31F2439	29•401•0852	8	1.20	1.14	1.08
31F2440	29•401•1252	12	1.74	1.65	1.57
31F2441	29•401•1652	16	2.23	2.12	2.01
31F2442	29•401•2052	20	2.73	2.60	2.46

MARKER STRIPS FOR PLACING OVER/UNDER TERMINAL STRIP - UNMARKED FLEXIBLE

(Can be cut to fit any barrier size)



FOR 6 EDS

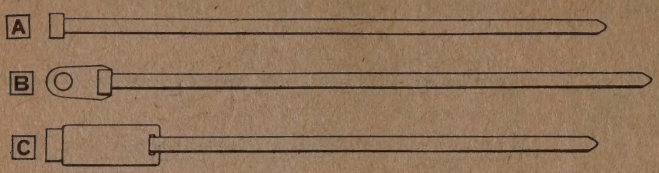
Stock No.	Type	Poles	Each
31F2443	04•030•0080	2	.07
31F2444	04•030•0180	3	.08
31F2445	04•030•0280	4	.09
31F2446	04•030•0380	5	.10
31F2447	04•030•0480	6	.10
31F2448	04•030•1080	12	.15

FOR 10 EDS

Stock No.	Type	Poles	Each
31F2449	04•070•0280	2	.08
31F2450	04•070•0380	3	.09
31F2451	04•070•0480	4	.10
31F2452	04•070•0580	5	.11
31F2453	04•070•0680	6	.12
31F2454	04•070•1280	12	.19

Wiring Accessories

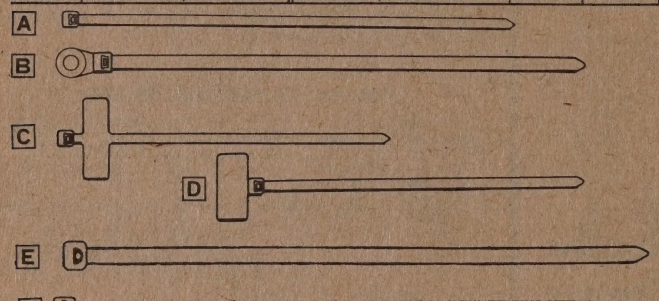
CABLE TIES AND CLAMPS-STA-STRAP SERIES SS



- **Hand or Tool Applied**
- **Natural Nylon Ties**

Permanent nylon ties for fast harnessing wire bundles. Available as ties (SST-Fig. clamps with integral mounting tab (SSC-F B) and identification markers (SSM-Fig. Type "M"=miniature tie, "I"=intermedia "S"=standard, "H"=heavy duty. Sta-Stra meet applicable MIL specifications. Packa sizes: C=100 and M=1000. **Recognized U der the Components Program of Underwrit Laboratories, Inc.**

Fig.	Bundle Dia. Max	Wt. Per 100	LP=Pkg. of 50; CP=Pkg. of 100 Stk. No.	Type	1-4	5-9	D=Pkg. of 500; M=Pkg. of 1000 Stk. No.	Type	1-9	10-24	25-49
A	¾"	4 oz.	78F516	SSTIM-CP	3.58	2.86	78F529	SST1M-M	18.05	16.63	15.49
A	1½"	4 oz.	78F517	SST1.5M-CP	3.76	3.01	78F530	SST1.5M-M	19.95	18.62	17.35
A	1¼"	3 oz.	...	...	...	...	78F610	SST1.5I-M	23.18	21.61	20.14
A	1¾"	5 oz.	78F518	SST2I-CP	4.82	3.85	78F531	SST2I-M	25.27	23.56	21.95
A	3"	5 oz.	78F519	SST3I-CP	8.39	6.71	78F532	SST3I-M	50.16	48.45	46.46
A	1¾"	6 oz.	78F609	SST2S-CP	5.09	4.07	...	...	...	...	...
A	3"	6 oz.	78F520	SST3S-CP	9.97	7.98	78F533	SST3S-M	57.22	54.36	51.94
A	4"	9 oz.	78F521	SST4I-CP	10.59	8.47	78F534	SST4I-M	62.94	59.78	54.26
A	4"	1¼ lbs.	78F522	SST4H-LP	8.39	6.71	78F535	SST4H-D	52.73	50.35	47.98
A	8"	2¼ lbs.	78F523	SST8H-LP	17.00	13.60	...	...	...	...	...
B	1¾"	6 oz.	78F524	SSC2S-S10-CP	7.77	6.21	78F501	SSC2S-S10-M	54.73	48.60	43.80
B	4"	10 oz.	78F525	SSC4S-S10-CP	21.74	17.39	78F502	SSC4S-S10-M	122.16	108.47	97.76
B	4"	1¼ lbs.	78F526	SSC4H-S25-LP	12.33	9.86	...	...	...	...	...
C	1¾"	6 oz.	78F527	SSM2S-CP	15.67	12.53	78F504	SSM2S-D	52.15	35.85	32.25
C	4"	10 oz.	78F528	SSM4S-CP	19.06	15.24	...	...	...	...	...



PAN-TY ONE PIECE CABLE TIES, CLAMPS, MARKERS

Speed harness tying with one piece self lo ing cable ties. Permits tight installation bundle with minimum effort. Installed by ha or with easy-to-use Panduit Cabling Tool GS (see below), to assure fast, uniform tensio ing and flush cut-off. PRT Releasable T (Fig. E) are hand installed only. Normal se ice temperature: —40°C to 85°C. Natural ny is standard. A total of ten colors are availa on special order. Meets all applicable M tary Specifications. **Recognized Under t Components Program of Underwriters Labo tories, Inc.**

LOCKING CABLE TIES

Fig.	Bundle Dia. Max.	Wt. Per 100	LP=Pkg. of 50; CP=Pkg. of 100 Stock No.	Type	1-4	5-9	M & MP=Package of 1000 Stock No.	Type	1-9	10-24	25-49
A	¾"	1½ oz.	78F506	PLT1M-CP	3.58	2.86	78F536	PLT1M-MP	19.00	17.50	16.30
A	1¼"	1¾ oz.	78F507	PLT1.5I-CP	3.99	3.19	78F537	PLT1.5I-MP	24.40	22.75	21.20
A	1¾"	2½ oz.	78F508	PLT2S-CP	5.09	4.07	78F538	PLT2S-MP	29.40	27.40	25.55
A	3"	3½ oz.	78F509	PLT3S-CP	9.97	7.98	78F539	PLT3S-M	60.23	57.22	54.67
A	4"	6½ oz.	78F510	PLT4S-CP	11.69	9.35	78F540	PLT4S-M	66.78	63.44	60.08
A	4"	1¼ oz.	78F511	PLT4H-LP	8.39	6.71	...	...	...	...	...
A	1¼"	0.16 oz.	78F580	PLT1.5M-CP	3.76	3.01	78F586	PLT1.5M-M	21.00	19.60	18.26
A	2"	¼ oz.	78F581	PLT2M-CP	3.94	3.14	78F587	PLT2M-M	22.84	21.30	19.85
A	2"	0.32 oz.	78F582	PLT2I-CP	4.82	3.85	78F588	PLT2I-M	26.60	24.80	23.10
A	1½"	½ oz.	78F583	PLT1.5S-CP	4.90	3.91	78F589	PLT1.5S-M	27.00	25.20	23.50
A	3"	½ oz.	78F584	PLT3I-CP	8.39	6.71	78F590	PLT3I-M	52.80	51.00	48.90
A	4"	½ oz.	78F585	PLT4I-CP	10.59	8.47	78F591	PLT4I-M	66.25	62.93	57.12

LOCKING CLAMP AND MARKERS

B	1¾"	5 oz.	78F512	PLC2S-S10-CP	7.77	6.21	78F542	PLC2S-S10-M	54.73	48.60	43.80
C	¾"	1½ oz.	78F513	PLM1M-CP	7.77	6.21	78F543	PLM1M-M	54.75	48.65	43.80
D	1¾"	5 oz.	78F514	PLM2S-CP	15.67	12.53	...	...	...	...	...
F	¾"	0.20 oz.	78F592	PLF1M-CP	7.77	6.21	78F593	PLF1M-M	54.75	48.65	43.80

RELEASABLE CABLE TIES

E	2"	3½ oz.	78F515	PRT2S-CP	7.48	5.98	78F545	PRT2S-MP	42.53	40.40	40.40

GS-2B GUN-TYPE CABLING TOOL

Light Durable

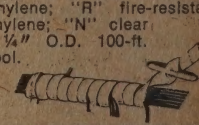
Easy To Use

Hand operated tool ties all Panduit miniature, intermediate and standard cable ties, clamps and markers. Incorporates

GS-2B CABLING TOOL (CONT.)
an easy-to-use three-position selector knob. Automatically tightens to pre-set tension, cuts cable tie flush and ejects the cut-off portion. Shpg. wt., 1 lb.
78F547. NET 44.00

GS-4H GUN-TYPE CABLING TOOL
Heavy-duty cabling tool. Essentially the same as Type GS-2B above, except designed for Panduit standard and heavy-duty cable ties and clamps. Easy to use. A simple squeeze of the trigger tightens the ties to the preset tension and cuts them flush. Shpg. wt., 1½ lbs.
78F566. NET 77.00

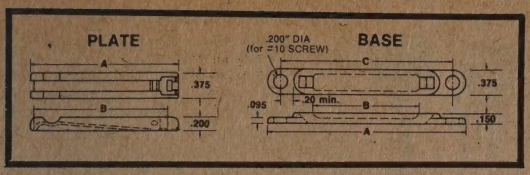
¼" O.D. SPIRAL CABLE WRAPPIN
For bundles ¾" to 2" dia. Suffix " clear polyethylene; "R" fire-resist white polyethylene; "N" clear nylon. Std. ¼" O.D. 100-ft. coils. With tool. 2 lbs.



Stock No.	Type	1-9	10-49	50-L
78F548	T-25F	9.98	7.99	7.1
78F549	T-25R	14.62	11.74	10.4
78F546	T-25N	22.36	17.89	15.8

Wiring Accessories

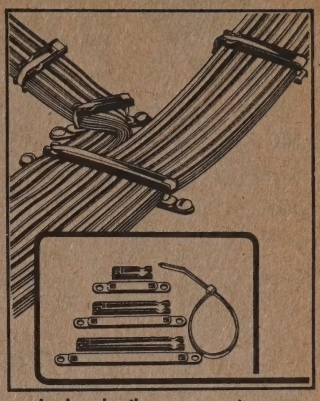
PANDUIT FLAT CABLE MOUNTS



- Screw or adhesive mounted
- Widths up to 3 inches
- Use with any flat cable

Secures stacked cables and breakouts. Removable and reusable. Strong, 100% Nylon. Safe, will not damage flat cable. Reduces variations in transmission characteristics.

Note: adhesive supplied by user.



For mtg., use (1) ea. of below & (1) cable tie; For bundling, use (2) of below & (1) cable tie

Cable Width	Type	Max. Flat Cable Stack Ht. (in.) PAN-TY PLT1.5I Cable Tie	PAN-TY PLT2I Cable Tie	PAN-TY PLT3I Cable Tie	PAN-TY PLT4I Cable Tie	Stk. No.	PKGS. OF 100 1-4	5-9
1″	FCPI1-C20	.8	2.0	3.7	5.2	78F571	6.60	5.25
2″	FCPI2-C20	.....	1.0	2.7	4.2	78F572	7.50	6.00
3″	FCPI3-C20	.....	.....	1.7	3.2	78F573	9.90	7.95
1″	FCBI1-S10-C20	.8	2.0	3.7	5.2	78F574	9.15	7.35
2″	FCBI2-S10-C20	.....	1.0	2.7	4.2	78F575	10.35	8.25
3″	FCBI3-S10-C20	.....	.....	1.7	3.2	78F576	13.20	10.50
1″	FCBI1-A-C20	.8	2.0	3.7	5.2	78F577	9.15	7.35
2″	FCBI2-A-C20	.....	1.0	2.7	4.2	78F578	10.35	8.25
3″	FCBI3-A-C20	.....	.....	1.7	3.2	78F579	13.20	10.50

Recognized under the components program of Underwriters Laboratories, Inc.

PLASTIC SNAP-IN-SLOT WIRING DUCT

Vinyl plastic ducts. Standard 6 ft. sections can be cut with hacksaw. Snap-slot design permits easy insertion of wires. Wire can be removed with no electrical disconnect.

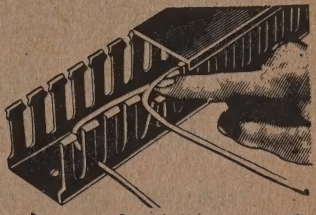
Use ducts with CS-1 corner strips. Order cover, below. Standard put-up 24-ft., in four 6-ft. lengths. Supplied in light gray.

WIRING DUCT

Stock No.	WxH In.	24-ft. Std. Pkg. Wt., Lbs.	PER PKG. 1-4	5-19	20-Up
78F550	.5 x .5	3	14.88	11.52	10.80
78F552	.5 x 1	4	16.80	13.44	12.72
78F555	.75 x .75	3½	16.56	13.20	12.48
78F558	1 x 1	4	16.80	13.68	12.72
78F559	1 x 1.5	4½	22.56	18.24	16.80
78F560	1 x 2	5	23.76	18.96	17.76
78F600	1 x 3	8½	30.00	24.24	22.56
78F561	1.5 x 1.5	5	23.76	19.20	17.52
78F601	1.5 x 2	4¾	25.92	20.64	18.96
78F602	1.5 x 3	8½	32.40	26.16	24.00
78F603	2 x 2	5¾	26.16	20.88	19.20
78F604	2 x 3	9½	34.08	26.64	24.72
78F605	3 x 2	8½	30.96	24.24	22.56
78F606	3 x 3	10½	36.96	29.28	26.64

DUCT COVER TO FIT

Stock No.	W In.	24-ft. Std. Pkg. Wt., Lbs.	PER PKG. 1-4	5-19	20-Up
78F562	.5	1	6.72	5.76	5.28
78F563	.75	1½	7.20	6.24	5.76
78F564	1	2½	7.56	5.40	5.04
78F570	1.5	2¼	8.28	7.20	6.84
78F607	2	2½	10.44	8.28	7.56
78F608	3	3¼	14.76	11.88	11.16



Simplify Your Complex Wiring Projects

MODEL CS-1 CORNER STRIP

Easily cut to correspond to any duct length needed. Four 6' lengths per pkg. Shpg. wt., 00-ft., 15 lbs. Supplied in light gray.

Stk. No.	1-4	5-19	20-Up
78F565	7.56	5.40	5.04

CS-1 Corner Strip Duct for Making Smooth Rounded Corners

DEARBORN WIRE AND CABLE

NYLON LACING TAPE MIL-T-43435 TYPE I

Flat braided high-tenacity nylon yarn impregnated with microcrystalline fungicidal wax or to MIL specs. *Test tensile strength (lbs.); (†) Finishes code see box at right.

Stock No.	Mfr's Type	*	Width	Color	†	500-yard Spools EACH
37F2207	805032W	50 lbs.	.090″	Natural	A	9.55
37F2208	805032B	50 lbs.	.090″	Black	A	10.65
37F2209	805036W	50 lbs.	.090″	Natural	W	9.55
37F2210	805036B	50 lbs.	.090″	Black	W	11.00
37F2213	802534W	25 lbs.	.062″	Natural	W	6.15
37F2214	802534B	25 lbs.	.062″	Black	W	8.10

POLYESTER LACING TAPE MIL-T-43435 TYPE II

Flat braided polyester yarn impregnated with microcrystalline fungicidal wax or to meet MIL specs. 1⅛ lbs. *Test tensile strength (lbs.), (†) Finishes code see box at right.

37F2215	805058W	50 lbs.	.090″	Natural*	A	8.90
37F2216	805058B	50 lbs.	.090″	Black	A	10.35
37F2217	805062W	50 lbs.	.090″	Natural	W	8.95
37F2218	805062B	50 lbs.	.090″	Black	W	10.35

NYLON LACING TWINE MIL-T-713D TYPE P

Round twisted nylon fiber impregnated with microcrystalline wax. Excellent knot retention, for lacing or spot ties. 32 lb. test 1100 yd. spool; 48 lb. test 750 yd. spool; 70 lb. test 550 yd. spool. *Test tensile strength (lbs.); (†) Finishes code see box at right.

Stock No.	Mfr's Type	*	Nom. Diam.	Spool Length	Color	†	1 Lb. Spools EACH
37F2219	807013W	70 lbs.	.039″	550 yds.	Natural	W	10.80
37F2220	807013B	70 lbs.	.039″	550 yds.	Black	W	11.90
37F2221	804814W	48 lbs.	.029″	750 yds.	Natural	W	10.80
37F2223	803215W	32 lbs.	.025″	1100 yds.	Natural	W	10.80
37F2224	803215B	32 lbs.	.025″	1100 yds.	Black	W	11.90

FINISHES AND COATINGS

Nylon Lacing Tape MIL-T-43435 Type I (Supersedes MIL-T-713D)

W-WAX (MIL SPEC B)

A microcrystalline fungicidal wax which exceeds MIL specs. Provides excellent knot retention and is suitable for either lacing or spot ties.

A-SYNTHETIC RESIN (MIL SPEC E)

A synthetic rubber-like resin formulated with fungicidal ingredients. Handling characteristics are excellent, knot retention is outstanding; meets or exceeds MIL specs. requirements.

OPERATIONAL TEMPERATURE RANGES: −67°F to +250°F.

TRW Cinch Miniature Transformers

"SUB-OUNCERS"

Tiny lead-mounted transformers for use in hearing aids, pocket radios, etc. Measure only 2⅜x⅛x1⅜₃₂". Weighs .03 lb. each. Frequency response, 100 to 10,000 Hz, 2dB. (*) indicates printed circuit type. (**) indicates split winding.

Stock No.	Type	Appli-cation	Pri-Imp.	Sec. Imp.	1-4	5-9	10-24	25-99
03F390	SO-1	Input	50/200	62,500/250,000	10.23	8.86	8.09	7.41
03F392	SO-3	Plate to line	10,000/25,000	200/500	9.04	7.83	7.15	6.54
03F396	SO-7	Transis. interstage	20,000/30,000	80/1200	7.91	6.85	6.26	5.73
03F398	SO-9	Transis. to VC	500CT	3.2	7.91	6.85	6.26	5.73
03F595	SO-11	Transis.. interstage	400 CT 500 CT	400** 500**	8.79	7.62	6.96	6.36

SUB-SUBOUNCER UNITS

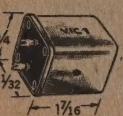
Impedance ratios are constant; these units can be used for other impedances if in same ratios. Units may be reversed. Suffix "P" means printed circuit molded types to MIL Grade 5. Size: 4¾x¾x⅞". Weight .02 lb. Approx. 2dB, 140-10,000 Hz.

03F382	SSO-8	Transis. interstage	10K	2,000 CT	9.53	8.26	7.54	6.90
03F384	SSO-10	Transis. to VC	10K	3.2	8.50	7.36	6.72	6.15
03F326	SSO-17	Output	10K	500/600 CT	8.46	7.33	6.70	6.13
03F328	SSO-19	Matching	500 CT	600 CT	8.33	7.22	6.59	6.03
03F329	SSO-20	Output	1500 CT	600 CT	8.33	7.22	6.59	6.03

"OUNCER" AUDIO TRANSFORMERS

Famous one-ounce audio transformers for high fidelity use, from 30-20,000 Hz. Maximum output level -8 dB at 6.3 mW. Application: Input and Mixing, Interstage and Output Transformers. Fully impregnated and sealed in drawn aluminum housing. ⅞" dia. x 1⅜₁₆". Wt. 1 oz.

Stock No.	Type	Primary Imped., Ohms	Secondary Imped., Ohms	1-4	5-9	10-24	25-99
03F360	0-1	50, 200, 500	50K	16.14	13.99	12.77	11.69
03F361	0-2	50, 200, 500	50K CT	17.06	14.78	13.50	12.35
03F362	0-3	7,530	50K	15.62	13.54	12.36	11.31
03F363	0-4	15K	60K	13.89	12.04	10.99	10.06
03F365	0-6	15K	95K CT	15.62	13.54	12.36	11.31
03F367	0-8	15K	50, 200, 500	16.14	13.99	12.77	11.69
03F369	0-10	30K CT	50, 200, 500	17.30	15.00	13.69	12.53
03F370	0-12	50, 200, 500	50, 200, 500	16.14	13.99	12.77	11.69
03F374	0-16	250 CT	50K	20.95	18.15	16.58	15.17
03F157	0-18	10K split	2000 split	16.14	13.99	12.77	11.69
03F322	0-19	10K split	4000 split	16.14	13.99	12.77	11.69
05F1456	0-26	10K CT, 4 mA	10K CT	16.14	13.99	12.77	11.69
03F136	0-30	500/125 split	500/125 split	16.44	14.24	13.01	11.90
03F325	0-17	Mumetal shield, slip fit		3.14	2.72	2.48	2.27
02F754	0-BR	Mounting Bracket for Ouncers.		.87	.75	.69	.63



VARIABLE INDUCTORS

For use in tuned audio circuits. Adjustment of set screw on side of case gives inductance change of +85% to −45% of mean value, with 600° rotation. Die-cast case, 1 11/32 x 1 1/4 x 1 1/16". 5½ oz.

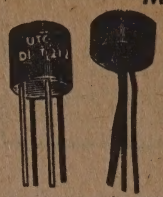
Stock No.	Type No.	Maximum DC mA	Ind., Hys	1-4	5-9	10-24	25-99
04F526	VIC-2	60	.013	14.97	12.97	11.84	10.84
04F520	VIC-16	5	8.5	16.73	14.50	13.24	12.11
04F521	VIC-18	3.5	21	17.30	15.00	13.69	12.53

TYPE LS HYBRID AND REPEAT COILS

High efficiency, low waveform distortion. Electrostatic shielding. 3⅛x2 5/8x3¼".

Stock No.	Type No.	Primary Impedance	Secondary Impedance	1-4	5-9	10-24	25-99
02F831	LS-68	600/150 split	2 split 600/150	64.38	55.79	50.94	46.61
03F549	LS-140	600/600 split	500/600 split	65.59	56.84	51.90	47.49
03F290	LS-141	3 sets of Bal. Wdgs. 500/600 CT		62.03	53.75	49.08	44.91

DI-T TRANSISTOR TRANSFORMERS Meet MIL-T-27C-TF4RX



DI-T Smaller than the DO-T Deci-Ouncer (below). Power ratings and other characteristics identical to DO-T's, except frequency response is approximately ±3 dB, 400-100,000 Hz. Hermetically sealed; rated for Class B (105°C max. operating) temperature conditions. Size 7/16" dia. x ½". Wt. 1/15 oz.

DI-T200 As above, with uninsulated leads spaced on .1" radius for printed circuit boards. Size, 7/16" x ⅜". Weight 1/15 oz.

Stock No.	Type	Appli-cation	Pri. Imp.	Sec. Imp.	1-4	5-9	10-24	25-99
02F653	DI-T250	Out./Mixing	500 CT	600 CT	14.12	12.23	11.17	10.2
02F655	DI-T260	Output	1500 CT	600 CT	14.12	12.23	11.17	10.2
02F657	DI-T270	Out./Driver	10K/12K CT	500/600 CT	15.28	13.24	12.09	11.0
02F661	DI-T283	Isol./Int.	10K/12K CT	10K/12K CT	16.45	14.26	13.02	11.9

DO-T TRANSISTOR TRANSFORMERS

Unprecedented power handling capacity, reliability plus ultra-small size. Hermetically sealed, metal cased to MIL-T-27C. Power rating, ±2 dB, 200-20,000 Hz. Low distortion. Anchored leads stand 10-lb. pull test; tinned and insulated copper conductors. Size 7/16" dia. x 1 3/32" long, Weight 1/10 oz.

03F553	DO-T4	Output	600	3.2	10.62	9.20	8.40	7.6
03F555	DO-T6	Output	10K	3.2	11.75	10.18	9.30	8.5
03F557	DO-T8	Inductor	3.5 Hy, 2 mA		9.43	8.17	7.46	6.8
03F660	DO-T9	Driv./Out.	10K/12K	500/600 CT	12.96	11.23	10.25	9.3
03F671	DO-T20	Output	500 CT	600	11.75	10.18	9.30	8.5
03F673	DO-T22	Output	1500 CT	600	11.75	10.18	9.30	8.5
03F255	DO-T36	Interstage	10K/12K CT	10K/12K CT	14.74	12.77	11.66	10.6
02F670	DO-T41	Interstage	400/500 CT	400/500 split	14.74	12.77	11.66	10.6
03F659	DO-TSH	Hipermalloy shield for DO-T's			1.80	1.56	1.42	1.3

PIP TRANSISTOR PULSE TRANSFORMER

Meets Mil. Spec. MIL-T-21038B-TP6RX Sub miniature, hermetically sealed metal case. Checked in transistor test circuit to give required pulse width. Size 5/16" dia. x 3/16". Wt. 1/20 oz.

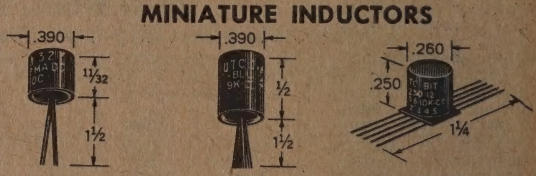
Stock No.	Type	Width u sec.	Rise Time	Imp. Out	1-4	5-9	10-24	25-99
02F558	PIP-9	10.0	.35	200	11.75	10.18	9.30	8.51
02F554	PIP-5	1.0	.08	100				

MINIATURE WIDE APPLICATION PULSE TRANSFORMERS

Hermetically sealed to MIL-T-21038B-TP7SX by vacuum molding. Temperature, −70 to +130°C. Wound core structure.

03F087	HS1	3	.10	500	16.47	14.27	13.03	11.92

MINIATURE INDUCTORS



Plastic case; temperature to 85°C. 50 WVDC. Size: **I-DI-T** 25/64" dia. x 1 1/32", tinned insul. copper leads; **I-DI-T500**, .390" dia. x .406", gold plated Dumet leads; **I-DO-T**, 25/64" dia. x ½", tinned insul. copper leads. *Series. †Parallel. Test cond. 5V, 1KHz.

I-DI-T AND I-DO-T INDUCTORS

Stock No.	Type No.	Inductance, Hys, Min.	At DC mA	1-4	5-9	10-24	25-99
04F517	I-DI-T328	0.1/0.08	4/10	6.19	5.37	4.90	4.4
04F484	I-DI-T504	0.1*/0.025†	4*/8†	8.09	7.01	6.40	5.8
04F485	I-DI-T508	0.9*/0.2†	2*/4†	8.35	7.24	6.61	6.0
04F486	I-DI-T512	2.5*/6†	2*/4†	8.35	7.24	6.61	6.0
04F487	I-DI-T516	4.5*/1.1†	2*/4†	8.86	7.67	7.01	6.4
04F488	I-DO-T150	0.075*/0.018†	10*/20†	7.06	6.12	5.59	5.1
04F489	I-DO-T128	0.3	4	6.19	5.37	4.90	4.4
04F490	I-DO-T127	1.25	2	6.19	5.37	4.90	4.4
04F491	I-DO-T108	3.5	2	6.19	5.37	4.90	4.4
04F493	I-DO-T149	20.0*/5.0†	1*/2†	8.09	7.01	6.40	5.8

BIT-250 INDUCTORS

Compatible with flat pack. MIL type TF5RX20ZZ. Ribbon style Kovar leads. Size, .27" x .27" x .27".

04F494	BIT-250-03	8.6*/2.4†	0	16.91	14.66	13.38	12.2
04F496	BIT-250-06	0.80/0.25	1/6	15.16	13.14	12.00	10.9
04F497	BIT-250-09	0.60*/0.15†	0	16.91	14.66	13.38	12.2

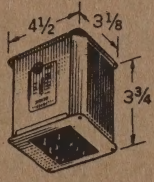
Cinch Transformers Filters and Inductors TRW

AUDIO TRANSFORMERS
ULTRA-COMPACT "A" SERIES

Excellent shielding. For top or bottom mounting. High quality, rugged die-cast zinc alloy case. Size 1⅛x1⅛x2". ‡indicates split winding. Weight ½ lb. Mounts in 1⅜" dia. hole.

Stock No.	Type	Pri. Imped.	Sec. Imped.	Resp., Hz ±2 dB	1-4	5-9	10-24
03F340	A-10	50, 125-150, 200-250, 333, 500-600	50,000‡	20-20,000	38.56	33.42	30.51
03F341	A-11	50, 200, 500	50,000 CT	20-20,000	29.41	25.49	23.27
03F342	A-12	50, 125-150, 200-250, 333, 500-600	80,000‡	20-20,000	37.50	32.50	29.67
03F354	A-15	10,000 2,500‡	2000/500‡	40-20,000	23.07	19.99	18.26
03F344	A-16	15,000	60,000	20-20,000	28.58	24.77	22.61
03F347	A-20	Same as A-10 Pri.	Same as Pri.	10-50,000	39.10	33.88	30.94
03F348	A-21	50, 200-250, 500-600	Same as Pri.	30-30,000	25.39	22.00	20.09
03F355	A-22	500 CT	500/125‡	40-20,000	21.06	18.25	16.67
03F349	A-24	15,000‡	50, 125-150 200-250, 333 500-600	20-40,000	37.61	32.60	29.76
03F350	A-25	15,000	Same as above	40-20,000	29.72	25.76	23.52
03F351	A-26	30,000 CT	Same as above	20-40,000	36.45	31.59	28.85
03F352	A-27	100,000‡	Same as above	30-20,000	35.18	30.49	27.84
03F080	A-35	10,000/ 2500‡	500/125‡	30-20,000	24.54	21.27	19.42
03F098	A-37	500/125‡	50/12.5‡	40-20,000	23.30	20.19	18.44
02F740	A-43	600/150‡	600/150‡ (2 sec.)	20-30,000	36.80	31.89	29.12
02F832	A-48	Hybrid, 3 500/600 ohm windings			35.57	30.83	28.15
03F358	A-33	Hipermalloy shield slip fit over A case			8.09	7.01	6.40

POWER TRANSFORMER



Designed for amateur and PA service, with ratings based on ICAS intermittent use. Formed case with top and bottom mountings. Size: 5⅜x6¹⁹⁄₃₂x7⅜".

PLATE TRANSFORMER

Stock No.	Type	High VAC	DCMA	Case	1-4	5-9	10-24
03F045	S-49	4200-3600 3000 CT	300	G-11	138.38	119.92	109.50

PLATE AND FILAMENT TRANSFORMER

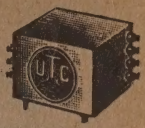
Stock No.	Type	Ratings	Case	1-4	5-9	10-24
03F031	S-40	H.V., 1050-850 CT @ 250 mA. Rect. fil. 5V-3A; fil. no. 1, 6.3 VCT-3A; no. 2, 6.3 VCT-3A	G-7	72.55	62.87	57.41

HVC HERMETIC VARIDUCTORS

Variable inductors with higher "Q" and wider inductance ranges . . . plus hermetic sealing to MIL-T27B specs. Screw adjustment on top permits inductance changes from −70% to +200% of mean value. DC current shown is maxiumm recommended. All 1⅛x²⁵⁄₃₂"x 1¹⁹⁄₃₂". Weight, 2 ounces.

Stock No.	Type No.	Min. Hys.	Mean Hys.	Max. Hys.	DC Ma	1-4	5-9	10-24
03F534	HVC-1	.002	.006	.02	100	19.07	16.52	15.09
03F535	HVC-2	.005	.015	.05	60			
03F536	HVC-3	.011	.040	.11	40			
03F538	HVC-5	.07	.25	.7	20			
03F539	HVC-6	.2	.6	2	15			
03F540	HVC-7	.5	1.5	5	10	20.25	17.54	16.02
03F541	HVC-8	1.1	4.0	11	7			
03F542	HVC-9	3.0	10	30	5			
03F543	HVC-10	7.0	25	70	3.5	20.78	18.01	16.45
03F545	HVC-12	50	150	500	1.5	24.80	21.49	19.63

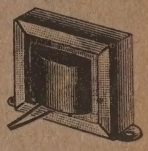
POWER LINE ISOLATION TRANSFORMERS



Ultrashielded hermetically sealed units. Less than 0.1 pF effective capacity between primary and secondary permits isolation formerly obtained only from battery power. Separate terminal for each shield. Input and output terminals on opposite sides of case. Primary & secondary —115 V 50/60 Hz.

Stock No.	Type No.	Watts Mil.	Watts Ind.	Max. Size	Wt., lbs.	1-4	5-9	10-24
02F735	HIT-1	50	60	4⅓2x4⅓2x3⅓2"	5½	105.52	91.45	83.50
02F738	HIT-3	400	480	8x6¹⁷⁄₃₂x5¹⁷⁄₃₂"	35	226.72	196.47	179.40

FILAMENT/TRANSISTOR TRANSFORMERS



Type FT Channel Frame. Primary: 115 volts 50/60 Hz. Test Volts RMS: 1500. All units are low temperature rise, vacuum-sealed against humidity with impregnating materials to prevent corrosion and electrolysis. Approximate weight 2 lbs. FT13, FT14, and FT15 have taps on primary to modify nom. sec. V. ±6% +12%.

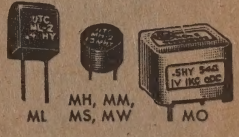
Stock No.	Type No.	Secondary Volts	Secondary Amps	Mtg. Clrs.	1-4	5-9	10-24
03F295	FT2	6.3 VCT	1.2	2⅜"	10.46	9.06	8.28
03F298	FT8	6.3 CT	8	3⁹⁄₁₆"	15.39	13.34	12.18
03F299	FT10	24 CT or 12	2 4	3⁹⁄₁₆"	17.73	15.36	14.03
02F702	FT13	26 VCT	.04	1¾"	15.16	13.14	12.00
02F703	FT14	26 VCT	.25	2⅜"	14.26	12.36	11.29
02F822	FT15	48 VCT	1	3⁹⁄₁₆"	21.06	18.25	16.67

BPM, HPM, LPM MINIFILTERS

Same characteristics as larger units above with slightly lower attenuation and operating levels. MIL-F-18327C. Input and output 10,000 ohms. BPM is band pass type; LPM, low pass; HPM, high pass. Size: 1x1x1⅜" except BPM, ¾x¾x1⅛".

Stock No.	Type	Freq. Hz	1-4	5-9	10-24	25-99
05F1338	BPM-800	800	57.71	50.01	45.67	41.78
05F1342	HPM-4000	4000	60.57	52.49	47.93	43.85
05F1339	LPM-1000	1000	60.57	52.49	47.93	43.85

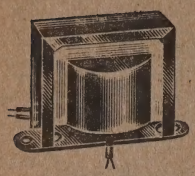
MINIDUCTORS (MIL-T-27C-TF5RX)



Hi Q in ultracompact form. Grade 5, hermetically sealed to MIL-T-27C. Temp. stability from ±1% to ±3%, −55° to +105°C. **MH:** Epoxy molded toroidal with max. Q at 100 kHz; ⁷⁄₁₆" dia. x ¼". **MM:** Same as MH but max. Q at 30 kHz. **ML:** Hipermalloy cased, with maximum Q at 800 Hz or 1.5 kHz; ⁷⁄₁₆x³⁹⁄₆₄x⁹⁄₁₆". **MO:** Epoxy molded, laminated; max. Q at 600 or 1500 Hz; ¾x1¹⁄₁₆x¹³⁄₁₆". **MS:** Ultraminiature toroidal, max. Q at 20 kHz; .35" dia. x .23". **MW:** Toroidal, max. Q at 10 kHz; ²³⁄₃₂" dia. x ¹³⁄₃₂".

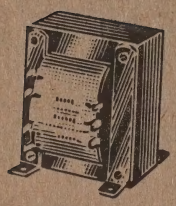
Stock No.	Type	Inductance @ 0 mA	Max. DC mA	1-4	5-9	10-24	25-99
04F529	MH-6	15 mHy	18	17.86	15.48	14.13	12.93
02F800	ML-0	0.15 Hy	12	17.30	15.00	13.69	12.53
03F183	ML-1	0.25 Hy	9				
04F530	ML-2	0.4 Hy	7				
04F531	ML-3	0.7 Hy	5				
03F186	ML-4	1.4 Hy	3	17.30	15.00	13.69	12.53
03F194	ML-8	10.0 Hy	0.5				
04F536	MM-8	120 mHy	8				
02F684	MO-2	2 Hy	8	22.65	19.63	17.92	16.40
02F682	MO-5	5 Hy	5	22.65	19.63	17.92	16.40
04F540	MO-20	20 Hy	2.7	22.65	19.63	17.92	16.40
02F688	MO-50	50 Hy	1.4	23.61	20.46	18.68	17.09
02F689	MO-100	100 Hy	1.1	25.08	21.74	19.85	18.16
04F541	MS-1	1 mHy	60	21.16	18.34	16.74	15.32
04F546	MS-50	50 mHy	9	23.63	20.48	18.70	17.11
04F547	MS-100	100 mHy	6	24.77	21.47	19.60	17.93
02F803	MW-.10	.10 Hy	18	14.97	12.97	11.84	10.84
02F804	MW-.25	.25 Hy	11	14.97	12.97	11.84	10.84
04F549	MW-3	3 Hy	3.5	25.49	22.09	20.17	18.45

TYPE F/POWER SUPPLY, CONTROL AND FILAMENT CIRCUITS
Single Secondary-Primary 115 volts, 50-60 Hertz



Case X

Stock No.	Type	Sec. Volts	Sec. Amps	Test Volts	Mtg. MW	Dim., In. MD	Wt. Lbs.	1-9	10-24	25-49	50-99
03F720	F-1X	2.5CT	3	1500	2 3/8	.....	.68	4.08	3.67	3.30	3.07
03F997	F-6X	2.5CT	6	1500*	2 13/16	.....	1.0	5.65	5.09	4.58	4.26
03F722	F-3X	2.5CT	10	1500**	3 1/8	.....	1.75	6.87	6.18	5.56	5.17
03F724	F-7X	5 CT	3	1500	2 13/16	.....	1.25	5.07	4.56	4.10	3.81
03F958	F-13X	6.3	.6	1500	2	.....	.37	3.75	3.38	3.04	2.83
03F959	F-14X	6.3CT	1.2	1500*	2 3/8	.....	.75	4.12	3.71	3.34	3.11
03F999	F-52X	6.3 #	1.2	1500†	2 13/16	.....	1	5.35	4.82	4.34	4.04
05F1376	F-43X	6.3	4	1500	2 13/16	.....	1.25	5.45	4.91	4.42	4.11
03F960	F-16X	6.3CT	3	1500*	2 13/16	.....	1.3	5.32	4.79	4.31	4.01
03F961	F-18X	6.3CT	6	1500	3 9/16	.....	2.3	7.78	7.00	6.30	5.86
03F775	F-18A	6.3CT	6	1500	2	1 1/16	2.50	9.18	8.26	7.43	6.91
03F1000	F-21A	6.3CT	10	1500	2 1/4	2	3.8	12.68	11.41	10.27	9.55
02F456	F-55X	26.8CT	1.7	1500	3 9/16	.....	2.3	6.28	5.65	5.09	4.73
03F1001	F-31X	10.0CT	3	2000	3 1/8	.....	1.7	5.57	5.01	4.51	4.19
02F457	F-23U	10.0CT	7	1500	2 1/4	2 7/16	3.9	11.37	10.23	9.21	8.57
02F532	F-45X	24 CT	1	1500	2 13/16	.....	1.3	4.98	4.48	4.03	3.75
05F1378	F-54X	35 CT	1.5	1500	3 9/16	.....	2.2	6.65	5.99	5.39	5.01
03F777	F-22A	6.3CT	20	2000	2 1/2	3	7	16.82	15.14	13.63	12.68
03F1002	F-70X	12.6CT	1	1500	2 13/16	.....	1.3	4.73	4.26	3.83	3.56
03F778	F-25X	12.6CT	1.5	1500	2 13/16	.....	1.3	4.97	4.47	4.02	3.74
05F1379	F-44X	12.6CT	2	1500	2 13/16	.....	1.25	4.85	4.37	3.93	3.65
03F996	F-26X	12.6CT	2.5	1500	3 1/8	.....	1.55	5.50	4.95	4.46	4.15
03F1003	F-46X	24	1	1500	2 13/16	.....	1.4	4.55	4.10	3.69	3.43
03F779	F-40X	26.8CT	1	1500	2 13/16	.....	1.25	4.95	4.46	4.01	3.73
03F1004	F-57X	25.2CT	1	1500	2 13/16	.....	1.5	5.52	4.97	4.48	4.15
03F726	F-41X	25.2CT	2	1500	3 9/16	.....	2.25	6.52	5.87	5.29	4.90
03F1005	F-56X	25.2CT	2.8	1500	3 9/16	.....	2.5	9.12	8.21	7.39	6.87
03F631	F-28U	7.5/6.3	25	1500**	3	3 1/16	7.5	24.18	21.76	19.58	18.21
03F632	F-29U	12/11/10	11	1500**	2 3/4	2 9/16	6.5	17.68	15.91	14.32	13.32
03F1006	F-58A	50 CT	5	1500	3	3 3/8	10.0	22.47	20.22	18.20	16.93
03F1007	F-59X	60 CT	.4	1500	2 13/16	.....	1.3	4.78	4.30	3.87	3.60



Case U

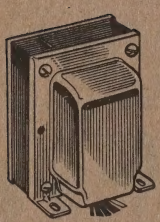
TYPE F MULTIPLE SECONDARY

04F435	F-42A	12.6CT	2.5	1500	2 1/4	2	3.7	10.42	9.38	8.45	7.83

#Static Shield. *Pri., 2500 Sec. †Pri., 5000 Sec. **Primary, 3000 Sec.

LOW VOLTAGE, LOW CURRENT/Primary 117 volts, 50-60 Hz.

Stock No.	Type	Secondary Volts	Secondary Amps	RMS Test Voltage	Dimensions H	Dimensions W	Dimensions D	Max. Unit Wt. Lbs.	1-9	10-24	25-49	50-99
02F478	F-112X	14 CT	0.25	1500	1 3/8	2 3/8	1 3/8	.4	3.93	3.54	3.19	2.97
02F479	F-113X	12	0.15	1500	1 3/8	2 3/8	1 3/8	.4	3.75	3.38	3.04	2.83
03F1008	F-114X	12	0.7	1500	1 5/8	2 13/16	1 5/8	.8	5.32	4.79	4.31	4.01
03F1009	F-115X	24 CT	0.085	1500	1 3/16	2 1/16	1 1/4	.3	4.75	4.28	3.85	3.58
02F480	F-116X	24 CT	0.2	1500	1 3/8	2 3/8	1 1/2	.45	5.05	4.55	4.10	3.81
03F1010	F-3116	Same as F116X, 115/230V primary							5.90	5.31	4.78	4.45
03F1011	F-117X	24 CT	0.4	1500	1 5/8	2 13/16	1 1/2	.8	5.50	4.95	4.46	4.15
03F1012	F-118X	24 CT	0.7	1500	1 15/16	3 1/4	2	1.30	4.67	4.20	3.78	3.52
03F1013	F-119X	26.8CT	.15	1500	1 3/8	2 3/8	1 1/2	.45	4.83	4.35	3.92	3.65
02F481	F-120X	26.8CT	0.5	1500	1 15/16	3 1/4	2	1.3	4.52	4.07	3.67	3.40

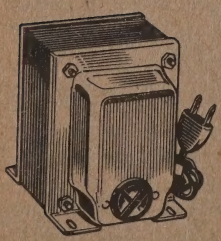


Case A

TYPE N ISOLATION/STEPDOWN TRANSFORMERS, 50-60 Hz.

Stock No.	Type	V.A. Output	Input Volts	Output Volts	Mtg. MW	Dim. MD	Wt. Lbs.	1-9	10-24	25-49	50-99
03F1014	N-3M*	85	230	115	2 1/4	1 5/8	3	11.80	10.62	9.56	8.89
05F1359	N-4M*	150	230	115	2 1/4	2 3/8	4.7	13.83	12.45	11.21	10.43
04F433	N-5M*	250	230	115	2 1/2	3	7.0	18.10	16.29	14.66	13.63
03F1015	N-7M*	600	230	115	3	3 7/8	12	31.75	28.58	25.72	23.92
03F750	N-51X	35	115	115	3 1/8	.....	1.7	6.22	5.60	5.04	4.69
03F603	N-68X	50	230/115	115	3 1/8	.....	1.7	8.03	7.23	6.51	6.05
03F751	N-53M	85	115	115	2 1/4	2 3/8	4.7	14.65	13.19	11.87	11.04
03F604	N-54M	150	115	115	2 1/2	3	7.0	18.57	16.71	15.04	13.99
03F1016	N-34X*	150	115-125-135	115	3 9/16	.....	2.2	8.17	7.35	6.62	6.16
03F1017	N-48X	15	115	115	2 13/16	.....	1.35	5.03	4.53	4.08	3.79
03F1018	N-49X	35	115	57.5-115	3 1/8	.....	1.9	6.95	6.26	5.63	5.24
02F541	N-55M	250	115	115	3	3 7/8	11.0	32.22	29.00	26.10	24.27
02F542	N-57M	500	115	115	3 1/2	5 1/8	23.75	71.28	64.15	57.74	53.70
05F1361	N-66A	250	230/115	115	3	3 5/8	11	24.93	22.44	20.20	18.79
03F605	N-67A	150	230/115	115	2 1/2	3	7.0	15.40	13.86	12.47	11.60
03F1019	N-469A #	50	220/440	115	2	1 9/16	2.3	9.07	8.16	7.34	6.83
03F1020	N-471A #	300	220/440	115	3	3 3/8	10.25	23.95	21.56	19.40	18.04

*Autoformer. #60 Hz. operation.



Case M

SOLID STATE RECTIFIERS—Primary, 117V, 50/60 Hz—For Delco 50 & 100 W. Amps
Case A except (**) case B (not shown).

Stock No.	Type	Sec. V.	Test V.	Mtg. MW	Dim. In. MD	Wt. Lbs.	1-9	10-24	25-49	50-99
04F451	R-82B**	70	1500	3 3/4	3	8 1/4	20.17	18.15	16.34	15.20
04F460	R-205A	60	1500	2 3/4	2 11/16	6	19.22	17.30	15.57	14.48

Power Transformers

Litton **TRIAD-UTRAD** Distributor Services

PLUG-IN PC POWER TRANSFORMERS—115 Volt, 50/60 Hz. Primary

Ideal for single or dual output DC supplies, isolated control circuits, reference supplies in transistorized control, instrumentation. Provide voltage stepdown and isolation from power line at relatively low power levels of 1½, 4½, 7 watts at 4 to 58 volts when connected in parallel, and 8 to 116 volts when series connected. Precision spaced plug-in terminals with fixed mounting centers.

Fig. A

Stock No.	Type	Fig.	Out-Put	Secondary Series	Secondary Parallel	Dimensions	Wt. Oz.	1-9	10-24	25-49	50-99
02F459	F-131P	B	1½ W	8VCT @ .188A	4V @ .376A	1⅛ x 1 25/64 x 1 5/32	3.5	5.00	4.50	4.05	3.77
02F460	F-132P	B	1½ W	15VCT @ .100A	7.5V @ .200A	1⅛ x 1 25/64 x 1 5/32	3.5	5.12	4.61	4.15	3.86
02F461	F-133P	B	1½ W	30VCT @ .050A	15V @ .100A	1⅛ x 1 25/64 x 1 5/32	3.5	5.23	4.71	4.24	3.94
02F463	F-135P	B	1½ W	76VCT @ .020A	38V @ .040A	1⅛ x 1 25/64 x 1 5/32	3.5	6.02	5.42	4.88	4.54
03F1021	F-141XP	A	4½ W	8VCT @ .562A	4V @ 1.124A	1 25/64 x 2⅜ x 1¼	7.5	4.77	4.29	3.86	3.59
02F465	F-142XP	A	4½ W	15VCT @ .300A	7.5V @ .600A	1 25/64 x 2⅜ x 1¼	7.5	4.88	4.39	3.95	3.67
02F466	F-143XP	A	4½ W	30VCT @ .150A	15V @ .300A	1 25/64 x 2⅜ x 1¼	7.5	5.03	4.53	4.08	3.79
02F467	F-144XP	A	4½ W	54VCT @ .084A	27V @ .168A	1 25/64 x 2⅜ x 1¼	7.5	5.17	4.65	4.19	3.90
02F469	F-147XP	A	4½ W	40VCT @ .112A	20V @ .224 A	1 25/64 x 2⅜ x 1¼	7.5	5.42	4.88	4.39	4.08
02F470	F-151XP	A	7½ W	8VCT @ .940A	4.0V @ 1.880A	1 41/64 x 2 13/16 x 1 15/32	10.5	5.00	4.50	4.05	3.77
03F1022	F-152XP	A	7½ W	15VCT @ .500A	7.5V @ 1.0A	1 41/64 x 2 13/16 x 1 15/32	. . .	5.57	5.01	4.51	4.19
03F1023	F-153XP	A	7½ W	30VCT @ .250A	15V @ .500A	1 41/64 x 2 13/16 x 1 15/32	. . .	5.18	4.66	4.19	3.90
02F471	F-154XP	A	7½ W	54VCT @ .140A	27V @ .280A	1 41/64 x 2 13/16 x 1 15/32	10.5	5.22	4.70	4.23	3.93

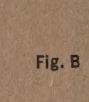
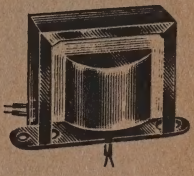


Fig. B

PLUG-IN PC POWER TRANSFORMERS, 115/230 Volt, 50/60 Hz. Primary

03F1024	F-333P	B	1½	30VCT @ .050A	15V @ .100A	1⅛ x 1⅛	. . .	7.22	6.50	5.85	5.44
03F1025	F-348XP	A	4½	12.6VCT @ .350A	6.3V @ .700A	1⅜ x 2⅜ x 1¼	. . .	7.83	7.05	6.35	5.91
03F1026	F-359XP	A	10	24VCT @ .450A	12V @ .900A	1⅜ x 1 7/16 x 2 13/16	. . .	7.98	7.18	6.46	6.01

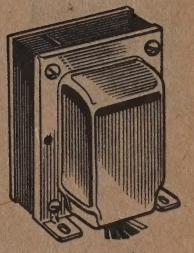


Case X

TYPE F LOW VOLTAGE RECTIFIER TRANSFORMERS—50/60 Hz.

Case X except (*) case A.

Stock No.	Type	Primary Volts	Secondary AC Voltage	Secondary AC Amps	Dimensions H	Dimensions W	Dimensions D	Wt. Lbs.	1-9	10-24	25-49	50-99
03F620	F-90X	115 Tapped	10-20CT-40CT	.1	1⅝	2 13/16	1⅛	¾	5.03	4.53	4.08	3.79
03F621	F-91X	115 Tapped	10-20CT-40CT	.3	2 9/32	3 1/16	2	1½	6.08	5.47	4.92	4.58
03F622	F-92A*	115 Tapped	10-20CT-40CT	.1	3 3/16	2 21/32	3	3¼	10.32	9.29	8.36	7.77
05F1350	F-93X	115 Tapped	10-20CT-40CT	.75	2 19/32	4	2¼	2.4	7.75	6.98	6.28	5.84
05F1351	F-94X	115 Tapped	10-20CT-40CT	.035	1⅜	2⅜	1⅜	.5	4.97	4.47	4.02	3.74

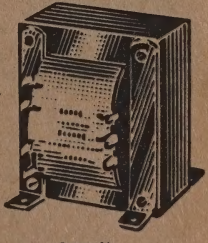


Case A

TYPE F UNIVERSAL RECTIFIER TRANSFORMERS—Primary 60 Hz.

Case U.

Stock No.	Type	Primary Volts	Secondary VAC	Secondary Amps RMS	Rectifier HW VDC	Rectifier FWB VDC	Mtg. MW	Dim. MD	Wt. Lbs.	1-9	10-24	25-49	50-99
03F984	F-47U	115	17-18	3	6-7	13-14	1⅝	2⅜	3.2	9.93	8.94	8.05	7.49
03F962	F-48U	115	17-18	6	6-7	13-14	2½	2 11/16	5.5	14.15	12.74	11.47	10.67
03F985	F-49U	115	36/36	3	13	26	3	3 1/16	9.75	23.08	20.77	18.70	17.49
03F963	F-60U	115	6.5-13-19.5-26	3	9	18	2¼	2 3/16	3.5	9.70	8.73	7.86	7.31
	F-360U	Same as F-60U, 115/230 primary								10.62	9.56	8.60	8.00
03F986	F-61U	115	24-27-30-33-36	3	13	26	2½	2 11/16	5.65	14.78	13.30	11.97	11.13
03F987	F-67U	100-120	24-27-30-33-36	8	13	26	3	3 5/16	10¾	27.80	25.02	22.52	20.94
03F623	F-79U	115	24-26-28-30	15	11.4	22.8	3¾	4 9/16	18½	41.83	37.65	33.89	31.52
03F965	F-64U	115	7-8-9	7	. . .	5-6-7	2¼	2 3/16	3.5	11.43	10.29	9.26	8.61



Case U

TYPE F UNIVERSAL RECTIFIER POWERS, 117V Primary, 50-60 Hz.

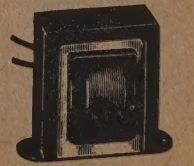
Case U.

Stock No.	Type	Secondary AC Volts	Secondary DC Amps Full Wave CT	Secondary DC Amps Bridge	Mtg. MW	Dim. MD	Wt. Lbs.	1-9	10-24	25-49	50-99
03F1027	F-202U	11-29.5	2.0	1.25	2	2⅛	2.5	9.22	8.30	7.47	6.95
03F1028	F-203U	12-30	4.0	2.0	2¼	2⅜	3.8	11.65	10.49	9.44	8.78
03F1029	F-204U	11.5-29	8.0	4.0	2½	2⅞	6.1	17.18	15.46	13.91	12.94
03F1030	F-205U	12-29.5	12.0	6.0	2¾	3¼	9.1	25.13	22.62	20.36	18.93

CONTROL TRANSFORMERS/6, 12, 24 Volt Secondaries

Case Z except (†) case U.

Stock No.	Type	Primary 50/60 Hz	Secondary Parallel	Secondary Series	VA Rating	Mtg. Dim.	Wt. Lbs.	1-9	10-24	25-49	50-99
03F1031	F-105Z	115/230V	6V@2A	12V@1A	12	2⅜	1	5.80	5.22	4.70	4.37
03F1032	F-106Z	115/230V	6V@4A	12V@2A	24	2 13/16	1½	6.70	6.03	5.43	5.05
03F1033	F-107Z	115/230V	12V@4A	24V@2A	48	3⅛	2½	7.80	7.02	6.32	5.88
03F1034	F-108U†	115/230V	12V@8A	24V@4A	96	2¼ x 2¼	4¼	13.63	12.27	11.04	10.27
03F1035	F-109U†	115/230V	12V@16A	24V@8A	192	3 x 2¾	8	25.57	23.01	20.71	19.26



Case Z

Audio Transformers

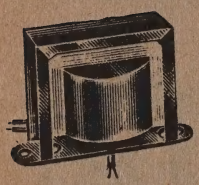
TYPE SP 'RED SPEC' TRANSISTOR TRANSFORMERS

Nickel alloy leads spaced on standard 1/10" grid centers to fit PC boards. Base: .310 x .410". Lead length: ¾". Meet MIL-T-27B. Input response: 230 Hz-15K Hz @ 25 mw., 100 Hz-50K Hz @ 1 mw. Output response: ± 2 dB, 250 Hz-50K Hz @ 50 mw. 150 Hz-50 MHz @ 1 mw. Wt. .1 oz.

Stock No.	Type	MIL-T-27B Designation	Primary Imp.	Secondary Imp.	Pwr. M. W.	1-9	10-24	25-49	50-99
05F1367	SP-4	TF5SX16ZZ	200KCT	1000CT	10	11.68	10.51	9.46	8.80
03F012	SP-5	TF5SX16ZZ	50KCT	1000CT	25	11.08	9.97	8.97	8.34
03F1036	SP-13	TF5SX13ZZ	25000CT/20000CT	1000CT/800CT	40	10.10	9.09	8.18	7.61
03F1047	SP-15	TF5SX13ZZ	10000CT	1500CT	50	10.00	9.00	8.10	7.53
03F017	SP-20	TF5SX13ZZ	10000CT	1200CT	50	9.72	8.75	7.88	7.33
03F018	SP-21	TF5SX13ZZ	10000CT	2000CT	50	9.77	8.79	7.91	7.36
03F1037	SP-22	TF5SX13ZZ	10000CT	2000CT/500 #	50	10.13	9.12	8.21	7.64
02F450	SP-29	TF5SX13ZZ	10000CT	500CT	50	9.45	8.51	7.66	7.12
03F1048	SP-33	TF5SX17ZZ	1000	50	50	7.92	7.13	6.42	5.97
05F1369	SP-42	TF5SX17ZZ	150CT	12	50	8.13	7.32	6.59	6.13
03F1038	SP-49	TF5SX17ZZ	300CT	600	50	8.35	7.52	6.77	6.30
05F1370	SP-50	TF5SX17ZZ	500CT	600	50	8.50	7.65	6.89	6.41
02F451	SP-51	TF5SX17ZZ	900CT	600	50	8.55	7.70	6.93	6.44
03F283	SP-52	TF5SX13ZZ	1500CT	600	50	8.90	8.01	7.21	6.71
03F292	SP-66*	TF5SX13ZZ	10KCT	10KCT	50	9.48	8.53	7.68	7.14
02F452	SP-67*	TF5SX17ZZ	600CT	600CT	50	8.43	7.59	6.83	6.35
02F453	SP-69*	TF5SX17ZZ	600	600CT/150 #	50	9.48	8.53	7.68	7.14
02F454	SP-70*	TF5SX17ZZ	600	600	50	7.77	6.99	6.29	5.85
03F1049	SP-107	TF5SX20ZZ	1.25HY Audio Choke			6.72	6.05	5.45	5.07
03F1050	SP-310	Magnetic Shield				1.23	1.11	1.00	.93

Split Secondary *Output Isolation

PLUG-IN AUDIO TRANSFORMERS

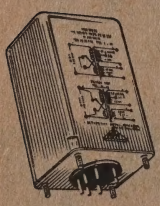


Stock No.	Type	Fig.	Output	Impedance Primary	Impedance Secondary	Pri. DC Unbalance	Dimensions	1-9	10-24	25-49	50-99
02F473	TY-141P	C	100mW	10,000CT	10,000CT	4 ma	⅝ x 13/16 x 19/32	5.50	4.95	4.46	4.15
02F477	TY-145P	C	100mW	600CT	600CT	15 ma	⅝ x 13/16 x 19/32	4.18	3.76	3.38	3.14

MINIATURE AUDIO 'TRIJETS'

Stock No.	Type	Application	Pri. Imp.	Sec. Imp.	Resp.	1-9	10-24	25-49	50-99
05F1362	T-1X	Line to Grid	600/250/50	50,000	60-15,000	6.42	5.78	5.20	4.84
03F1039	T-20X	Plate to Line	15,000	600/250/50	60-15,000	5.22	4.70	4.23	3.93
03F917	T-31X	Line to Line	600/250/50	600/250/50	50-15,000	5.08	4.57	4.11	3.82
03F1040	T-25X	Plate to Line	12,000CT	600CT/150 #	50-16,000	4.70	4.23	3.81	3.54
03F1041	T-32X	Trans to Line	1,500CT	600CT/150 #	50-20,000	3.90	3.51	3.16	2.94
03F1042	T-33X	Isol High Imp	5,000CT	5,000CT	60-15,000	6.27	5.64	5.08	4.72
05F1365	T-34X	Line to Line	500CT	500CT/125 #	50-20,000	3.90	3.51	3.16	2.94
05F1366	T-35X	Line to Trans	600CT	2,000CT/500 #	50-20,000	5.12	4.61	4.15	3.86

Split Secondary



Case HS and HSM

MINIATURE AUDIO TRANSISTOR TRANSFORMERS

Stock No.	Type	Pri. Match Imped.	Pri. Cur. mADC	Sec. Match Imped.	Max. Level	Size	1-9	10-24	25-49	50-99
02F950	TY-31X	200CT	50	8/4	2W	13/16 x 2 1/16 x 1 1/4	4.23	3.81	3.43	3.19
03F1043	TY-37X	2000CT	4	8000CT	.2	13/16 x 1 5/8 x 1	5.55	5.00	4.50	4.19
05F2172	TY-45X	500CT	5	16/8/4	.2	13/16 x 1 5/8 x 1	5.57	5.01	4.51	4.19
03F1044	TY-56X	1000	1	2000CT	.05	13/16 x 1 5/8 x 1	6.63	5.97	5.37	4.99
02F458	TY-48X	100CT	40	16/8/4	.5	13/16 x 1 5/8 x 1	5.13	4.62	4.16	3.87
03F1051	TY-53X	200CT	10	400CT	.6	1 15/16 x 3 5/16 x 1 3/4	4.85	4.37	3.93	3.65
02F953	TY-61X	100	100	100CT	.5	1 15/16 x 3 5/16 x 1 3/4	4.18	3.76	3.38	3.14
02F955	TY-64X	32CT	575	16/8/4	10W	1 15/16 x 3 5/16 x 1 3/4	6.50	5.85	5.27	4.90
03F1052	TY-65Z	32CT	575	6K/4K/3K	10W	2 5/16 x 2⅞ x 2	5.60	5.04	4.54	4.22

TYPE HS MILITARY GRADE OUTPUT TRANSFORMERS

J Series Case

Stock No.	Type	Mil. Type	Primary Imp.	Secondary Imp.	Freq. Resp.	1-9	10-24	25-49	50-99
05F2170	HS-56V†	TF1VX16YY	600/250/150/62.5	600/250/150/62.5	10-30,000	41.37	37.23	33.51	31.16
05F2171	HS-66‡	TF1QX16YY	600/250/150/62.5	600/250/150/62.5	10-30,000	28.58	25.72	23.15	21.53

†70 dB Magnetic Shielding ‡45 dB Magnetic Shielding

J SERIES LOW LEVEL OUTPUT TRANSFORMERS

Stock No.	Type	Application	Freq. Resp.	Pri. Imp.	Sec. Imp.	Wt. Lbs.	1-9	10-24	25-49	50-99
05F1354	A-11J	Line to Grid	30-15,000	600/250/50	60,000	.35	15.25	13.73	12.36	11.49
05F1355	A-12J	Line to Grid	30-15,000	600CT/150	60,000 #	.35	15.40	13.86	12.47	11.60
03F1045	A-61J	Line to 2 Lines	60-15,000	600/150 #	600/150 # 600/150 #	.35	15.38	13.84	12.46	11.59
02F538	A-65J	Plate to Line	30-15,000	15,000CT	600CT/150 #	.35	14.53	13.08	11.77	10.95
03F1046	A-57J	Line to Line	30-30,000	600/250/50	600/250/50	.35	13.58	12.22	11.00	10.23
05F1357	A-67J	Line to Line	30-15,000	600CT/150 #	600CT/150 #	.35	14.50	13.05	11.75	10.93

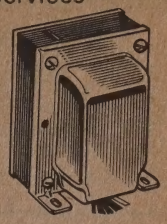
Split Winding

Power Transformers

Litton **TRIAD-UTRAD** Distributor Services

TYPE R PLATE AND FILAMENT TRANSFORMERS — Primary 115 Volts, 50/60 Hz.

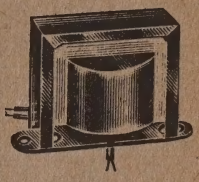
Stock No.	Type	Plate Supply AC V	Plate Supply DC mA	Rect. Fil. Volts	Rect. Fil. Amps	Other Fil. Volts	Other Fil. Amps	Mtg. MW	Dim. MD	1-9	10-24	25-49	50-99
03F942	R-4A	500CT	40	...	...	6.3CT	2	1¾	1⅞	9.02	8.12	7.31	6.80
03F1061	R-6A	480CT	50	5	2	6.3CT	2	2	1 11/16	10.42	9.38	8.44	7.85
03F949	R-11A	700CT	90	5	3	6.3CT	3.5	2¼	2⅝	14.45	13.01	11.71	10.89
04F441	R-22A	320/380CT	70	...	...	6.3CT	.6	2	1 11/16	11.22	10.10	9.09	8.45
03F1062	R-20A	700CT	200	5	3	6.3CT	8	2¾	3¼	22.48	20.23	18.21	16.94



Case A

TYPE R TRANSFORMERS FOR PREAMPLIFIERS, VTVM, etc. — Primary 115 V, 60 Hz.

Stock No.	Type	Plate Supply AC V	Plate Supply DC mA	Fil. Windings Volts	Fil. Windings Amps	Mtg. MW	Dim. In. MD	Wt. Lbs.	1-9	10-24	25-49	50-99
03F933	R-29A	230CT	40	6.3V.	1.5A	1¾	1⅝	1¾	8.12	7.31	6.58	6.12
03F934	R-30X	135CT	50	6.3V.	1.5A	3⅛	...	1½	7.50	6.75	6.08	5.65
03F935	R-54X	115CT	15	6.3V.	.6A	2⅜	...	1	4.88	4.39	3.95	3.67
03F1053	R-54Z	115CT	15	6.3V.	.6A	2	...	1	5.17	4.65	4.19	3.90



Case X

TYPE TY TRANSISTOR POWER SUPPLY TRANSFORMERS

*Toroidal Type, 12.6 VDC †Open Type 12 VDC to DC

Stock No.	Type	DCV from Rectifier	Max. DC mA	D x H (In.)	Wt. Lbs.	1-9	10-24	25-49	50-99
04F438	TY-68S†	250/125	65	1 11/32 x 1¾	0.2	7.53	6.78	6.10	5.67
05F1371	TY-74S†	600/300	200	3 x 2	1.07	14.38	12.94	11.65	10.83
03F1054	TY-77S	670/335	180	3 x 2	1.07	20.78	18.70	16.83	15.65
03F633	TY-78*	250/125	100	1¾ x 1 1/16	0.35	17.55	15.80	14.22	13.22
03F634	TY-79*	300/150	200	1¾ x 1	0.35	19.48	17.53	15.78	14.68
03F636	TY-81*	375/187.5	200	2 x 1	0.50	16.92	15.23	13.71	12.75
03F637	TY-82*	450/225	150	2 x 1	0.50	17.52	15.77	14.19	13.20
03F639	TY-84*	600/300	200	2¾ x 1⅜	1.00	27.15	24.44	22.00	20.46
02F455	TY-89*	300/150	100	1¾ x 1 1/16	0.35	16.88	15.19	13.67	12.71

Epoxy Molded Toroidal (TX)

TYPE TY DC TO AC TRANSISTOR POWER TRANSFORMERS

Stock No.	Type	DCV Pri.	Secondary (115 VAC)	Dimensions (HWD, In.)	Mtg. MW	Dim. MD	Wt. Lbs.	1-9	10-24	25-49	50-99
03F652	TY-75A	12	60cps 115W.	3/8 x 3 9/32 x 3½	2½"	2⅜"	5	21.62	19.46	17.51	16.28
03F653	TY-76A	12	60cps 60W.	3 1/16 x 2 21/32 x 2⅜	2"	1 11/16"	3	14.25	12.83	11.55	10.74

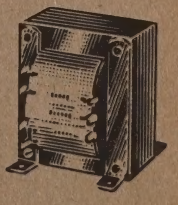
EC SERIES TOROIDAL INDUCTORS

Stock No.	Type	Ind.	Approx. Ohms	DC ma for 5% Ind. Drop	1-9	10-24	25-49	50-99
04F036	EC-010A	10 mh	1.30	165	6.90	6.21	5.59	5.20
04F039	EC-030	30 mh	2.85	95	4.40	3.96	3.56	3.31
03F1055	EC-050	50 mh	5.50	74	4.53	4.08	3.67	3.41
04F053	EC-100A	100 mh	13.00	52	7.68	6.91	6.22	5.78
04F055	EC-250A	250 mh	33.00	33	7.55	6.80	6.12	5.69
05F1375	EC-1000	1000 mh	134.00	16.5	5.38	4.84	4.36	4.05

EC Series

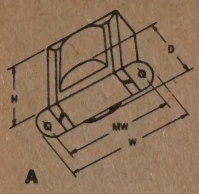
TYPE C SMOOTHING FILTER REACTORS

Stock No.	Type	Ind. Henries	Current mA	Res. Ohms	Test RMS Volts	Mtg. MW	Dim. MD	Wt. Lbs.	1-9	10-24	25-49	50-99
03F754	C-1X	15	20	1000	1000	1¾	...	.21	2.90	2.61	2.35	2.19
03F952	C-3X	10	50	500	1500	2⅜	...	.6	3.38	3.04	2.74	2.55
04F430	C-4X	4	50	360	1500	2	...	.35	2.93	2.64	2.38	2.21
05F2178	C-6X	5	65	330	1500	2⅜	...	.6	3.38	3.04	2.74	2.55
03F1063	C-5X	12	75	390	1000	2 13/16	...	1.0	4.08	3.67	3.30	3.07
03F757	C-7X	10	90	270	1000	2 13/16	...	1.3	4.42	3.98	3.58	3.33
03F1064	C-9X	4	90	100	1500	2 13/16	...	1.75	3.90	3.51	3.16	2.94
03F1056	C-14X	6	200	150	1500	3 9/16	...	2.3	6.30	5.67	5.10	4.74
03F1057	C-21X	1.5	225	65	1500	2 13/16	...	1.1	3.80	3.42	3.08	2.86
03F1058	C-24X	1	240	50	1500	2⅜	...	.75	3.23	2.91	2.62	2.44
04F432	C-27X	0.7	290	30	1500	2⅜	...	.75	3.05	2.75	2.48	2.31
04F452	C-36X	.5	300	30	1500	2	...	.5	2.85	2.57	2.31	2.15
03F1059	C-34X	.6	350	35	1500	2⅜	...	.6	2.93	2.64	2.38	2.21
03F765	C-40X	.32	600	10	1500	2 13/16	...	1.3	4.07	3.66	3.29	3.06
03F734	C-47U	.3-.075	1A-2A	3/.75	1500	2¼	2 11/16	4.6	10.97	9.87	8.88	8.26
03F1060	C-56U	.035	2A	.75	1500	2 3/16	1¾	2.0	6.67	6.00	5.40	5.02
03F735	C-48U	.08-.02	2.5A-5A	.61-.155	1500	2½	3 1/16	6.75	14.12	12.71	11.44	10.64
03F1065	C-49U	.032-.008	5A/10A	.19/.05	1500	2¾	3 1/16	8.0	20.53	18.48	16.63	15.47
05F2176	C-58U	.01	8.0	.15	1500	3⅛	2½	5.5	12.70	11.43	10.29	9.57



Case U

ESSEX STANCOR Power Transformers



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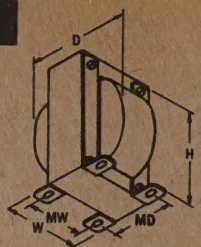

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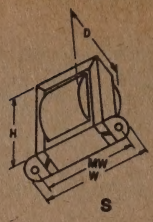

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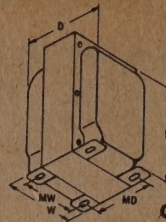

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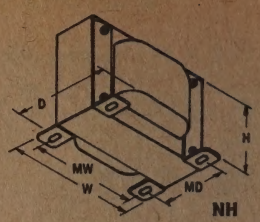


NH

Stk. No.	Type	Style	Secondary Volts	Secondary Amps.	Primary Volts 50-60 Hz	Insulation Test RMS Volts*	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimen. MW	Mtg. Dimen. MD	Wt. Lbs.	EACH BOXED 1-9	EACH BOXED 10-24	EACH BOXED 25-49	BULK PACKED 50-99	BULK PACKED 100-249	BULK PACKED 250-499
05F1409	P-8385	A	6.3C.T.	0.3	117	1500	1¼	2⅛	1⅜	1¾	—	0.3	3.58	3.22	2.90	2.69	2.26	2.11
01F375	P-6465	A	6.3C.T.	0.6	117	1500	1⅜	2⅜	1½	2	—	0.4	3.75	3.38	3.04	2.81	2.36	2.21
01F946	P-8389	A	6.3	1.0	117	1500	1⅜	2⅜	1½	2⅜	—	0.6	3.75	3.38	3.04	2.81	2.36	2.21
01F105	P-6134	A	6.3C.T.	1.2	117	3000	1⅜	2⅜	1⅞	2⅜	—	0.8	3.75	3.38	3.04	2.81	2.36	2.21
01F123	P-6466	A	6.3C.T.	3.0	117	2500	2	3¼	2⅛	2 1⁵⁄₁₆	—	1.4	5.42	4.88	4.39	4.07	3.41	3.20
05F500	P-8648	A	6.3C.T.	4.0	117	1500	2⅜	3¾	2⅛	3⅛	—	1.6	3.67	3.30	2.97	2.75	2.31	2.17
05F501	P-8649	A	6.3C.T.	5.0	117	1500	2⅜	3¾	2⅛	3⅛	—	1.8	6.00	5.40	4.86	4.50	3.78	3.54
01F375	P-6456	A	6.3C.T.	6.0	117/107	2000	2⅜	3¾	2⅜	3⅛	—	2.0	7.33	6.60	5.94	5.50	4.62	4.32
05F503	P-8651	A	6.3C.T.	8.0	117	1500	2⅜	4	2¼	3 1⁵⁄₁₆	—	2.4	7.92	7.13	6.42	5.94	4.99	4.67
05F1411	P-6464	C	6.3C.T.	10.0	117	2000	3½	2 1³⁄₁₆	3¼	2¼	2	3.5	11.67	10.50	9.45	8.75	7.35	6.89
01F109	P-6309	NV	6.3C.T.	20.0	117/107	2500	4 5⁄₁₆	3¾	3⅜	3	2⅜	6.7	19.00	17.10	15.39	14.25	11.97	11.21
01F110	P-5015†	NV	7.5C.T.	4.0	117	2500	3⅛	2½	2¼	2	2⅛	2.7	10.42	9.38	8.44	7.82	6.56	6.15
01F337	P-6138†	NV	7.5C.T.	8.0	117	2500	3 1⁵⁄₁₆	3⅛	2¾	2½	2⅜	4.7	13.84	12.46	11.21	10.38	8.72	8.17
05F504	P-8652	A	10.0C.T.	1.0	117	1500	2	3¼	1⅝	2 1³⁄₁₆	—	0.9	3.67	3.30	2.97	2.75	2.31	2.17
05F505	P-8653	A	10.0C.T.	2.0	117	1500	2	3¼	2	2 1³⁄₁₆	—	1.3	4.42	3.98	3.58	3.32	2.78	2.61
01F048	P-8380	A	10.0C.T.	3.0	117	1500	2⅜	3¾	2¼	3⅛	—	1.6	6.25	5.63	5.06	4.69	3.94	3.69
05F506	P-8654	A	10.0C.T.	4.0	117	1500	2⅝	4	2⅛	3 1⁵⁄₁₆	—	2.3	7.08	6.37	5.73	5.31	4.46	4.18
05F507	P-8655	NV	10.0C.T.	6.0	117	1500	3⅛	2½	2¾	2	2 5⁄₁₆	3.1	9.17	8.25	7.43	6.88	5.78	5.41
05F508	P-8656	NV	10.0C.T.	8.0	117	1500	3 1⁵⁄₁₆	2 1³⁄₁₆	3	2¼	2½	4.1	11.75	10.58	9.52	8.81	7.40	6.93
01F950	P-8390	A	12.0	.150	117	1500	1¼	2⅛	1¼	1¾	—	.25	3.75	3.38	3.04	2.81	2.36	2.21
01F951	P-8391	A	12.0	.350	117	1500	1⅜	2⅜	1⅜	2	—	.35	3.75	3.38	3.04	2.81	2.36	2.21
01F952	P-8392	A	12.0	.700	117	1500	1⅝	2⅞	2⅜	2⅜	—	.60	4.17	3.75	3.38	3.13	2.63	2.46
01F953	P-8393	A	12.0	1.200	117	1500	2	3¼	1⅝	2 1³⁄₁₆	—	.85	5.17	4.65	4.19	3.88	3.26	3.05
05F509	P-8657	A	12.0	2.0	117	1500	2	3¼	2⅛	2 1³⁄₁₆	—	1.3	4.17	3.75	3.38	3.13	2.63	2.46
05F510	P-8658	A	12.0	4.0	117	1500	2⅝	4	2¼	3 1⁵⁄₁₆	—	2.3	7.17	6.45	5.81	5.38	4.52	4.23
05F511	P-8659	NV	12.0	6.0	117	1500	3 7⁄₁₆	2 1³⁄₁₆	2⅝	2¼	2⅛	3.4	10.34	9.31	8.38	7.76	6.51	6.10
05F512	P-8660	NV	12.0	8.0	117	1500	3 1³⁄₁₆	3⅛	2¾	2½	2⅛	4.3	12.25	11.03	9.92	9.19	7.72	7.23
05F1412	P-8384	A	12.6C.T.	1.0	117	1500	2	3¼	1¾	2 1³⁄₁₆	—	0.9	4.58	4.12	3.71	3.44	2.89	2.70
01F120	P-8130	A	12.6C.T.	2.0	117	1500	2	3¼	2⅛	2 1³⁄₁₆	—	1.4	5.17	4.65	4.19	3.88	3.26	3.05
01F882	P-8358	A	12.6C.T.	3.0	117	1500	2⅜	3¾	2¼	3⅛	—	1.6	6.00	5.40	4.86	4.50	3.78	3.54
05F1414	P-8641	A	12.6C.T.	4.0	117	1500	2⅝	4	2⅜	3 9⁄₁₆	—	2.3	6.67	6.00	5.40	5.00	4.20	3.94
05F573	P-8642	C	12.6C.T.	6.0	117	1500	3½	2 1³⁄₁₆	3⅜	2¼	2 3⁄₁₆	3.8	10.84	9.76	8.78	8.13	6.83	6.40
05F514	P-8643	C	12.6C.T.	8.0	117	1500	3⅞	3⅛	3⅜	2½	2⅜	5.0	14.17	12.75	11.48	10.63	8.93	8.36
05F515	P-8644	C	12.6C.T.	10.0	117	1500	4¼	3 7⁄₁₆	3⅞	2¾	2¾	6.3	15.00	13.50	12.15	11.25	9.45	8.85
01F954	P-8394	A	24.0C.T.	.085	117	1500	1¼	2⅛	1¼	1¾	—	.25	4.58	4.12	3.71	3.44	2.89	2.70
01F955	P-8395	A	24.0C.T.	.200	117	1500	1⅜	2⅜	1⅜	2	—	.35	4.58	4.12	3.71	3.44	2.89	2.70
01F956	P-8396	A	24.0C.T.	.400	117	1500	1⅝	2⅞	1½	2⅜	—	.60	5.00	4.50	4.05	3.75	3.15	2.95
01F957	P-8397	A	24.0C.T.	.700	117	1500	2	3¼	1⅝	2 1³⁄₁₆	—	.85	5.33	4.80	4.32	4.00	3.36	3.14
05F516	P-8661	A	24.0C.T.	1.0	117	1500	2	3¼	2 1⁄₁₆	2 1³⁄₁₆	—	1.4	4.25	3.83	3.44	3.19	2.68	2.51
05F517	P-8662	A	24.0C.T.	2.0	117	1500	2⅝	4	2⅜	3 9⁄₁₆	—	2.3	7.25	6.53	5.87	5.44	4.57	4.28
05F518	P-8663	NV	24.0C.T.	4.0	117	1500	3 1³⁄₁₆	3⅛	2 1³⁄₁₆	2½	2⅛	4.0	12.42	11.18	10.06	9.32	7.82	7.33
05F519	P-8664	NV	24.0C.T.	6.0	117	1500	4 5⁄₁₆	3 7⁄₁₆	3	2¾	2¼	5.7	15.42	13.88	12.49	11.57	9.71	9.10
05F520	P-8665	NV	24.0C.T.	8.0	117	1500	4 5⁄₁₆	3 7⁄₁₆	3⅜	2¾	2¾	7.3	18.25	16.43	14.78	13.69	11.50	10.77
05F521	P-8666	NV	24.0C.T.	12.0	117	1500	4 9⁄₁₆	3¾	4⅝	3	3¼	11.2	26.34	23.71	21.34	19.76	16.59	15.54
01F116	P-6469	A	25.2	1.0	117	1500	2	3¼	2⅛	2 1³⁄₁₆	—	1.4	5.00	4.50	4.05	3.75	3.15	2.95
01F944	P-8180	A	25.2C.T.	1.0	117	1500	2	3¼	2⅛	2 1³⁄₁₆	—	1.4	5.00	4.50	4.05	3.75	3.15	2.95
01F883	P-8357	A	25.2C.T.	2.0	117	1500	2⅜	4	2¼	3 7⁄₁₆	—	2.2	7.92	7.13	6.42	5.94	4.99	4.67
01F945	P-8388	A	25.2C.T.	2.8	117	1500	2⅝	4	2¼	3 9⁄₁₆	—	2.2	9.34	8.41	7.57	7.01	5.88	5.51
05F522	P-8645	C	25.2C.T.	5.0	117	1500	4¼	3 7⁄₁₆	3⅞	2¾	2 1⁵⁄₁₆	6.0	14.17	12.75	11.48	10.63	8.93	8.36
05F523	P-8646	C	25.2C.T.	7.5	117	1500	4¼	3½	4¼	2¾	3⅛	7.3	16.25	14.63	13.16	12.19	10.24	9.59
05F524	P-8647	C	25.2C.T.	10.0	117	1500	4 1⁵⁄₁₆	3¾	5	3	3⅞	12.3	22.50	20.25	18.23	16.88	14.18	13.28
01F966	P-8608	A	26.5C.T.	0.6	117	2500	2	3¼	2⅛	2 1³⁄₁₆	—	1.3	4.83	4.35	3.91	3.62	3.04	2.85
01F967	P-8609	A	26.8C.T.	1.0	117	1500	2	3¼	2⅛	2 1³⁄₁₆	—	1.3	5.00	4.50	4.05	3.75	3.15	2.95
01F958	P-8600	A	28.0C.T.	.085	117	1500	1¼	2⅛	1¼	1¾	—	.25	3.75	3.38	3.04	2.81	2.36	2.21
01F959	P-8601	A	28.0C.T.	.175	117	1500	1⅜	2⅜	1⅜	2	—	.35	4.42	3.98	3.58	3.32	2.78	2.61
01F960	P-8602	A	28.0C.T.	.300	117	1500	1⅝	2⅞	2⅜	2⅜	—	.60	4.17	3.75	3.38	3.13	2.63	2.46
01F961	P-8603	A	28.0C.T.	.800	117	1500	2	3¼	2	2 1³⁄₁₆	—	1.0	5.33	4.80	4.32	4.00	3.36	3.14
05F525	P-8667	A	28.0C.T.	1.0	117	1500	2	3¼	2⅛	2 1³⁄₁₆	—	1.4	4.67	4.20	3.78	3.50	2.94	2.76
05F526	P-8668	NV	28.0C.T.	2.0	117	1500	3⅛	2½	2½	2	2 3⁄₁₆	2.9	8.59	7.73	6.96	6.44	5.41	5.07
05F527	P-8669	NV	28.0C.T.	4.0	117	1500	3 1³⁄₁₆	3⅛	3¼	2½	2½	5.3	14.42	12.98	11.68	10.82	9.08	8.51
05F528	P-8670	NV	28.0C.T.	6.0	117	1500	4 3⁄₁₆	3 7⁄₁₆	3½	2¾	2⅝	7.0	17.25	15.53	13.97	12.94	10.87	10.18
01F962	P-8610	A	36.0C.T.	.065	117	1500	1¼	2⅛	1¼	1¾	—	.25	3.75	3.38	3.04	2.81	2.36	2.21
01F963	P-8611	A	36.0C.T.	.135	117	1500	1⅜	2⅜	1⅜	2	—	.35	3.67	3.30	2.97	2.75	2.31	2.17
01F964	P-8612	A	36.0C.T.	.300	117	1500	1⅝	2⅞	1½	2⅜	—	.60	4.17	3.75	3.38	3.13	2.63	2.46
01F965	P-8613	A	36.0C.T.	.550	117	1500	2	3¼	1⅝	2 1³⁄₁₆	—	1.0	5.33	4.80	4.32	4.00	3.36	3.14
05F529	P-8671	A	36.0C.T.	1.0	117	1500	2⅜	3¾	2¼	3⅛	—	2.0	4.58	4.12	3.71	3.44	2.89	2.70
05F530	P-8672	NV	36.0C.T.	2.0	117	1500	3 7⁄₁₆	2 1³⁄₁₆	2¾	2¼	2⅛	3.5	10.09	9.08	8.17	7.57	6.36	5.95
05F531	P-8673	NV	36.0C.T.	4.0	117	1500	4 3⁄₁₆	3 7⁄₁₆	2⅞	2¾	2⅜	6.0	15.92	14.33	12.90	11.94	10.03	9.39
05F532	P-8674	NV	36.0C.T.	6.0	117	1500	4 3⁄₁₆	3¾	3½	3	2⅝	8.3	21.25	19.13	17.21	15.94	13.39	12.54
01F970	P-8605	A	48.0C.T.	1.0	117‡	2500	2⅝	4	2⅜	3 9⁄₁₆	—	2.3	9.67	8.70	7.83	7.25	6.09	5.71

†Has electrostatic shield. *Insulation test voltage: Twice allowable RMS working voltage plus 1000 volts.

‡Primary tapped to provide secondary voltages of 45 C.T., 51 C.T. or 54 C.T. All transformers have lead terminations.

Power Transformers

ESSEX STANCOR

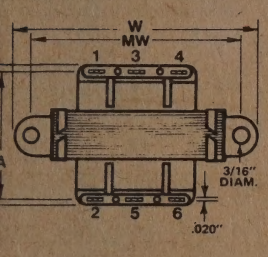
RECTIFIER, CONTROL and FILAMENT TRANSFORMERS (Cont.)

TH DUAL C.T. SECONDARIES: All primaries 115 V 50/60 Hz except (*) 60 Hz. All terminations are solder lug type. Insulation test ltage: 1500 RMS.

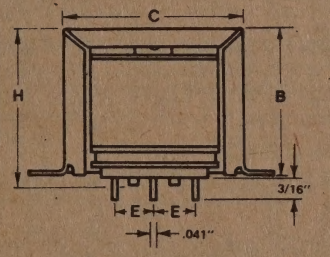
tk. No.	Type	Style	Secondary▲ Volts	Secondary▲ Amps.	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.	EACH BOXED 1-9	EACH BOXED 10-24	EACH BOXED 25-49	EACH BOXED 50-99	BULK PACKED 100-249	BULK PACKED 250-499
01F050	P-8680	S	12.0C.T.	0.1	2	2⅜	1⅝	2	...	0.65	5.00	4.50	4.05	3.75	3.15	2.95
			12.0C.T.	0.1												
01F051	P-8681	S	12.0C.T.	0.25	2⅜	2⅞	1¼	2⅜	...	0.95	5.33	4.80	4.32	4.00	3.36	3.14
			12.0C.T.	0.25												
01F052	P-8682	S	12.0C.T.	0.5	2⅜	2⅞	1⅜	2⅜	...	1.1	5.75	5.18	4.66	4.31	3.62	3.39
			12.0C.T.	0.5												
01F053	P-8683	S	12.0C.T.	1.0	2¾	3⅛	2⅛	2 13/16	...	1.7	6.58	5.92	5.33	4.94	4.15	3.88
			12.0C.T.	1.0												
01F054	P-8676	NH	12.0C.T.	1.0	2½	3	2 11/16	2½	2	2.3	8.67	7.80	7.02	6.50	5.46	5.12
			12.0C.T.	1.0												
01F056	P-8677	NH	12.0C.T.	2.0	2½	3	3	2½	2⅜	2.9	10.34	9.31	8.38	7.76	6.51	6.10
			12.0C.T.	2.0												
01F057	P-8678	NH	12.0C.T.	4.0	3⅛	3¾	2 15/16	3⅛	2¼	4.5	12.17	10.95	9.86	9.13	7.67	7.18
			12.0C.T.	4.0												
01F058	P-8679	NH	12.0C.T.	6.0	3½	4⅛	3 1/16	3 1/16	2⅜	5.8	15.17	13.65	12.29	11.38	9.56	8.95
			12.0C.T.	6.0												
01F059	P-8684*	NH	18.0C.T.	1.0	2½	3	2½	2½	2	2.3	9.00	8.10	7.29	6.75	5.67	5.31
			18.0C.T.	1.0												
01F060	P-8685*	NH	18.0C.T.	2.0	3¼	3 13/16	3⅛	3⅛	2¼	4.5	12.50	11.25	10.13	9.38	7.88	7.38
			18.0C.T.	2.0												
01F061	P-8686*	NH	18.0C.T.	4.0	3 3/16	4⅛	3⅛	3 1/16	2¼	5.8	17.17	15.45	13.91	12.88	10.82	10.13
			18.0C.T.	4.0												
79W068	P-8687*	NH	18.0C.T.	8.0	3⅞	4½	4⅛	3¾	2¾	8.9	22.17	19.95	17.96	16.63	13.97	13.08
			18.0C.T.	8.0												
79W069	P-8688*†	NH	18.0C.T.	12.0	4 1/16	5¼	4¼	4⅜	2¾	12.8	32.51	29.26	26.33	24.38	20.48	19.18
			18.0C.T.	12.0												
79W070	P-8675	NH	34.0C.T.	4.0	3¾	4½	4¼	3¾	3⅜	11.3	24.34	21.91	19.72	18.26	15.33	14.36
			34.0C.T.	4.0												

MS Values
rimary tapped for 100/105/110/115 Volts

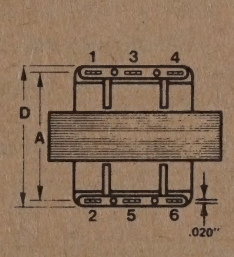
PLUG-IN PRINTED CIRCUIT POWER TRANSFORMERS



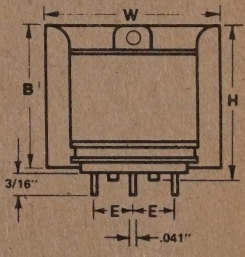
STYLE APC
(BOTTOM VIEW)



STYLE APC
(SIDE VIEW)



STYLE PC
(BOTTOM VIEW)



STYLE PC
(SIDE VIEW)

WITH SINGLE PRIMARY FOR 115 VOLTS, 50-60 HERTZ INPUT

k. No.	Type	Style	VA Cap.	OUTPUT FROM TWO SECONDARY WINDINGS▲ Individually	OUTPUT FROM TWO SECONDARY WINDINGS▲ Parallel	OUTPUT FROM TWO SECONDARY WINDINGS▲ Series	CASE DIMENSION H	CASE DIMENSION W	CASE DIMENSION D	Mtg. DIM. MW	Wt. Lbs.	Each Boxed 1-9	Each Boxed 10-24	Each Boxed 25-49	Each Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F062	PPC-1	PC	1.5	4.0V. @ .188A.	4.0V. @ .376A.	8.0V. @ .188A.	1⅛	1 3/32	1 5/32	...	.22	5.50	4.95	4.46	4.13	3.47	3.25
1F063	PPC-2	PC	1.5	7.5V. @ .100A.	7.5V. @ .200A.	15V. @ .100A.	1⅛	1 3/32	1 5/32	...	.22	5.58	5.02	4.52	4.19	3.52	3.29
1F064	PPC-3	PC	1.5	15V. @ .050A.	15V. @ .100A.	30V. @ .050A.	1⅛	1 3/32	1 5/32	...	.22	5.67	5.10	4.59	4.25	3.57	3.35
1F065	PPC-4	PC	1.5	27V. @ .028A.	27V. @ .056A.	54V. @ .028A.	1⅛	1 3/32	1 5/32	...	.22	6.25	5.63	5.06	4.69	3.94	3.69
1F066	PPC-5	PC	1.5	38V. @ .020A.	38V. @ .040A.	76V. @ .020A.	1⅛	1 3/32	1 5/32	...	.22	6.67	6.00	5.40	5.00	4.20	3.94
1F068	PPC-6	PC	1.5	58V. @ .013A.	58V. @ .026A.	116V. @ .013A.	1⅛	1 3/32	1 5/32	...	.22	3.58	3.22	2.90	2.69	2.26	2.11
1F069	PPC-7	PC	1.5	20V. @ .038A.	20V. @ .076A.	40V. @ .038A.	1⅛	1 3/32	1 5/32	...	.22	3.50	3.15	2.84	2.63	2.21	2.07
1F070	PPC-11	APC	4.5	4.0V. @ .562A.	4.0V. @ 1.13A.	8.0V. @ .562A.	1 3/32	2⅜	1¼	2	.47	5.17	4.65	4.19	3.88	3.26	3.05
1F071	PPC-12	APC	4.5	7.5V. @ .300A.	7.5V. @ .600A.	15V. @ .300A.	1 3/32	2⅜	1¼	2	.47	5.42	4.88	4.39	4.07	3.41	3.20
1F072	PPC-13	APC	4.5	15V. @ .150A.	15V. @ .300A.	30V. @ .150A.	1 3/32	2⅜	1¼	2	.47	5.58	5.02	4.52	4.19	3.52	3.29
1F073	PPC-14	APC	4.5	27V. @ .084A.	27V. @ .168A.	54V. @ .084A.	1 3/32	2⅜	1¼	2	.47	5.75	5.18	4.66	4.31	3.62	3.39
1F074	PPC-15	APC	4.5	38V. @ .060A.	38V. @ .120A.	76V. @ .060A.	1 3/32	2⅜	1¼	2	.47	5.83	5.25	4.72	4.37	3.67	3.44
1F075	PPC-16	APC	4.5	58V. @ .033A.	58V. @ .066A.	116V. @ .033A.	1 3/32	2⅜	1¼	2	.47	3.92	3.53	3.18	2.94	2.47	2.31
1F076	PPC-17	APC	4.5	20V. @ .112A.	20V. @ .224A.	40V. @ .112A.	1 3/32	2⅜	1¼	2	.47	3.92	3.53	3.18	2.94	2.47	2.31
1F077	PPC-21	APC	7.5	4.0V. @ .940A.	4.0V. @ 1.88A.	8.0V. @ .940A.	1⅝	2 13/16	1 13/32	2⅜	.66	5.50	4.95	4.46	4.13	3.47	3.25
1F078	PPC-22	APC	7.5	7.5V. @ .500A.	7.5V. @ 1.00A.	15V. @ .500A.	1⅝	2 13/16	1 13/32	2⅜	.66	5.58	5.02	4.52	4.19	3.52	3.29
1F079	PPC-23	APC	7.5	15V. @ .250A.	15V. @ .500A.	30V. @ .250A.	1⅝	2 13/16	1 13/32	2⅜	.66	5.67	5.10	4.59	4.25	3.57	3.35
1F080	PPC-24	APC	7.5	27V. @ .140A.	27V. @ .280A.	54V. @ .140A.	1⅝	2 13/16	1 13/32	2⅜	.66	5.83	5.25	4.72	4.37	3.67	3.44
1F081	PPC-25	APC	7.5	38V. @ .100A.	38V. @ .200A.	76V. @ .100A.	1⅝	2 13/16	1 13/32	2⅜	.66	6.00	5.40	4.86	4.50	3.78	3.54
1F082	PPC-26	APC	7.5	58V. @ .065A.	58V. @ .130A.	116V. @ .065A.	1⅝	2 13/16	1 13/32	2⅜	.66	4.50	4.05	3.65	3.38	2.84	2.66
1F083	PPC-27	APC	7.5	20V. @ .188A.	20V. @ .376A.	40V. @ .188A.	1⅝	2 13/16	1 13/32	2⅜	.66	4.42	3.98	3.58	3.32	2.78	2.61

MS Values

ESSEX **STANCOR**

Power Transformers

PLATE AND FILAMENT TYPE FOR CAPACITOR INPUT SYSTEMS

Primaries 117 Volts 60 Hz (‡‡). Primary and Secondary termination: Leads. § Also has 5V rect. fil. winding.

Stock No.	Type	Style	Plate ACV	Plate DCMA	Filament V	Filament A	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Mtg. Dim. MD	Wt. lbs.	Each, Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
01F026	PS-8415	S	125††	15	6.3	0.6	1 5/16	2 3/8	2	2	.....	0.7	4.58	4.12	3.71	3.44	2.89	2.70
05F1400	P-8624	S	125††	15	12.6	0.3	1 5/16	2 3/8	2	2	.....	0.7	4.33	3.90	3.51	3.25	2.73	2.55
01F027	PS-8416	S	125-0-125	25	6.3	1.0	2 5/16	2 13/16	1 3/4	2 3/8	.....	1.0	5.42	4.88	4.39	4.07	3.41	3.20
05F1401	P-8625	S	125-0-125	25	12.6	0.6	2 5/16	2 13/16	1 3/4	2 3/8	.....	1.0	5.58	5.02	4.52	4.19	3.52	3.29
01F035	PA-8421	A	125††	50	6.3	2.0	2 1/4	3 1/16	2 1/8	3 1/8	.....	1.5	6.67	6.00	5.40	5.00	4.20	3.94
05F1402	P-8626	A	125††	50	12.6	1.0	2 1/4	3 1/16	2 1/8	3 1/8	.....	1.5	6.67	6.00	5.40	5.00	4.20	3.94
01F525	P-8181	VE	150††	25	6.3CT	0.5	1 5/16	2 3/8	1 13/16	2	.....	0.8	5.83	5.25	4.72	4.37	3.67	3.44
05F1403	P-8627	VE	150††	25	12.6CT	0.3	1 5/16	2 3/8	1 13/16	2	.....	0.8	6.33	5.70	5.13	4.75	3.99	3.73
01F029	PC-8418	C	230-0-230	50	6.3	2.5	3 1/8	2 1/2	2 3/8	2	1 9/16	2.2	8.75	7.88	7.09	6.56	5.51	5.16
01F030	PM-8418	M	230-0-230	50	6.3	2.5	2 5/8	2 1/2	3	2	2 1/2	2.2	10.00	9.00	8.10	7.50	6.30	5.90
01F002	PC-8402	C	240-0-240	55	6.3CT§	2.0	3 1/8	2 1/2	2 3/4	2	1 3/4	2.4	11.00	9.90	8.91	8.25	6.93	6.49
01F031	PC-8419	C	240-0-240	70	6.3	3.0	3 1/8	2 1/2	2 5/8	2	1 13/16	2.6	9.67	8.70	7.83	7.25	6.09	5.71
01F004	PC-8403	C	250-0-250	70	6.3CT§	2.5	3 1/8	2 1/2	3 1/2	2	2 1/16	3.2	11.67	10.50	9.45	8.75	7.35	6.89
01F006	PC-8404	C	260-0-260	90	6.3CT§	3.0	3 1/2	2 13/16	3 1/2	2 1/4	2 1/4	4.0	13.00	11.70	10.53	9.75	8.19	7.67
01F008	PC-8405	C	270-0-270	120	6.3CT§	3.5	3 5/8	3 1/8	3 1/2	2 1/2	2 3/16	4.9	15.00	13.50	12.15	11.25	9.45	8.85
05F1404	P-8356	C**	270-0-270	260	6.3§	8.8	3 5/8	3 1/8	3 3/8	2 1/2	2 1/4	6.5	23.34	21.01	18.91	17.51	14.70	13.77
05F1405	P-8355	C4**	285-0-285	250	6.3§	9.5	3 5/16	3 3/4	3 1/2	2 1/2	2 3/16	6.5	23.34	21.01	18.91	17.51	14.70	13.77
05F1406	P-6358	C	300-0-300	65	6.3CT	2.7	3 1/8	2 1/2	2 1/2	2	1 3/4	3.0	10.42	9.38	8.44	7.82	6.56	6.15
01F012	PC-8407	C	325-0-325	55	6.3CT§	2.0	3 1/8	2 1/2	3 1/8	2	2 1/16	3.2	11.50	10.35	9.32	8.63	7.25	6.79
01F018	PC-8410	C	360-0-360	120	6.3CT§	3.5	3 5/8	3 1/8	3 3/4	2 1/2	2 5/16	5.5	17.00	15.30	13.77	12.75	10.71	10.03
01F022	PC-8412	C	400-0-400	200	6.3CT§	5.0	4 1/16	3 3/4	4	3	2 13/16	8.2	25.01	22.51	20.26	18.76	15.76	14.76

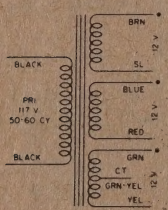
UNIVERSAL CONTROL/RECTIFIER POWER TRANSFORMERS

Primaries 115/230 V, 50/60 Hz. Solder lug termination. With dual secondary winding. Typical applications: automatic assembly equipment, relays, solenoids, small motors, speed changers, recording devices, pumps, heating elements, elevators, door openers, low voltage lighting, signal lamps, spark plug testers control valves for fluids and gases, fans, blowers, mechanical and electrical signs and similar applications.

Stock No.	Type	Style	VA Cap	Output From Two Secondary Windings* Individually	Parallel	Series	Case Dim. H	W	D	Mtg. Dim. MW	MD	Wt.	Each, Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
01F197	P-6375	S	12	6V @ 1A	6V @ 2A	12V @ 1A	2 3/8	2 7/8	1 5/8	2 3/8	—	1.0	5.42	4.88	4.39	4.07	3.41	3.20
01F818	P-6376	S	24	6V @ 2A	6V @ 4A	12V @ 2A	2 3/4	3 1/8	1 7/8	2 13/16	—	1.5	6.50	5.85	5.27	4.88	4.10	3.84
01F819	P-6377	S	48	12V @ 2A	12V @ 4A	24V @ 2A	3 1/8	3 5/8	2 1/4	3 1/8	—	2.5	8.34	7.51	6.76	6.26	5.25	4.92
01F820	P-6378	NV	96	12V @ 4A	12V @ 8A	24V @ 4A	3 7/16	2 13/16	2 7/8	2 1/4	2 1/4	4.2	13.75	12.38	11.14	10.31	8.66	8.11
01F198	P-6379	NV	192	12V @ 8A	12V @ 16A	24V @ 8A	4 5/16	3 7/16	3 5/8	2 3/4	3	8.0	25.01	22.51	20.26	18.76	15.76	14.76
05F1434	P-8615	S	12	24V @ 0.25A	24V @ 0.5A	48V @ 0.25A	2 3/8	2 7/8	1 5/8	2 3/8	—	1.0	6.00	5.40	4.86	4.50	3.78	3.54
05F1435	P-8616	S	24	24V @ 0.5A	24V @ 1A	48V @ 0.5A	2 3/4	3 1/8	1 7/8	2 13/16	—	1.5	6.83	6.15	5.53	5.12	4.30	4.03
05F1436	P-8617	S	48	24V @ 1A	24V @ 2A	48V @ 1A	3 1/8	3 5/8	2 1/4	3 1/8	—	2.5	8.34	7.51	6.76	6.26	5.25	4.92
05F1437	P-8618	NV	96	24V @ 2A	24V @ 4A	48V @ 2A	3 7/16	2 13/16	2 7/8	2 1/4	2 1/4	4.2	13.50	12.15	10.94	10.13	8.51	7.97
05F1438	P-8619	NV	192	24V @ 4A	24V @ 8A	48V @ 4A	4 5/16	3 7/16	3 5/8	2 3/4	3	8.0	20.00	18.00	16.20	15.00	12.60	11.80

(*) By connecting primaries in series (for 230) Volts) but using only 115 V input, a series of half voltage output ratings becomes available at the full rated current from each secondary.

VERSATILE LOW CURRENT CONTROL TRANSFORMERS



Primaries 117 V, 50/60 Hz (‡‡). Lead Wire Termination. Multiple secondaries. Three isolated 12 V secondaries (one with a center tap) provide many combinations of output voltages and current by series or parallel combinations.

Stock No.	Type	Style	Amperes Each Sec.	Case Dim. H	W	D	Mtg. Dim.	Wt. Wt.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
01F146	P-8361	S	.10	1 3/4	2	1 1/2	1 3/4	.36	5.42	4.88	4.39	4.07	3.41	3.20
01F147	P-8362	S	.15	2	2 3/8	1 3/4	2	.60	5.00	4.50	4.05	3.75	3.15	2.95
01F148	P-8363	S	.25	2 3/8	2 7/8	1 3/4	2 3/8	.85	5.50	4.95	4.46	4.13	3.47	3.25
01F149	P-8364	S	.50	2 5/8	2 7/8	2 1/8	2 3/8	1.25	6.25	5.63	5.06	4.69	3.94	3.69

(‡‡) May be operated from a 400 Hz source with no change in output ratings.
(††) All values of output DC are based on a capacitive load.

SMOOTHING CHOKES—INDUCTANCE TOL. Minus 15% Plus 50% at 10V 60 HZ. Termination—Leads.

Stock No.	Type	Style	Ind. Henries	DC MA	DC Res. Ohms	RMS V*	Case Dim. H	W	D	Mtg. Dim. MW	Wt. Lbs.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
01F157	C-1707	A	7.0	50	550	1500	1 3/8	2 3/8	1 1/4	2	0.5	3.33	3.00	2.70	2.50	2.10	1.96
01F902	C-1003	A	16.0	50	580	1500	2	3 1/4	1 3/8	2 13/16	1.0	4.17	3.75	3.38	3.13	2.63	2.46
01F162	C-1008	A	15.0	75	400	1500	2 3/8	3 3/4	2	3 1/8	1.7	4.83	4.35	3.91	3.62	3.04	2.85
01F159	C-1709	A	8.0	85	250	1500	2	3 1/4	1 7/8	2 13/16	1.4	4.17	3.75	3.38	3.13	2.63	2.46
01F163	C-1001	A	10.5	110	225	3000	2 5/8	4	2 1/8	3 5/16	2.3	6.67	6.00	5.40	5.00	4.20	3.94
01F897	C-2343	A	0.75	300	32	1500	1 5/8	2 7/8	1 3/8	2 3/8	0.7	3.17	2.85	2.57	2.38	2.00	1.87
01F176	C-2328	A	0.8	375	25	1500	2 3/8	3 3/4	1 7/8	3 1/8	1.5	5.50	4.95	4.46	4.13	3.47	3.25
01F896	C-2708	A	0.32	600	10	1500	2	3 1/4	1 3/8	2 13/16	1.3	4.17	3.75	3.38	3.13	2.63	2.46

(*) Insulation Test Voltage: Twice allowable RMS Working Volts plus V.

NOTE: Inductance values shown are measured at full amount of DC listed and at specified values of RMS Voltage and frequency. All items are made with Class "A" insulating materials and will withstand operation up to a limit of 105 continuously.

HIGH CURRENT CHOKES—INDUCTANCE MEASURED AT 1 VOLT 60 HZ. Termination Leads.

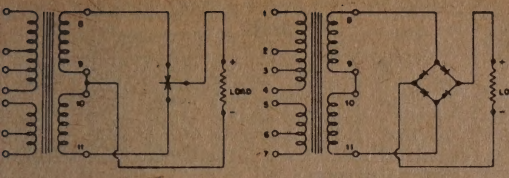
Stock No.	Type	Style	Induct. mH	DC Amps	DC Res. Ohms	RMS V*	Case Dim. H	W	D	Mtg. Dim. MW	MD	Wt. Lbs.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
05F1485	TC-1	A2	3.0	1.0	.25	1000	1 3/16	1 1/2	1 1/8	1 3/16	7/16	0.6	2.33	2.10	1.89	1.75	1.47	1.37
01F893	C-2685	NH	35	2.0	.75	1500	2 5/16	2 3/8	2 1/8	2 3/16	2	1.9	7.00	6.30	5.67	5.25	4.41	4.13
01F894	C-2686	NH	25	4.0	4.25	1500	2 7/8	3 3/8	2 3/8	2 13/16	2 1/8	3.4	10.42	9.38	8.44	7.82	6.56	6.15
01F049	C-2687	NH	10	8.0	.15	1500	3 5/16	3 3/4	3	3 1/8	2 1/2	5.3	13.00	11.70	10.53	9.75	8.19	7.67
01F895	C-2688	NH	10	12.5	.11	1500	3 1/2	4 1/8	2 7/8	3 7/16	2 3/8	5.9	15.84	14.26	12.83	11.88	9.98	9.35

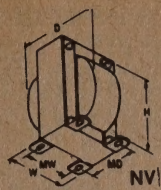
(*) Insulated Test Voltage: Twice allowable RMS Working Volts plus 1000 V.

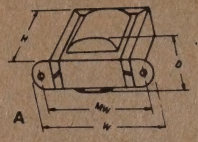
NOTE: The above listed High Current Chokes are normally used in low voltage, high current DC power supply filter applications, where low voltage drop across filter and good voltage regulation is required without any type of voltage regulato

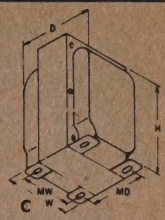
Rectifier Transformers

ESSEX STANCOR









UNIVERSAL RECTIFIER TRANSFORMERS - Primaries 117 V, 50/60 Hz. Solder Lug Termination. Style NV.

Stock No.	Type	Rect. Circuit	Range of Applied AC Volts Under Load (Approx.)	Output Resistive or Inductive Load Max. DC Volts	Output Resistive or Inductive Load Max. DC Amps	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Mtg. Dim. MD	Wt. Lbs.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
01F378	RT-201	C.T.	11.7 to 29.4	11.2	2.0	3⅛	2½	2⅜	2	2⅛	2.5	10.00	9.00	8.10	7.50	6.30	5.90
		Bridge	11.1 to 28.5	23.0	1.25												
01F379	RT-202	C.T.	12.0 to 29.8	11.1	4.0	3⅞₁₆	2¹³⁄₁₆	2¾	2¼	2⅜	3.8	13.75	12.38	11.14	10.31	8.66	8.11
		Bridge	12.0 to 29.8	24.3	2.0												
01F380	RT-204	C.T.	11.7 to 29.2	12.0	8.0	3¹³⁄₁₆	3⅛	3½	2½	2⅞	6.1	19.17	17.25	15.53	14.38	12.08	11.31
		Bridge	11.6 to 29.2	24.0	4.0												
01F381	RT-206	C.T.	12.0 to 29.7	11.5	12.0	4⅜₁₆	3⅞₁₆	4	2¾	3¼	9.1	26.34	23.71	21.34	19.76	16.59	15.54
		Bridge	12.10 to 29.7	24.0	6.0												
01F382	RT-208	C.T.	12.1 to 29.2	11.4	15.0	4⅝₁₆	3¾	5	2¹⁵⁄₁₆	3¾	12.6	34.01	30.61	27.55	25.51	21.43	20.07
		Bridge	12.1 to 29.2	23.7	8.0												
01F383	RT-2012	C.T.	12.2 to 29.0	11.4	22.5	5⅝₁₆	4⅜	5⅞	3½	4¼	20.5	55.43	49.89	44.90	41.57	34.92	32.70
		Bridge	12.2 to 29.0	23.5	12.0												
05F1444	RT-400	C.T.	23.5 to 60.0	25.0	1.0	3⅛	2½	3⅜	2	2¼	2.7	14.17	12.75	11.48	10.63	8.93	8.36
		Bridge	23.5 to 60.0	53.0	0.5												
05F1445	RT-401	C.T.	24.0 to 59.0	25.0	2.0	3⅞₁₆	2¹³⁄₁₆	3¹¹⁄₁₆	2¼	2½	4.1	15.34	13.81	12.43	11.51	9.66	9.05
		Bridge	24.0 to 59.0	52.5	1.0												
05F1446	RT-402	C.T.	23.0 to 58.0	25.0	4.0	3¹³⁄₁₆	3⅛	4½	2½	3¹⁄₁₆	6.9	20.67	18.60	16.74	15.50	13.02	12.20
		Bridge	23.0 to 58.0	51.5	2.0												
01F384	RT-408	C.T.	25.0 to 53.5			5⅝₁₆	4⅜	6¾	3½	5¼	26.5	91.69	82.52	74.27	68.77	57.76	54.10
		Bridge	25.0 to 53.5	44.0	8.0												
05F1447	RT-4012	C.T.	25.0 to 53.0			7⅛	5⅜	6½	4⅜	5½	34.0	110.02	99.02	89.12	82.52	69.31	64.91
		Bridge	25.0 to 53.0	43.5	12.0												

For Transistor Power Supplies - Primaries 117V, 60 Hz (‡‡)

Lead Wire Termination.

Stock No.	Type	Style	Secondary 1 Volts	Secondary 1 Amps	Secondary 2 Volts	Secondary 2 Amps	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Mtg. Dim. MD	Wt. Lbs.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
05F1460	P-8604*	A	20 C.T.	1.0 Amps. RMS	—	—	2	3¼	2⅛	2¹³⁄₁₆	—	1.4	5.00	4.50	4.05	3.75	3.15	2.95
05F1461	P-8614*	C	30	3.0 Amps. RMS	—	—	3½	2¹³⁄₁₆	3⅜	2¼	2⅞₁₆	4.2	12.00	10.80	9.72	9.00	7.56	7.08
01F046	P-8197	C	50 C.T.	1.0 Amps. RMS	—	—	3¼	2½	2¹¹⁄₁₆	2	1¾	2.3	9.59	8.63	7.77	7.19	6.04	5.66
01F047	P-8198	C	54 C.T.	0.5 Amps. RMS	6.3	5 Amps. RMS	2⅝	2¹⁄₁₆	2⅝₁₆	1¾	1⅜	1.7	7.83	7.05	6.34	5.87	4.93	4.62
01F1462	P-8194	NV	36	3.0 Amps. RMS	36	3 Amps. RMS	4⅜₁₆	3¼	3¾	3	3	—	30.01	27.01	24.31	22.51	18.91	17.71
01F828	P-8196	C	80 C.T.	1.2 Amps. RMS	—	—	3½	2¹³⁄₁₆	3⅜	2¼	2⅜	4.5	12.67	11.40	10.26	9.50	7.98	7.48

(*) May be operated from 117 volts 50/60 Hz at full rated load. Write NEWARK for Bulletin 587 for Rectifier Circuits showing DCV and allowable DC Current (‡‡) May be operated from a 400 Hz source with no change in output ratings.

RECTIFIER TRANSFORMERS

Primaries 117 V, 60 Hz (‡‡). Lead Wire Termination. Multiple primary and secondary taps offer a wide selection of output Voltages. All DC current rating are based on capacitor input Filtering. Max. DCMA for TP-1 is for each secondary.

Stock No.	Type	Style	Max. DC MA Full-Wave CT	Max. DC MA Bridge	Max. DC MA Half Wave	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Mtg. Dim. MD	Wt. Lbs.	Each Boxed 1-9	Each Boxed 10-24	Each Boxed 25-49	Each Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
01F441	TP-1	C	1500	900	450	3⅛	2½	3	2	2	2.7	10.34	9.31	8.38	7.76	6.51	6.10
01F825	TP-2	A	150	100	50	1¾	2⅜	1⅞	2⅜	—	0.7	5.42	4.88	4.39	4.07	3.41	3.20
01F826	TP-3	A	400	300	150	2¾	3¾	2⅛	3⅛	—	1.5	6.67	6.00	5.40	5.00	4.20	3.94
01F827	TP-4	C	1500	1000	500	3¼	2½	3¼	2	2½	3.2	11.67	10.50	9.45	8.75	7.35	6.89
05F1448	TP-5	A	1100	750	375	2⅝	4	2¾	3⅞₁₆	—	2.3	8.34	7.51	6.76	6.26	5.25	4.92

POWER SUPPLY TRANSFORMERS FOR PERIPHERAL COMPUTER ACCESSORIES

CA Series. Designed for use in power supplies delivering regulated positive and negative D.C. voltage for op-amps and separate 5-6 V regulated voltage for logic circuits. All transformer ratings are for continuous duty with a 105°C max. operating temp. limit. All primaries for 120 V, 50-60 Hz. With solder lug terminals.

Stock No.	Type	Style	Sec. #1 A.C. Volts	Sec. #1 A.C. Amps	Sec. #2 A.C. Volts	Sec. #2 A.C. Amps	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimen. MW	Mtg. Dimen. MD	Wt. Lbs.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
01F001	PCA-1	S	35C.T.	0.21	—	—	2⅜	2⅜	1⅝	2⅜	—	1.0	4.75	4.28	3.85	3.56	2.99	2.80
01F003	PCA-2	S	33C.T.	0.35	—	—	2¹¹⁄₁₆	3⅛	1⅞	2¹³⁄₁₆	—	1.4	5.58	5.02	4.52	4.19	3.52	3.29
01F005	PCA-3	NV	33C.T.	0.21	18C.T.	1.25	3⅛	2½	2⅝	2	2⅜	3.0	10.25	9.23	8.30	7.69	6.46	6.05
01F009	PCA-4	NV	34C.T.	0.35	19C.T.	2.50	3⅞₁₆	2¹³⁄₁₆	2⅞	2¼	2⅝	3.9	12.42	11.18	10.06	9.32	7.82	7.33

CONSTANT VOLTAGE-LINE TO VOICE COIL

70.7 Volt - Termination Lugs except A-8083 and A-8084 leads. RMS test voltage: 1000.

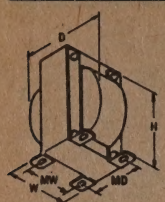
Stock No.	Type	Style	Imp. Ohms Pri.	Imp. Ohms Sec.	Power Steps in Watts	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Wt. Lbs.	Each Boxed 1-9	Each Boxed 10-24	Each Boxed 25-49	Each Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
01F373	A-8102	S	625/1250/2500/5000/10000	4/8/16	8/4/2/1/0.5	2	2⅜	1⅝	2	0.7	5.33	4.80	4.32	4.00	3.36	3.14
05F1470	A-8103	S	312/625/1250/2500/5000/10000	4/8/16	16/8/4/2/1/0.5	2¼	3⅛	2¼	2¹³⁄₁₆	1.5	7.67	6.90	6.21	5.75	4.83	4.53
01F126	A-8105	A	1000/2000/4000/8000/16000	4/8	5/2.5/1.25/.62/.31	1⅜	2⅜	1½	2	0.4	5.00	4.50	4.05	3.75	3.15	2.95
05F1471	A-8109	A	2500/5000/10000	4/8	2/1/0.5	1¼	2⅛	1⅜	1¾	0.3	4.33	3.90	3.51	3.25	2.73	2.55
01F344	A-8084	A	1250/2500/5000/10000/20000/40000	8	4/2/1/.5/.25/.12	1⅜	2⅜	1⅜	2⅜	0.7	5.58	5.02	4.52	4.19	3.52	3.29
01F974	A-8078	S	167/250/500/1000	4/8/16	30/20/10/5	2⅜	2⅛	1¾	2⅜	1.0	6.92	6.23	5.61	5.19	4.36	4.08

For A Complete Listing of Stancor Transistor Transformers Ask NEWARK For Stancor Catalog #207

Audio and Power Transformers

STEP DOWN AUTO-TRANSFORMERS

Primaries 230 Volts 50/60 Hz. Line cord and plug secondaries 115 Volts, standard female receptacle (‡‡).



Style C

Stock No.	Type	Style	VA Cap	Case Dim. H	W	D	Mtg. Dim. MW	MD	Wt. Lbs.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
05F305	P-8620	A	50	2 5/16	3 1/16	1 7/8	3 1/8	...		4.83	4.35	3.91	3.62	3.04	2.85
05F1415	P-8630	C	85	3 1/2	2 5/8	2 3/4	2	1 3/4	2.5	11.25	10.13	9.11	8.44	7.09	6.64
05F1416	P-8631	C	125	3 1/2	2 5/8	3	2	2	3.0	11.50	10.35	9.32	8.63	7.25	6.79
05F1418	P-8633	C	300	3 7/8	3 1/8	4 1/8	2 1/2	2 15/16	5.2	17.50	15.75	14.18	13.13	11.03	10.33
05F1420	P-8635	C	500	4 9/16	3 3/4	4 3/4	3	3 9/16	10.3	26.01	23.41	21.07	19.51	16.39	15.35
05F1421	P-8636	C	1000	4 9/16	3 3/4	6 3/8	3	4 7/8	17.0	37.67	33.90	30.51	28.25	23.73	22.23

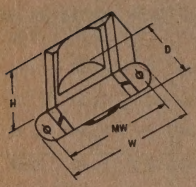
STEP-UP AUTO-TRANSFORMERS

Primaries 115V, 50/60 Hz., line cord and plug‡‡. Secondaries 230V, standard female receptacles.

01F085	P-8637	C	85	3 1/2	2 5/8	2 3/4	2	1 3/4	9.92	8.93	8.04	7.44	6.25	5.85
01F092	P-8638	C	125	3 1/2	2 5/8	3	2	2	10.00	9.00	8.10	7.50	6.30	5.90
01F089	P-8639	C	300	3 7/8	3 1/8	3 7/8	2 1/2	2 3/8	15.92	14.33	12.90	11.94	10.03	9.39
01F088	P-8640	C	500	4 9/16	3 3/4	6 3/8	3	3 9/16	27.92	25.13	22.62	20.94	17.59	16.47

STEP-DOWN AUTO-TRANSFORMERS—Three Conductor Line Cord and Receptacle

50/60 Hz (‡‡). Case and core internally connected to third conductor of NEMA standard cord and receptacle.

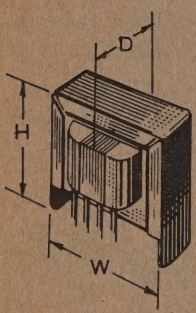


Style A

Stock No.	Type	Voltage In-put	Out-put	Style	VA Cap	Case Dim. H	W	D	Mtg. Dim. MW	MD	Wt. Lbs.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
05F1425	GSD-250	230	115	C	250	4 5/8	3 13/16	3 3/4	3	2 5/8	7.6	21.67	19.50	17.55	16.25	13.65	12.79
05F1426	GSD-350	230	115	C	350	4 5/8	3 13/16	3 3/4	3	2 5/8	7.4	23.34	21.01	18.91	17.51	14.70	13.77
05F1427	GSD-500	230	115	C	500	4 5/8	3 13/16	4 3/16	3	3 1/16	9.6	26.67	24.00	21.60	20.00	16.80	15.74
05F1429	GSD-1000	230	115	C	1000	5 1/2	4 5/8	5 5/8	3 1/2	3 3/4	16.5	41.68	37.51	33.76	31.26	26.26	24.59
05F1430	GSD-1500	230	115	C	1500	5 1/2	4 5/8	5 5/8	3 1/2	4 1/4	20.1	68.35	61.52	55.36	51.26	43.06	40.33

STRAIGHT ISOLATION—ELECTROSTATIC SHIELDS GROUNDED TO CORE

Primaries 50/60 Hz. Line cord (‡‡). Secondary female receptacle Except P-6411, P-6412, P-6413 Lead Term.



Style A1

01F403	P-6411	115	115	A	15	2	3 1/4	1 7/8	2 13/16	—	1.0	5.17	4.65	4.19	3.88	3.26	3.05
05F1432	P-6412	115	115	A	35	2 3/8	2 3/4	2	3 1/8	—	1.7	6.67	6.00	5.40	5.00	4.20	3.94
01F317	P-6410	115	115	C	50	3 1/2	2 13/16	3 1/8	2 1/4	1 7/8	3.7	14.00	12.60	11.34	10.50	8.82	8.26
01F315	P-6160	105/115/125	115	C	100	4 1/16	3 3/4	3 3/4	3	2 9/16	7.0	27.92	25.13	22.62	20.94	17.59	16.47
01F923	P-6161	105/115/125	115	C	250	4 1/16	3 3/4	5 1/2	3	4 5/16	14.2	38.34	34.51	31.06	28.76	24.15	22.62

STEP-DOWN ISOLATION—ELECTROSTATIC

Primaries 50/60 Hz, Line Cord Secondary Female Receptacle (‡‡). Tested at 1500V RMS.

05F1433	P-6385	210/230/250	115	C	250	4 1/16	3 3/4	5 1/2	3	4 5/16	14.2	39.34	35.41	31.87	29.51	24.78	23.21

ISOLATION TESTING TRANSFORMERS—ELECTROSTATIC SHIELD GROUNDED TO CORE

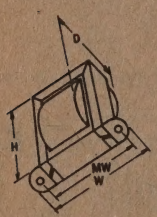
Primaries 50/60 Hz, line cord secondary three female receptacles (‡‡). Tested at 1500V RMS.

01F316	P-6415	117	105/115/125	C	350	5 1/2	4 5/8	5 13/16	3 1/2	4 1/16	17	46.18	41.56	37.41	34.64	29.09	27.25

(‡‡) May be operated from 400 Hz with no change in output.

MINIATURE AUDIOS 0.150 WATT GROUP

Dimensions: 21/32Hx13/16Wx5/8D. Mtg. tabs: 3/16 wide, 25/32 centers. Weight: 0.65 oz.



Style S

Stock No.	Type	Style	Application	Turn Rat. Pri:Sec.	Imp.-Ohms Pri.	Sec.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
01F686	TA-21	A1	Output	5.53:1	500 C.T.	4,8,16	5.42	4.88	4.39	4.07	3.41	3.20
01F676	TA-28	A1	Interstage	1.65:1	1500	500 C.T.	5.33	4.80	4.32	4.00	3.36	3.14
05F1465	TA-29	A1	Output	11.8:1	2500	4,16	4.83	4.35	3.91	3.62	3.04	2.85
01F677	TA-30	A1	Interstage	1.00:1.22	5000 C.T.	7500 C.T.	5.17	4.65	4.19	3.88	3.26	3.05
01F678	TA-31	A1	Interstage	1.00:1.41	5000 C.T.	10000 C.T.	5.17	4.65	4.19	3.88	3.26	3.05
01F679	TA-32	A1	Interstage	1.00:4	5000 C.T.	80000 C.T.	5.50	4.95	4.46	4.13	3.47	3.25
01F691	TA-33	A1	Output	24.6:1	10000 C.T.	4,8,16	5.17	4.65	4.19	3.88	3.26	3.05
01F681	TA-35	A1	Interstage	2.24:1	10000	2000 C.T.	5.00	4.50	4.05	3.75	3.15	2.95
01F682	TA-36	A1	Interstage	1.83:1	10000	3000 C.T.	5.00	4.50	4.05	3.75	3.15	2.95
01F683	TA-38	A1	Interstage	1.72:1	500 C.T.	150 C.T.	4.83	4.35	3.91	3.62	3.04	2.85

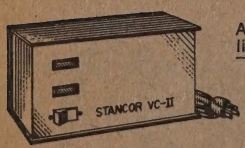
MINIATURE AUDIOS 0.300 WATT GROUP

Dimensions: 13/16H x 15/16W x 3/4D. Mtg. Centers: 1 3/8. Weight: 1.2 oz.

01F693	TA-39	A	Output	2.5:1	100 C.T.	4, 8, 16	5.42	4.88	4.39	4.07	3.41	3.20
01F695	TA-41	A	Output	5.00:1	400 C.T.	4, 8, 16	5.17	4.65	4.19	3.88	3.26	3.05
01F696	TA-42	A	Output	5.60:1	500 C.T.	4, 8, 16	5.83	5.25	4.72	4.37	3.67	3.44
05F1467	TA-52	A	Interstage	1:1	500 C.T.	500 C.T.	5.33	4.80	4.32	4.00	3.36	3.14
01F823	TA-63	A	Driver	3.17:1	20000 CT..	2000 C.T.	6.67	6.00	5.40	5.00	4.20	3.94

VOLTAGE CORRECTOR

Automatically provides 12% boost when line voltage drops too low. Boost is automatically switched out when line returns to normal. *Approximate Values.



VC-120-5

Stock No.	Type	Nominal Input Voltage	Load Current (amps)	VA Rating	Boost Cut-in Voltage*	Boost Cut-out Voltage*	Weight (lbs)	Each
79W078	VC-120-5	120	5.0	600	105	110	8.8	68.40
79W079	VC-120-15	120	15	1800	105	110	16.5	81.00
79W080	VC-208-15	208	15	3120	182	191	18.5	97.50
79W081	VC-240-15	240	15	3600	210	220	19.8	103.50

CONSTANT VOLTAGE TYPES—LINE TO VOICE COIL

25 VOLT—Termination Lugs except A-8087 leads. RM test voltage, 1000

Stock No.	Type	Style	Imp.-Ohms Pri.	Sec.	Power Steps In Watts	Case Dim. H	W	D	Mtg. Dim.	Wt. Lbs.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
05F1468	A-8097	S	39/78/156/312/625/1250	4/8/16	16/8/4/2/1/0.5	2 3/4	3 1/8	2 1/4	2 13/16	1.6	8.17	7.35	6.62	6.13	5.15	4.82
01F389	A-8095	A	125/250/500/1000/2000	4/8	5/2.5/1.25/.62/.31	1 3/8	2 3/8	1 1/2	2	0.4	5.00	4.50	4.05	3.75	3.15	2.95
05F1469	A-8087	A	312/625/1250	8	2/1/0.5	1 3/8	2 3/8	1 3/8	2	0.4	3.67	3.30	2.97	2.75	2.31	2.17

Variable Transformers

STACO

SINGLE PHASE MODELS—120 VOLTS INPUT

Type numbers without suffix are open styles designed for bench or panel mounting. Suffix "C" denotes coils enclosed in a metal housing. Suffix "CT" have coils and terminals enclosed, for panel/conduit mounting. All are for 50/60 Hz, except (*)60 Hz only, or (+) 60 Hz on overvoltage.

Stk. No.	Type	Fig.	Output Volts	Output Amps	Output KVA	Size, Inches H x W x D	Wt. Lbs.	Each
5F301	171	A	+0-120/132	1.75	0.23	2 3/16 x 3 3/32 x 1 7/8	3	15.70
79W028	201	A	+0-120/132	2.0	0.26	2 3/16 x 3 3/32 x 1 7/8	3	16.10
5F3451	221	A	+0-120/132	2.25	0.30	2 3/16 x 3 3/32 x 2 1/8	3	16.50
5F302	251	A	+0-120/132	2.5	0.33	2 3/16 x 3 3/32 x 2 5/16	3	17.10
79W029	291	A	+0-120/132	3.0	0.39	2 3/16 x 3 3/32 x 2 5/16	3	17.60
5F303	371	B	+0-120/140	3.75	0.53	4 3/32 x 3 3/4 x 3 1/4	5	25.50
5F304	501	B	0-120/140	5.0	0.70	5 3/32 x 3 3/4 x 3 5/16	6	25.60
5F306	1010	C	0-120/140	10.0	1.4	5 29/32 x 5 x 4 5/32	11	33.70
5F1312	1010CT	E	0-120/140	10.0	1.4	6 7/8 x 5 x 4 7/16	12	45.00
79W030	SQ1010	B	0-120/140	10.0	1.4	5 3/16 x 4 1/4 x 4 5/32	11	36.20
5F307	1210	C	*0-120	12.0	1.4	5 29/32 x 5 x 4 5/32	11	36.20
79W031	SQ1210	B	*0-120	12.0	1.4	5 3/16 x 4 1/4 x 4 5/32	11	38.70
5F308	1510	D	0-120/140	15.0	2.1	6 13/16 x 6 1/8 x 4 1/4	20	61.70
79W032	1510C	—	0-120/140	15.0	2.1	6 13/16 x 6 3/16 x 4 1/2	21	68.60
5F1317	1510CT	E	0-120/140	15.0	2.1	6 13/16 x 8 31/32 x 4 1/2	22	76.10
5F330	2510	D	0-120/140	25.0	3.5	8 1/4 x 7 5/8 x 4 1/8	23	89.80
79W033	2510C	—	0-120/140	25.0	3.5	8 1/4 x 7 5/8 x 4 3/8	24	97.20
5F1319	2510CT	E	0-120/140	25.0	3.5	10 1/16 x 7 5/8 x 4 3/8	25	107.90
5F334	5010	F	0-140	50.0	7.0	15 3/8 x 13 7/8 x 5 1/4	60	225.90
79W034	5010C	G	0-140	50.0	7.0	15 3/8 x 14 1/8 x 7 1/8	62	230.60
5F335	5010CT	—	0-140	50.0	7.0	17 15/16 x 14 1/8 x 7 1/8	63	252.50
79W035	6010	F	0-120/140	60.0	8.4	15 3/8 x 13 7/8 x 5 1/4	70	275.60
79W036	6010C	G	0-120/140	60.0	8.4	15 3/8 x 14 1/8 x 7 1/8	72	288.25
79W037	6010CT	—	0-120/140	60.0	8.4	17 15/16 x 14 1/8 x 7 1/8	73	315.60

SINGLE PHASE MODELS—240 VOLTS INPUT

79W038	252	A	+240/264	0.8	0.21	2 3/16 x 3 3/32 x 2 1/8	3	26.80
5F309	1020	C	240/280	3.5	0.98	5 29/32 x 5 x 4 5/32	11	40.50
5F1314	1020CT	E	240/280	3.5	0.98	6 7/8 x 5 x 4 7/16	12	50.10
79W039	SQ1020	B	240/280	3.5	0.98	5 3/16 x 4 1/4 x 4 5/32	11	43.00
5F310	1520	D	240/280	9.5	2.7	6 13/16 x 6 1/8 x 4 3/8	21	61.70
79W040	1520C	—	240/280	9.5	2.7	6 13/16 x 6 3/16 x 4 7/8	22	68.60
5F1318	1520CT	E	240/280	9.5	2.7	6 13/16 x 8 31/32 x 4 7/8	23	76.10
5F1320	2520	D	240/280	10.0	2.8	8 1/4 x 7 5/8 x 4 1/8	23	89.80
79W041	2520C	—	240/280	10.0	2.8	8 1/4 x 7 5/8 x 4 3/8	24	97.20
5F1321	2520CT	E	240/280	10.0	2.8	10 1/16 x 7 5/8 x 4 3/8	25	107.90
5F336	5020	F	240/280	28.0	7.8	15 3/8 x 13 7/8 x 5 1/4	60	218.20
79W042	5020C	G	240/280	28.0	7.8	15 3/8 x 14 1/8 x 7 1/8	63	230.60
79W043	5020CT	—	240/280	28.0	7.8	17 15/16 x 14 1/8 x 7 1/8	64	252.50
79W044	6020	F	240/280	35.0	9.8	15 3/8 x 13 7/8 x 5 1/4	70	266.20
79W045	6020C	G	240/280	35.0	9.8	15 3/8 x 14 1/8 x 7 1/8	73	288.25
79W046	6020CT	—	240/280	35.0	9.8	17 15/16 x 14 1/8 x 7 1/8	74	315.60

AC POWER SUPPLIES

With 3 conductor line cord, plug & matching receptacle pilot light, switch & circuit breaker. Available with voltmeter (V), ammeter (A) or a wattmeter (W) or combination. 120V input.

5F317	E501V	M	0-120/140	5.0	0.70	6 1/8 x 17 3/8 x 5 7/8	15	100.00
5F319	E501VAW	O	0-120/140	5.0	0.70	10 x 15 1/16 x 5 7/8	20	260.60
5F1323	E1010V	M	0-120/140	10.0	1.4	6 1/8 x 17 3/8 x 5 7/8	21	124.90
5F322	E1010VA	N	0-120/140	10.0	1.4	10 x 15 1/16 x 5 7/8	21	196.80
5F323	E1010VAW	O	0-120/140	10.0	1.4	10 x 15 1/16 x 5 7/8	25	289.30

ISOLATED AC/DC POWER SUPPLIES

Output voltage is isolated from the power line. Has isolated DC outputs equal to AC rating. UL listed & CSA approved. 120V input.

5F324	EJ401V	M	0-140	4.0	0.56	10 x 15 1/32 x 5 7/8	30	155.30
5F325	EJ901V	M	0-140	9.0	1.26	10 x 16 5/32 x 7 1/2	36	219.60

PORTABLE MODELS

Prefix "3PN" indicates 3-prong cord, plug and receptacle; prefix "2PF" denotes 2-wire cord, plug and recept. Supplied with line cord, and plug w/recept., fuse & pilot.

Stk. No.	Type	Fig.	Input Volts	Output Volts	Output Amps	Output KVA	Size, Inches H x W x D	Wt. Lbs.	EACH
5F329	2PF171	H	120	+0-132	1.75	0.23	4 x 4 x 3 5/16	3 1/2	31.20
5F333	3PN171	H	120	+0-132	1.75	0.23	4 x 4 x 3 5/16	3 1/2	37.50
5F328	3PN501	H	120	0-120/240	5.0	0.70	4 15/32 x 6 1/16 x 5 3/8	9	47.50
5F312	2PF1010	J	120	0-120/140	10.0	1.4	7 5/8 x 5 x 4 7/16	13	45.50
5F326	3PN1010	J	120	0-120/140	10.0	1.4	7 5/8 x 5 x 4 7/16	13	52.50
5F1301	3PN1210	J	120	*0-120	12.0	1.4	7 5/8 x 5 x 4 7/16	13	59.20
5F1303	3PN1510	K	120	0-120/140	15.0	2.1	9 x 6 3/16 x 4 1/2	22	86.60
5F313	3PN2210	K	120	0-140	25.0	3.5	10 3/4 x 7 5/8 x 4 3/8	25	125.90
5F1305	3PN1020	J	240	0-280	3.5	0.98	7 5/8 x 5 x 4 7/16	13	61.70
5F1309	3PN1520	K	240	0-280	9.5	2.7	9 x 6 3/16 x 4 7/8	23	88.20
5F1311	3PN2520	K	240	0-280	10.0	2.8	10 3/4 x 7 5/8 x 4 3/8	25	125.90

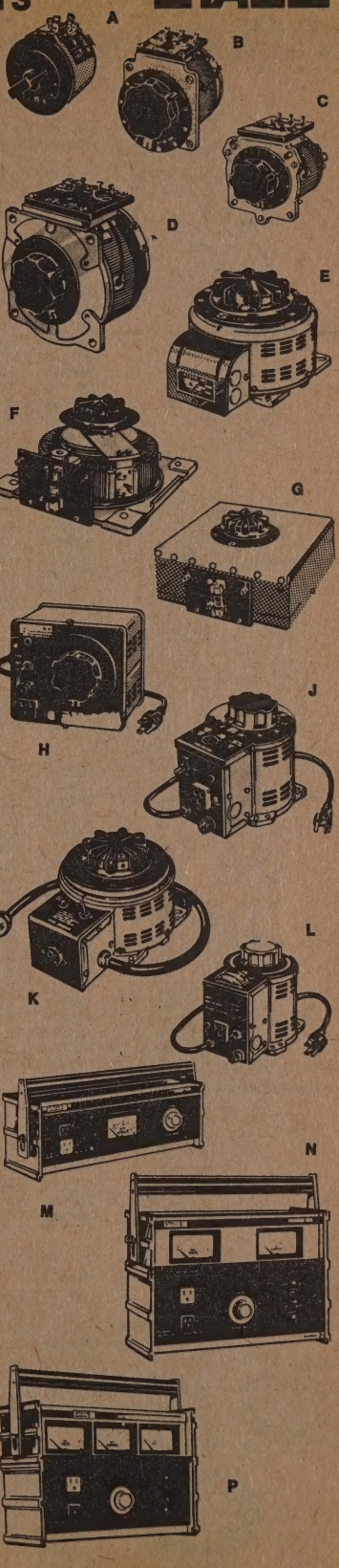
METERED PORTABLE MODELS

120 Volt model has 0-150V voltmeter and 240 Volt model has 0-300V voltmeter.

5F326	3PN1010V	L	120	0-140	10.0	1.4	7 5/8 x 5 x 4 7/16	13	74.60
5F1305	3PN1020V	L	240	0-280	3.5	0.98	7 5/8 x 5 x 4 7/16	13	84.90

ISOLATED VARIABLE TRANSFORMERS

79W047	J201	C	120	0-140	2.0	0.28	5 29/32 x 5 x 4 3/4	9	52.80
79W048	J401	D	120	0-140	4.0	0.56	6 13/16 x 6 1/8 x 5 1/4	15	115.90
79W049	J901	D	120	0-140	9.0	1.26	8 1/4 x 7 5/8 x 5 3/4	27	155.30



SOLA ELECTRIC SLB
DIVISION OF SOLA BASIC INDUSTRIES

Constant Voltage Transformers

CVS HARMONIC NEUTRALIZED TYPE TRANSFORMERS

- Use no filters
- No need for extra capacitors and noisy chokes
- Recommended for all AC applications where harmonics can affect operation
- Small and rugged

Contain less than 3% total rms harmonic content in the output. For all AC applications where harmonics can affect operation. Features built-in harmonic neutralizing circuits. No filters required. Regulation is ± 1% for an input range of 15% of nominal voltage. Input range: (*) 95-130/175-235/190-260. (**) 190-260/380-520. (†) 95-130/190-260. (††) 95-130.

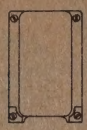
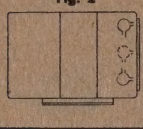


Fig. 1

Fig. 2



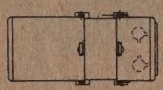
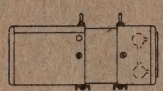


Fig. 3



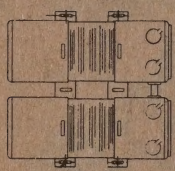
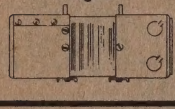


Fig. 4



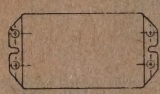
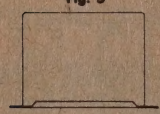


Fig. 5



60 HERTZ SINGLE PHASE

Stock No.	Type	V Out.	VA	Lbs.	Fig.	Adapt.	Size Inches	1-4	5-9	10-49
05F1108	23-13-030-2††		30	8	2	c	6⅛x5⅛x4	58.65	55.15	51.65
05F987	23-13-060-2††		60	10	2	c	6⅛x5⅛x4	69.80	65.65	61.45
05F1102	23-23-060-2**		60	10	2	c	6⅛x5⅛x4	76.20	71.65	67.05
05F988	23-22-112-2†	118	120	14	2	c	8⅛x5⅛x4	89.85	84.45	79.10
05F1103	23-23-112-2†		120	14	2	c	8⅛x5⅛x4	94.80	89.15	83.45
05F943	23-22-125†		250	28	2	a	9⅜x7⅛x5⅜	121.90	114.60	107.30
05F1104	23-23-125**		250	29	2	a	9⅜x7⅛x5⅜	129.40	121.65	113.90
05F944	23-22-150†		500	45	2	b	12⅛ex6⅛ex9⅛e	198.40	186.50	174.60
05F1105	23-26-150**		500	46	2	b	12⅛ex6⅛ex9⅛e	196.55	184.75	173.00
05F467	23-25-175*		750	54	2	b	16⅜ex6⅛ex9	253.75	238.55	223.30
80W014	23-25-210*		1000	72	2	...	17⅜x6⅛x9	309.10	290.55	272.00
05F1106	23-26-210**		1000	72	2	...	17⅜x6⅛x9	309.85	291.25	272.70
80W005	23-25-215*		1500	128	3	...	9⅝ex9½ex10¹⅛e	416.90	391.55	366.55
80W009	23-25-220*	118/236	2000	140	3	...	19⅜x9½x10¹⅛e	526.20	494.65	463.05
80W011	23-26-220**		2000	148	3	...	19⅜x9½x10¹⅛e	527.65	496.00	464.35
80W010	23-25-230-3*		3000	194	3	...	21⅞x9½x10¹⅛e	731.40	687.55	643.65
80W012	23-26-230**		3000	196	3	...	21⅞x9½x10¹⅛e	731.40	687.55	643.65
80W013	23-25-250*		5000	335	4	...	20¹¾ex9½x10¹⅛e	1142.50	1073.95	1005.40
80W022	23-26-250**		5000	342	4	...	20¹¾ex9½x10¹⅛e	1142.50	1073.95	1005.40
80W023	23-28-275**		7500	502	#	...	20¹¾ex9⅝x11½2	1405.60	1321.30	1236.95

same as Fig. 4 plus one more transformer.

TYPE CVN NORMAL HARMONIC TYPE TRANSFORMERS

CVN type transformers provide the same ±1% regulation as the sinusoidal series. Contain an average of 20% rms harmonic content and are especially recommended for electrical loads not affected by harmonics, such as solenoids, relays, filaments, and where rectification is required. (†) indicates 95-130. (*) indicates 95-130/175-235/190-260. (**) indicates an input voltage of 190-260/380-520. (***) indicates 95-130/190-260. (††) indicates 190-260. (#) Output Voltage 120x240.

60 HERTZ

Stock No.	Type	Output Volts,	Cap VA	Dimensions Inches	Adapter Kit Code	Fig.	lbs.	1-4	5-9	10-49
05F989	20-10-015†	118	15	4⅜x3½x2⅝	...	5	4	41.05	38.60	36.15
05F719	20-14-015†	118	15	2¹½ax4⅛e	...	1	3	36.95	34.75	32.55
05F953	20-14-030†	118	30	2¹½ax4⅛e	...	1	5	43.05	40.50	37.90
05F981	20-13-030-2†	118	30	5⅜x5⅛ex4	c	2	7	50.45	47.45	44.40
05F982	20-13-060-2†	118	60	6¹½ax5⅛ex4	c	2	10	59.50	55.95	52.40
05F954	20-14-060†	118	60	3½x4¹⅜e	...	1	8	50.10	47.10	44.10
05F955	20-14-112†	118	120	3½x4¹⅜e	...	1	11	77.90	73.25	68.55
05F983	20-13-112-2†	118	120	7⅜x5⅛ex4	c	2	12	77.90	73.25	68.55
05F471	20-21-112-2††	236	120	7⅜x5⅛ex4	c	2	13	77.90	73.25	68.55
05F984	20-13-115†	118	150	8¾x7⅛ex5⅜	a	2	22	94.50	88.85	83.20
05F472	20-22-125***	118	250	11⅛ex6⅛ex6¹⅝e	b	2	25	115.25	108.35	101.45
05F473	20-23-125**	118	250	11⅛x6⅛ex6¹⅝e	b	2	25	116.95	109.95	102.95
05F474	20-22-150***	118	500	12⅝ex6⅛ex6¹⅝e	b	2	36	176.00	165.45	154.90
05F477	20-26-150**	118x236	500	12⅝ex6⅛ex6¹⅝e	b	2	37	189.15	177.80	166.45
05F479	20-22-210***	118	1000	15⅛x6⅛ex6¹⅝e	...	2	48	291.95	274.45	256.95
80W006	20-25-220	118	2000	20x9½x10¹⅛e	...	3	128	471.95	443.65	358.70
79W091	20-25-230*	#	3000	22x9½x10¹⅛e	...	3	170	705.15	662.85	620.55
79W092	20-27-250**	#	5000	21x12⅝x14⅜	...	3	290	1111.00	1044.35	977.70

ELECTRONIC POWER TYPES

CVE Plate-Filament Service

60 Hertz Input Voltage Range: 100-130 Fig. 1

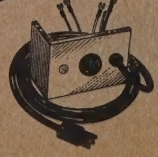
Stock No.	Type	Av. DC Output Volts to Filter	Filament Windings 6.3 Volts	Filament Windings 5.0 Volts	Wt. lbs.	Dimensions (In.)	1-4	5-9	10-49
05F486	7104	275V @ 50M.A.	2.5 amps C.T.	2 amps	6	3⅛4¹³⁄₁₆ex3³⁄₁₆	43.70	41.10	38.45
05F945	7106	385V @ 110 M.A.	3 amps C.T.	2 amps	8	3⅛x4¹³⁄₁₆ex3¹⁵⁄₁₆	49.00	46.10	43.15

CVF Filament Service

60 Hertz Fig. 1 Except Type 20-01-015: Fig. 5

Stock No.	Type	Volt Rating Reg. ±1% Output	Volt Rating Input Range	Output Cap. Amps	VA	Wt. lbs.	Dimensions(In.)	1-4	5-9	10-49
05F973	20-01-015	6.0	95-130	2.50	15	4	See Fig. E	47.75	44.90	42.09
05F946	20-06-015	6.0	95-130	2.50	15	3	2¹¹⁄₃₂x4⁵⁄₁₆ex2⁷⁄₁₆	36.15	34.00	31.85
05F718	20-04-015	6.3	95-130	2.38	15	3	2¹¹⁄₃₂x4⁵⁄₁₆ex2⁷⁄₁₆	36.15	34.00	31.85
05F574	20-04-030-1	6.3		5.00	32	6	3⅛x4¹³⁄₁₆ex3⅛	55.05	51.75	48.45
05F977	20-04-065	6.3	95-130 x	10.00	63	8	3⅛x4¹³⁄₁₆ex3¹¹⁄₁₆	57.75	54.30	50.85
05F947	20-04-095	6.3	190-260	15.00	95	11	3⅛x4¹³⁄₁₆ex4¹¹⁄₁₆	69.60	65.35	61.25
05F979	20-04-116	6.3		25.00	158	23	4½x7 x5¹¹⁄₁₆	112.55	105.80	99.05

a b


c

CORD/RECEPTACLE ADAPTER KITS

(*) Two wire input cord, Two wire recept. (**) 3-wire input cord, 3-wire recept.

Stock No.	Type	Adapter Code	Each
05F160	999-005*	a	9.45
05F997	999-019**	a	
05F575	999-009*	b	

Stock No.	Type	Adapter Code	Each
05F998	999-020**	b	8.95
05F957	999-104*	c	8.95
05F958	999-105**	c	8.95

Computer Line Voltage Regulators

SOLA ELECTRIC SB
DIVISION OF SOLA BASIC INDUSTRIES

Solatron® for Computers

Designed specifically to meet the stringent requirements of EDP equipment. Delivers clean, consistent, reliable power despite power line transients. **Line regulation:** ±¼%. **Input Voltage:** 208/230 V, 3 phase, +10%/-20%. **Output Voltage:** 208/230 V delta or wye, adjustable from 208 to 240. **Load regulation:** ±¼%. **Frequency:** 57-63 Hz. **Transient Response Time:** Starts immediately, complete within 5 cycles. **Power Efficiency:** 95% typical. **VA Efficiency:** 75% typical. **Maximum Harmonics:** Balanced line and load 3%; unbalanced line and/or load 6%. **Load Power Factor:** with little derating .75 lagging to .95 leading; without derating -.95 lagging to unity.

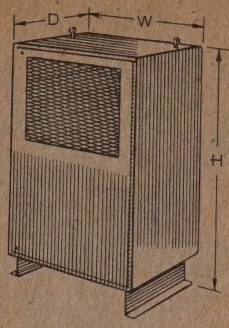


Fig. 1

REGULATORS

Stock No.	Type	KVA Rating	NAED EDP No. 5888	Approx. Shpg. Wt.	Fig.	Dimensions H	W	D	Net
79W001	39-59-310	10	27001	540	1	50"	27"	20"	4473.00
79W002	39-59-315	15	27002	700	1	50"	27"	20"	5006.00
79W003	39-59-325	25	27003	1,080	2	65"	36"	27"	5513.00
79W004	39-59-350	50	27004	1,510	2	65"	36"	27"	8802.00
79W005	39-59-375	75	27005	1,785	2	65"	36"	27"	13205.00

THREE-CABINET REGULATORS

Stock No.	Type	KVA Rating	NAED EDP No. 5888	Approx. Shpg. Wt.	Fig.	Dimensions H	W	D	Net
79W006	39-59-410	100	27006	1,200	2	65"	36"	27"	16,766.00
79W007	39-59-415	150	27007	1,385	2	65"	36"	27"	24,354.00
79W008	39-59-422	225	27008	1,585	2	65"	36"	27"	33,647.00

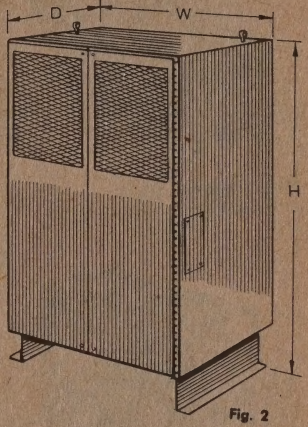


Fig. 2

CONTROL TRANSFORMERS

Low reactance types designed to meet or exceed electrical requirements of NEMA, ANSI and NMTBA. To insure conformance to these standards, secondary voltage regulation and temperature rise were primary considerations of design. The result is a transformer with interwound primary and secondary coils and a larger iron core than normally specified by temperature limitations. Single phase, triple voltage, dual frequency, 55°C temperature rise. 240/480 - 120 volts, 50/60Hz. 230/460 - 115 volts, 50/60 Hz. 220/440 - 110 volts, 50/60 Hz.

Stock No.	Type	KVA RTG.	NAED EDP No. 5888	Approx. Shpg. Wt.	Fig.	Dimensions H	W	D	Net
79W009	35-10-025	.025	28401	2	3	3 5/16	3	2 9/16	7.40
79W010	35-10-050	.050	28402	2½	3	3 5/16	3	2	8.90
79W011	35-10-075	.075	28403	3½	3	3 19/32	3⅜	2⅜	10.25
79W012	35-10-100	.100	28404	3⅜	3	3 25/32	3⅜	2 9/16	11.65
79W013	35-10-150	.150	28405	6½	3	4 7/16	4½	3 13/16	14.05
79W014	35-10-200	.200	28406	7½	3	4 11/16	4½	3 13/16	16.70
79W015	35-10-250	.250	28407	9	3	5 1/16	4½	3 13/16	19.95
79W016	35-10-300	.300	28408	11¼	3	4 15/16	5¼	4⅜	21.75
79W017	35-10-350	.350	28409	13	3	5 1/16	5¼	4⅜	24.05
79W018	35-10-500	.500	28410	16¼	3	6	5¼	4⅜	29.05
79W019	35-10-750	.750	28411	24	3	6 11/32	6⅜	5⅜	41.25
79W020	35-10-210	1.0	28412	30½	3	7 3/16	6⅜	5⅜	50.35

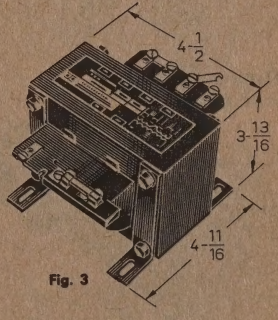


Fig. 3

SOLA MINICOMPUTER REGULATOR

Provides transient protection for any type of load. Particularly useful in computer applications where noise and transients cause errors; or low voltage and short duration disruptions can cause loss of memory. Output waveshape is sinusoidal and contains less than 3% harmonic distortion. Better than 60 dB noise rejection and effective capacitance less than 0.1 μF. Input line variations of ±15% are regulated to ±3% variation on the output. Output will remain within NEMA volt. specs. of +5% -10%, for input volt. as low as 65% of nominal. Especially designed for office type environment. Oper. Temp. 20°C to +50°C. Full Load efficiency 85%. External noise level 45 dB measured 12 inches from equipment.

60 HERTZ SINGLE PHASE

Stock No.	Type	Max. Output VA Rtg.	Nom. Output Volt.	Input* Volt Range	Fig.	Approx. Shpg. Wt.	1-9	10-49	50-99
79W021	63-13-150	500	120	95-130	4	47	209.25	190.45	169.50
79W022	63-13-175	750	120	95-130	4	60	267.60	243.55	216.75
79W023	63-13-210	1000	120	95-130	4	75	309.10	281.30	250.40
79W024	63-13-220	2000	120	95-130	4	125	526.20	478.85	426.25

*** For +3% output regulation. Unit will operate at lower voltage.**

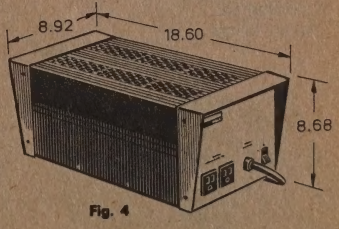


Fig. 4

50 HERTZ SINGLE PHASE

NOT U.L. LISTED

Stock No.	Type	Max. Output VA Rtg.	Nom. Output Volt.	Input Volt Range	Fig.	Approx. Shpg. Wt.	1-9	10-49	50-99
79W025	63-13-650	500	110	90-130	4	53	246.65	220.85	196.55
79W026	63-13-710	1000	110	90-130	4	85	358.50	326.30	290.40
79W027	63-13-720	2000	110	90-130	4	140	610.40	555.50	494.45

SOLA ELECTRIC SB
DIVISION OF SOLA BASIC INDUSTRIES

Power Supplies

PC Board Mount
84 Series

SOLA SOLIDS

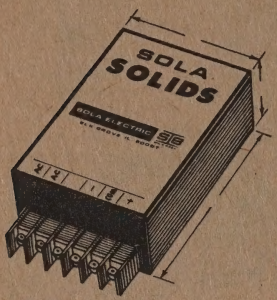
Series regulated power supplies, **84 Series** for mounting on PC boards and **85 Series** for mounting on the chassis directly, for point of use regulation. Units are fully tested and burned in three times, and carry a two year warranty. Available in single output or dual tracking outputs. Input Voltage: 115V ±10V (50 to 400Hz). Output voltage accuracy: ±2%. Oper. Temp.: -25°C to 71°C (operation at elevated levels may require derating.) Input isolation: 50 megohms. Line regulation: ±.02% or 2.5mV. Load regulation ±.02% or 2.5 mV.

84 SERIES

Stk. No.	Type	Output Voltage	Output Current	PARD	1-9	10-24	25-49
05F533	84-05-150	5VDC	500mA	1.0mV RMS	49.00	46.55	44.10
05F534	84-05-210	5VDC	1000mA	1.0mV RMS	69.00	65.55	62.10
05F535	84-12-110	12VDC	100mA	0.5mV RMS	29.00	27.55	26.10
05F536	84-15-110	15VDC	100mA	0.5mV RMS	29.00	27.55	26.10
05F537	84-12-2112	±12VDC	120mA ea.	0.5mV RMS	49.00	46.55	44.10
05F538	84-12-2124	±12VDC	240mA ea.	0.5mV RMS	69.00	65.55	62.10
05F539	84-15-2110	±15VDC	100mA ea.	0.5mV RMS	49.00	46.55	44.10
05F540	84-15-2120	±15VDC	200mA ea.	0.5mV RMS	69.00	65.55	62.10

85 SERIES

05F541	85-05-210	5VDC	1000mA	2mV RMS	79.00	75.05	71.10
05F542	85-12-2124	±12VDC	240mA	1mV RMS	79.00	75.05	71.10
05F543	85-15-2110	±15VDC	100mA	1mV RMS	64.00	60.80	57.60
05F544	85-15-2135	±15VDC	350mA	1mV RMS	109.00	103.55	98.10

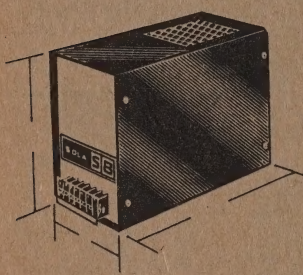


Chassis Mount
85 Series

MODULAR DC POWER SUPPLIES

Will hold output voltage to ±1% or less for input variations as great as ±15% of the nominal input voltage. Rated input range is 100 to 130 volts, 60 Hz. The response time is 25 milliseconds. Actual variation is linear over a ±5% change in frequency from 60 cycles. Have long life. Highly reliable and efficient. Multiple operation to increase current and to increase voltage. Oper. temp.: 0°C to 50°C. The output voltage will change approx. 1% for every 40°C change in ambient temp. Isolation and short circuit protection. Polarity: May be used positive or negative.

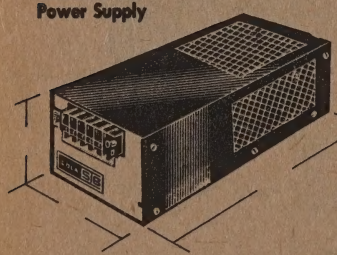
Stk. No.	Type	DC Output Volts	DC Output Amps	Load Regulation Volts VA	½L-FL	¼L-FL	Height	Width	Depth	Wt.	1-9	10-24	25-49
05F1138	28-04-315	4	15	60	0.5	0.8	3.50	5.25	13.00	14			
05F1139	28-05-315	5.2	15	78	0.5	0.8	3.50	5.25	13.00	14			
05F1140	28-06-315	6.3	15	95	0.5	0.8	3.50	5.25	13.00	14			
05F1141	28-10-312	10	12	120	0.6	1.0	3.50	5.25	13.00	14			
05F1142	28-12-310	12	10	120	0.6	1.0	3.50	5.25	13.00	14	100.00	95.00	90.00
05F1143	28-15-280	15	8	120	0.8	1.3	3.50	5.25	13.00	14			
05F1144	28-18-267	18	6.7	120	0.8	1.3	3.50	5.25	13.00	14			
05F1145	28-24-250	24	5	120	1.0	1.7	3.50	5.25	13.00	14			
05F1146	28-28-243	28	4.3	120	1.2	2.0	3.50	5.25	13.00	14			
05F1147	28-48-225	48	2.5	120	2.0	3.4	3.50	5.25	13.00	14			
05F1148	28-04-325	4	25	100	0.5	0.8	6.90	4.94	9.75	19			
05F1149	28-05-325	5.2	25	130	0.5	0.8	6.90	4.94	9.75	19			
05F1150	28-06-325	6.3	25	155	0.5	0.8	6.90	4.94	9.75	19			
05F1151	28-10-318	10	18	180	0.6	1.0	6.90	4.94	9.75	19			
05F1152	28-12-315	12	15	180	0.6	1.0	6.90	4.94	9.75	19	149.00	141.55	134.10
05F1153	28-15-312	15	12	180	0.6	1.0	6.90	4.94	9.75	19			
05F1154	28-18-310	18	10	180	0.6	1.0	6.90	4.94	9.75	19			
05F1155	28-24-280	24	8	192	0.7	1.2	6.90	4.94	9.75	19			
05F1156	28-28-270	28	7	196	0.7	1.2	6.90	4.94	9.75	19			
05F1157	28-48-240	48	4.0	196	1.0	1.7	6.90	4.94	9.75	19			



Modular DC
Power Supply

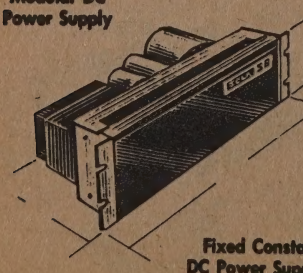
FIXED CONSTANT VOLTAGE DC POWER SUPPLIES

Will withstand high-transient overload without damage or output voltage drop. Output regulation ±1% or less over 100-130V input range. Total ripple content does not exceed one percent. Load regulation less than 4% from 20% to full load. Efficiency approx. 75%. Mounted on standard 19" rack panel. Input 100-130 60 Hz. AC.



Modular DC
Power Supply

Stk. No.	Type	Volts	Amps	VA	Load Regulation 20% FL	50% FL	Panel Ht.	Weight	Depth Max.	1-9	10-24	25-49
05F1114	281513-2	6	10	60	15%	7%	3½	27	7¾	168.80	160.40	151.9
05F152	282123-1	6	15	90	10%	7%	5¼	38	7¼	195.20	185.45	175.7
05F1115	281514-2	12	5	60	7%	5%	3½	18	7¾	168.80	160.40	151.9
05F153	282124-1	12	10	120	10%	5%	5¼	31	7¼	168.80	160.40	151.9
79W071	281845-2	12	15	180	10%	7%	5¼	45	7¼	195.20	185.45	175.7
79W072	281515-2	18	5	90	7%	4%	3½	20	7¾	168.80	160.40	151.9
79W073	282125-1	18	10	180	7%	5%	5¼	45	7¼	195.20	185.45	175.7
05F924	281024-1	24	6	144	6%	4%	5¼	30	9¾	168.80	160.40	151.9
05F156	282126-1	24	10	240	6%	4%	5¼	48	8¾	195.20	185.45	175.7
79W074	281203-2	24	15	360	7%	5%	7	64	7¼	209.95	199.50	189.0
80W001	282127-1	24	25	600	7%	5%	8¾	72	9	273.25	259.60	245.9
05F1118	28626-2	28	8	224	6%	4%	5¼	42	8¾	195.20	185.45	175.7
05F158	282128-1	28	15	420	7%	5%	7	55	7¼	209.95	199.50	189.0
05F925	281048	48	4	192	3.5%	2.5%	5¼	32	9¾	168.80	160.40	151.9
05F1119	281561-2	48	10	480	4%	2%	5¼	48	9¾	195.20	185.45	175.7
79W075	282129-1	48	20	960	4%	2.5%	8¾	95	9¾	273.25	259.60	245.9
79W076	281125-1	125	2	250	2.5%	1.5%	5¼	44	9¾	195.20	185.45	175.7
05F927	281150-1	150	2	300	2%	1.5%	5¼	48	9¾	195.20	185.45	175.7
79W077	281200	200	1	200	3%	2%	5¼	39	9¾	195.20	185.45	175.7
05F929	281250	250	1	250	3%	2%	5¼	45	9¾	195.20	185.45	175.7



Fixed Constant
DC Power Supplies

Power Supplies

SOLA ELECTRIC SB
DIVISION OF SOLA BASIC INDUSTRIES

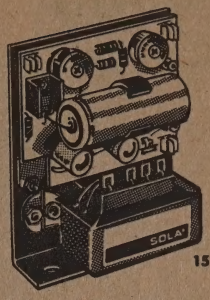
OEM LINE REGULATED DC POWER SUPPLIES

Precise integrated circuit regulator with superior drift characteristics. Convection cooled. Complete serviceability. Completely protected, short circuit proof. Isolated, floating output. Low noise and ripple. Positive or negative polarity. Oper. Temp: 0°C to 50°C. Input Freq. Range: 50-400 Hz (derate load to 75% for 400 Hz). Input Voltage Range: 15 watt (105-125 VAC, 210-250 VAC), 30/60/120 watt (115/230 ± 15%). Temp. Coefficient: .03%°C. 15 watt is UL listed.

15 WATT

115 VOLT INPUT, 230 VOLT INPUT AVAILABLE

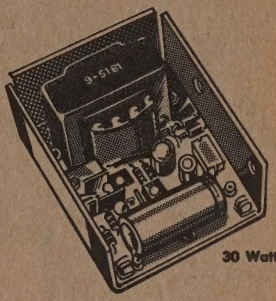
Stk. No.	Type	Output Volts Adj.	Output Amps	Height	Width	Depth	1-4	5-9	10-49
62F1200	81-05-230-1	5-6	3-2.5	4.50	4.00	2.39			
62F1206	81-12-215-1	12-15	1.5-1.2	4.50	4.00	2.39	29.35	27.60	25.85
62F1211	81-24-180-1	24	.8	4.50	4.00	2.39			



15 Watt

30 WATT

62F1201	83-05-230	4.8-5.5	3	4.75	4.00	2.50			
62F1215	83-12-218	11.5-12.5	1.8	4.75	4.00	2.50	33.00	31.05	29.05
62F1220	83-15-216	14.5-15.5	1.6	4.75	4.00	2.50			
62F1207	83-24-212	23-25	1.2	4.75	4.00	2.50			


30 Watt

60 WATT

05F1129	83-05-260-1	4.8-5.5	6	4.94	6.00	4.94			
05F1130	83-12-250-1	11.5-12.5	5	4.94	6.00	4.94			
05F1131	83-15-240-1	14.5-15.5	4	4.94	6.00	4.94	68.00	63.95	59.85
05F1132	83-24-225-1	23-25	2.5	4.94	6.00	4.94			

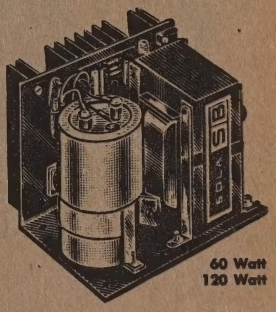
120 WATT

05F1133	83-05-312-1	4.8-5.5	12	5.00	7.00	6.60			
05F1134	83-12-130-1	11.5-12.5	10	5.00	7.00	6.60			
05F1135	83-15-280-1	14.5-15.5	8	5.00	7.00	6.60	103.00	96.85	90.65
05F1136	83-24-260-1	23-25	6	5.00	7.00	6.60			
05F1137	83-48-230-1	46-50	3	5.00	7.00	6.60			

DUAL & TRIPLE OUTPUT

Convection cooled. Complete serviceability. Fully isolated independent outputs. Positive or negative operation. Full rated output 0° to +55°C. 120/240 VAC 50/60/400 Hz input. Regulation: 0.05% line or load. Ripple: 0.01% rms. Series or parallel operation. Constant voltage.

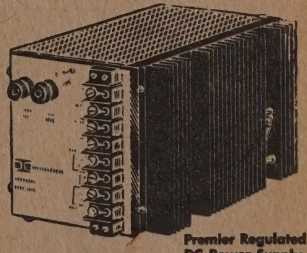
Stk. No.	Type	Output Volts	Output Amps	Height	Width	Depth	1-4	5-9	10-49
62F1217	83-12-2180	12	.8	7.12	4.12	2.39	45.00	42.30	39.60
62F1203	83-15-2170	15	.7	7.12	4.12	2.39	45.00	42.30	39.60
62F1222	83-12-2218	12	1.8	8.35	4.12	2.94	69.00	64.90	60.75
62F1210	83-15-2216	15	1.6	8.35	4.12	2.94	69.00	64.90	60.75
62F1221	83-12-2250	12	5	10.06	6.30	5.50	135.00	126.90	118.80
62F1213	83-15-2240	15	4	10.06	6.30	5.50	135.00	126.90	118.80
62F1209	83-12-3218	5,12,12	6,1.8,1.8	10.06	4.12	4.94	113.00	106.25	99.45
62F1218	83-15-3216	5,15,15	6,1.6,1.6	10.06	4.12	4.94	113.00	106.25	99.45


60 Watt
120 Watt

PREMIER REGULATED DC POWER SUPPLIES

Completely protected short circuit proof; automatic current limiting. Convection cooled. Complete serviceability. Remote sensing. Regulation: ±.2% line or load. Ripple and noise: .1% Vrms. Input range: 120/240 VAC ±10%. 47-420 Hz. Temp. coefficient: .03°C. Polarity: may be used positive or negative. Oper. temp.: 0°C to +55°C. Automatic cutoff if heat sink temp. is exceeded. Storage temp: -62° to +85°C. Recovery time less than 50 μsec ½L to FL.

Stk. No.	Type	Output Volts	Output Amps	Height	Width	Depth	1-4	5-9	10-49
05F1158	82-05-315-50	4.8-5.5	15	5.25	5.75	8.19			
05F1159	82-12-270-50	11.5-12.5	7	5.25	5.75	8.19			
05F1160	82-15-258-50	14.5-15.5	5.8	5.25	5.75	8.19	137.00	128.80	20.60
05F1161	82-24-240-50	23-25	4	5.25	5.75	8.19			
05F1162	82-05-325-50	4.8-5.5	25	6.12	6.50	11.00			
05F1163	82-12-312-50	11.5-12.5	12	6.12	6.50	11.00			
05F1164	82-15-296-50	14.5-15.5	9.6	6.12	6.50	11.00	190.00	178.60	167.20
05F1165	82-24-260-50	23-25	6	6.12	6.50	11.00			
05F1166	82-48-230-50	46-50	3	6.12	6.50	11.00			

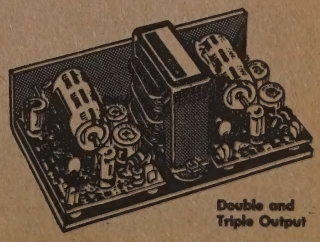

Premier Regulated
DC Power Supply

MICROPROCESSOR POWER SUPPLIES

Fully isolated independent outputs. Positive or negative operation. Convection cooled. Complete serviceability. Integrated circuit regulation. Constant voltage. 120/240 VAC 50/60/400 Hz input. Full rated power 0° to +55°C. Regulation: .05% line or load.

DOUBLE & TRIPLE OUTPUT

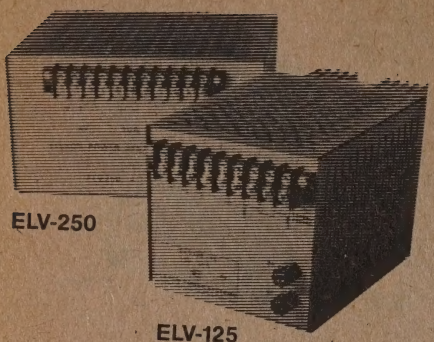
Stk. No.	Type	Output Volts	Output Amps	Height	Width	Depth	1-4	5-9	10-49
62F1205	83-81-2225	5,9-12	2.5/.5	7.12	4.12	2.70	45.00	42.30	39.60
62F1219	83-82-2230	±5	3/.1	7.12	4.12	2.70	45.00	42.30	39.60
62F1216	83-81-2250	5,9-12	5/.8	8.35	4.12	3.12	80.00	75.20	70.40
62F1204	83-82-2250	±5	5/.1	8.35	4.12	3.12	80.00	75.20	70.40
62F1212	83-83-3225	5,± 9-12	2.5/.25	7.12	4.12	2.70	70.00	65.80	61.60
62F1208	83-84-3225	±5,9-12	2.5/.25/.1	7.12	4.12	2.70	70.00	65.80	61.60
62F1214	83-83-3250	5,9-12	5/.5	8.35	4.12	3.12	89.00	83.70	78.35
62F1202	83-84-3250	±5,9-12	5/.5/.1	8.35	4.12	3.12	89.00	83.70	78.35


Double and
Triple Output

For Single Output see 15/30 and 60 Watt Standard Power Supplies

Elexon Power Systems

ELPAC



ELV-250

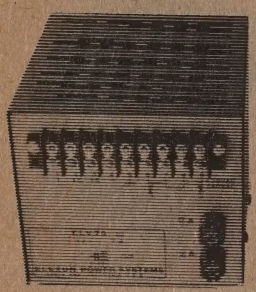
ELV-125

COMPUTER GRADE, ENCLOSED SOLID-STATE POWER SUPPLIES —ELV SERIES

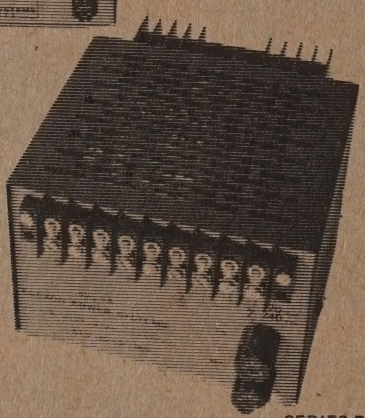
Reliable source of regulated DC voltage for commercial, educational and industrial applications. Smooth acting controls permit adjustment to exacting requirements. Computer grade all-silicon solid-state DC power supplies include integrated circuit regulators for precise regulation.

Standard features include: Fully enclosed ventilated black and gold anodized aluminum cases, barrier strip terminals, short circuit protection, adjustable over-voltage protection, and remote voltage sensing. Floating output permits either positive or negative terminal to be grounded.

Supplies are guaranteed for one year by the manufacturer.



ELV-75



ELV-25

Input Voltage	120/240 VAC±10%, single phase, 47-420 Hz.
Output Regulation	±0.1% for line variations of ±10%, ±0.1% for 0 to full load.
Noise and ripple	Less than ±0.1% peak-to-peak.
Output Voltage Adjust	±5% at nominal line, full load.
Temperature range	0° to +55°C ambient operating. No additional cooling required.
Isolation	100 Meg DC; electrostatic shielded transformer.

Stock No.	Type	Output* Volts	Output* Amps.	Dimensions, Inches	Net Each 1-4	5-9	10-24	25-49
SERIES ELV-25 POWER SUPPLIES								
62F2873	ELV-25-5	5	5	4x5-1/2x6-1/2	93.00	89.00	84.00	79.00
62F2874	ELV-25-12	12	3	4x5-1/2x6-1/2				
62F2875	ELV-25-18	18	2	4x5-1/2x6-1/2				
62F2876	ELV-25-24	24	1.5	4x5-1/2x6-1/2				
SERIES ELV-75 POWER SUPPLIES								
62F2877	ELV-75-5	5	15	5-1/8x5-1/4x8	119.00	115.00	109.00	99.00
62F2878	ELV-75-12	12	7	5-1/8x5-1/4x8				
62F2879	ELV-75-18	18	5	5-1/8x5-1/4x8				
62F2880	ELV-75-24	24	4	5-1/8x5-1/4x8				
SERIES ELV-125 POWER SUPPLIES								
62F2881	ELV-125-5	5	25	6x6-1/2x11	165.00	157.00	149.00	136.00
62F2882	ELV-125-12	12	12	6x6-1/2x11				
62F2883	ELV-125-18	18	8	6x6-1/2x11				
62F2884	ELV-125-24	24	6	6x6-1/2x11				
SERIES ELV-250 POWER SUPPLIES								
62F2885	ELV-250-5	5	50	6x10-1/2x11	235.00	225.00	215.00	205.00
62F2886	ELV-250-12	12	20	6x10-1/2x11				
62F2887	ELV-250-18	18	14	6x10-1/2x11				
62F2888	ELV-250-24	24	10.4	6x10-1/2x11				

*4V, 6V, 8V, 9V, 10V, 14V, 15V, 16V, 20V, 22V, 28V outputs also available.

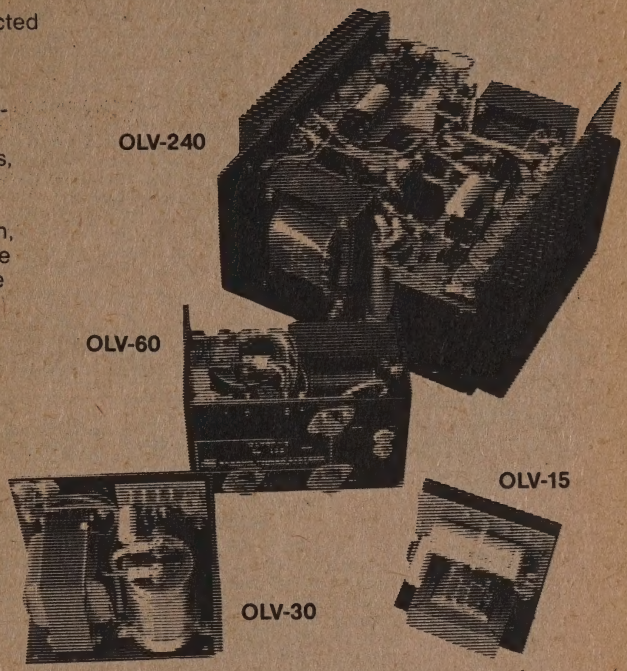
COMPUTER GRADE, OPEN-FRAME POWER SUPPLIES—OLV SERIES

• Integrated Circuit Regulation • Short Circuit Protected
• Remote Voltage Sensing • Floating Output

Computer grade, all-silicon DC power supplies include integrated circuit regulator for precision regulation. Open-frame construction, black anodized chassis. Output connections made via solder terminals, OLV-15 and OLV-30; screw terminals for the high current OLV-60, OLV-90 and OLV-120 Series.

Standard features include: short circuit protection, electrostatic shielded transformer and remote voltage sensing. Floating output permits positive or negative operation.

Supplies are guaranteed for one year by the manufacturer.



Input Voltage	120/240 VAC±10%, single phase, 47-420 Hz (47 Hz optional for OLV-15)
Output Regulation	±0.1% for line variations ±10%, ±0.1% 0 to full load.
Noise and ripple	Less than ±0.1% peak-to-peak.
Output Voltage Adjust	±5% at nominal line, full load.
Temperature Range	0° to +55°C ambient operating. No additional cooling required.

OPTIONAL OVERVOLTAGE PROTECTION FOR OLV SERIES

Stock No.	Type		Net Each 1-24
62F2847	OVP-1	For Series OLV-15, -30	**7.00**
62F2848	OVP-2	For Series OLV-60	**9.00**
62F2849	OVP-3	For Series OLV-90 and up	**12.00**

SERIES SOLV-15 POWER SUPPLIES

Stock No.	Type	Output* Volts	Output* Amps.	Dimensions, Inches	Net Each 1-4	5-9	10-24	25-49
62F2899	SOLV-15-5	5	3	4x4.88x2.0				
62F2900	SOLV-15-12	12	1.5	4x4.88x2.0				
62F2855	SOLV-15-15	15	1.2	4x4.88x2.0	49.00	48.00	46.00	44.00
62F2856	SOLV-15-18	18	1	4x4.88x2.0				
62F2857	SOLV-15-24	24	0.75	4x4.88x2.0				

SOLV-15: U.L. listed, fixed OVP, reverse voltage protection standard.

SERIES OLV-15 POWER SUPPLIES

62F2890	OLV-15-5	5	3	4x4-1/2x2-3/4				
62F2891	OLV-15-12	12	1.5	4x4-1/2x2-3/4				
62F2863	OLV-15-15	15	1.2	4x4-1/2x2-3/4	79.00	74.00	71.00	67.00
62F2892	OLV-15-18	18	1	4x4-1/2x2-3/4				
62F2893	OLV-15-24	24	0.75	4x4-1/2x2-3/4				

OLV-15 with 47 Hz option—add $2.00 ea.

SERIES OLV-30 POWER SUPPLIES

62F2864	OLV-30-5	5	6	4.88x5.75x3.5				
62F2865	OLV-30-12	12	4	4.88x5.75x3.5				
62F2866	OLV-30-15	15	3.3	4.88x5.75x3.5	135.00	129.00	122.00	116.00
62F2867	OLV-30-18	18	2.6	4.88x5.75x3.5				
62F2868	OLV-30-24	24	2	4.88x5.75x3.5				

SERIES OLV-60 POWER SUPPLIES

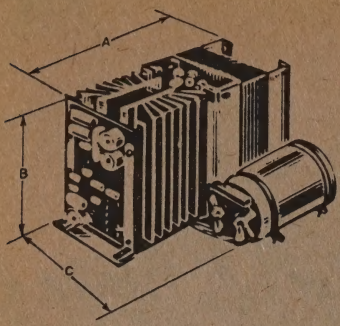
62F2869	OLV-60-5	5	12	4-3/4x4-3/8x7				
62F2870	OLV-60-12	12	8	4-3/4x4-3/8x7				
62F2871	OLV-60-15	15	6.6	4-3/4x4-3/8x7	31.50	29.50	28.50	26.50
62F2872	OLV-60-18	18	5.2	4-3/4x4-3/8x7				
62F2889	OLV-60-24	24	4	4-3/4x4-3/8x7				

SERIES OLV-120 POWER SERIES

62F2894	OLV-120-5	5	24	5-1/8x6-1/4x13				
62F2895	OLV-120-12	12	16	5-1/8x6-1/4x13				
62F2896	OLV-120-15	15	13.2	5-1/8x6-1/4x13	29.00	27.00	26.00	24.00
62F2897	OLV-120-18	18	10.4	5-1/8x6-1/4x13				
62F2898	OLV-120-24	24	8	5-1/8x6-1/4x13				

*4V, 6V, 8V, 9V, 10V, 14V, 16V, 20V, 22V, 28V outputs also available.

Power Supplies



HIGH POWER—ADJUSTABLE DC POWER SUPPLY

- **0.1% Regulation**
- **Constant Current**
- **High efficiency, low noise**

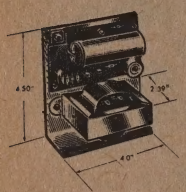
Provides regulated high current DC continuously adjustable over 2-25V or 5-50V range. Can be set for constant voltage or constant current operation. Wide voltage range suitable for many slot applications where different supplies would normally be required for each application. In constant current mode, can be used as battery charger. Adjustable damping for inductive loads for driving relays, solenoids and motors. SCR regulators used to provide precision regulation (±0.1%) with max. efficiency (75%). Series inductance and capacitor filter circuit provide low noise operation over all load and line conditions. AC input 105-130/210-260 VAC, 1 phase, 47-63 Hz. Controls include current limit adjust 0-100%; output volts adjust 10-100%; ripple adjust. Wt. 300W—20 lbs.; 600W—30 lbs.; 120W—50 lbs.

SIZE CHART

Model	A	B	C
Brute I	6.750	11.000	7.690
Brute II	6.750	12.000	7.650
Brute III	10.000	14.000	11.120

Stock No.	Type	Range Power	DC Output	1-9	10-24	25-49	50-99
99F1493	Brute I	300 Watts	5-50/2-25V 6/12A	215.00	204.00	194.00	183.00
99F1494	Brute II	600 Watts	5-50/2-25V 12/24A	265.00	252.00	239.00	225.00
99F1495	Brute III	1200 Watts	5-50/2-25V 25/50A	477.00	453.00	429.00	405.00

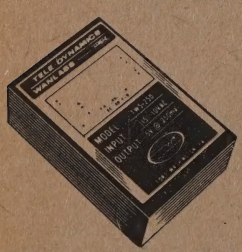
Stock No.	Type	Description	1-9	10-24	25-49	50-99
99F1532	K3	OVP-1 Overvoltage Protection	60.00	57.00	54.00	51.00



MODEL DPS-DC POWER SUPPLY

AC input 105 to 125 volts, one-phase, 57 to 63 HZ. (derate twenty percent for 400 Hz. operation). DC output voltage 5 to 6, 12 to 15, and 24 volts floating. Power: 20 watts. Regulation line ±.25%; load ±.25%. Ripple is 0.3%+10 millivolts RMS. Automatic recovery, foldback current limiting provides overload and short circuit protection. Operating temperature 0 to 40°C. (Derate current 2% C° over 40°C.) Weight: 1.9 pounds. (*) Rated at 1 amp over 115-125 volt AC line voltage. UL listed.

Stk. No.	Type	DC Output	Power Group	Fuse	1-9	10-24	25-49	50-99
99F1486	DPS-1	5/6V @ 3/2.5A	20 watts	3A	28.00	26.60	25.20	23.80
99F1487	DPS-2	12/15V @ 1.5/1.2A	20 watts	2A				
99F1488	DPS-3	24V @ 0.8AJ*	20 watts	1.5A				
99F1516	OVP-2-53	Overload protection device for use with	DPS-1		9.45	9.00	8.50	8.05
99F1526	OVP-3-241		DPS-3					



TW/TWD MINIATURE DC POWER SUPPLIES

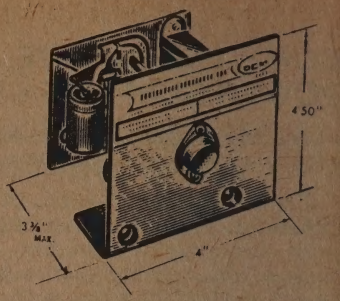
Input voltage: 115 ±10VAC. Input frequency, 50-400 Hz. Input isolation, 50 megohms. Output impedance, 0.2 ohms at 10 kHz. Output voltage setting, ±2% of rated voltage. Storage temperature, −25 to +85°C. Operating temperature, −25 to +71°C. Output current versus temperature: each output is rated for full current at temperatures between −25 and +70°C with no derating.

CASE SIZE

1—2 x 3 x 1
2—1.75 x 2.25 x 1
3—2.50 x 3.50 x .875
4—2.50 x 3.50 x 1.25

Stock No.	Model	Output Volts	Output ma	Regulation Line (%)	Regulation Load (%)	Ripple (mv rms)	Temp. Coeff.	Size	1-24	25-49	50-99
99F1630	TW 5-250	5.0	250	±0.05	±0.1	1.0	0.05	1	35.00	31.50	29.75
99F1631	TW 5-500	5.0	500	±0.05	±0.1	1.0	0.05	3	44.00	39.60	37.40
99F1632	TW 5-1000	5.0	1000	±0.05	±0.1	1.0	0.05	4	65.00	58.50	55.25
99F1634	TW 6-200	6.0	200	±0.05	±0.05	0.5	0.05	1	38.00	34.20	32.30
99F1635	TW 10-120	10	120	±0.05	±0.05	0.5	0.02	2	25.00	22.50	21.25
99F1636	TW 12-120	12	120	±0.05	±0.05	0.5	0.02	2	25.00	22.50	21.25
99F1637	TW 15-100	15	100	±0.05	±0.05	0.5	0.02	2	25.00	22.50	21.25
99F1638	TW 18-65	18	65	±0.05	±0.05	1.0	0.02	2	25.00	22.50	21.25
99F1640	TW 24-50	24	50	±0.05	±0.05	1.0	0.02	2	25.00	22.50	21.25
99F1641	TW 28-40	28	40	±0.05	±0.05	1.0	0.02	2	25.00	22.50	21.25
99F1644	TWD 12-120	±12	120	±0.02	±0.02	0.5	0.02	3	49.00	44.10	41.65
99F1645	TWD 12-240	±12	240	±0.02	±0.05	1.0	0.02	4	73.00	65.70	62.05
99F1646	TWD 15-25	±15	25	±0.2	±0.2	2.0	0.02	3	34.00	31.60	28.90
99F1647	TWD 15-65	±15	65	±0.04	±0.02	1.0	0.02	3	37.00	33.30	31.45
99F1648	TWD 15-100	±15	100	±0.03	±0.02	1.0	0.02	3	48.00	43.20	40.80
99F1649	TWD 15-200	±15	200	±0.02	±0.05	1.0	0.02	4	73.00	65.70	62.05

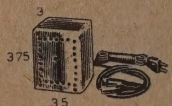
MODEL DPS-4 HIGH VOLTAGE POWER SUPPLY



Response time 10-50 μsec. Ripple 2% max. Uses AC line voltage regulator and rectifier to provide regulated DC power for 200V nixie tubes and similar circuits. Regulator is CLIP-AC type peak AC regulator designed for use as regulating component for DC power supply. By symmetrically clipping peaks of input wave form, constant peak amplitude output is produced. Clipped AC signal used both as alternate output and input to DC rectifier and filter. DC output is regulated by peak clipping AC input to rectifier and filter. Operating temperature 0 to 50°C. Output voltage control adjusts ±2%. AC nput 105-125 volts AC, one-phase, 57 to 63 Hz. Weight 1.6 pounds.

Stk. No.	Type	1-9	10-24	25-49	50-99
99F1550	DPS-4	42.00	40.00	38.00	36.00

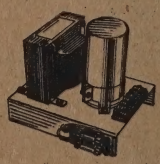
BATTERY ELIMINATOR— 12 VOLT DC POWER SUPPLY



Model BE12. Designed especially to drive auto radios, stereos, tape decks and cassettes requiring up to 1.8 amps. AC input: 105 to 125 volts, one-phase 60 Hz. DC output voltage 13.0 volts floating; current, 1.8 amps. Regulation line, ±2%; load ±6%. Ripple is 0.1% or 12 millivolts RMS max. Overload protection: automatic recovery foldback current limiting provides overload and short circuit protection. Operating temperature 0 to 40°C. Weight 1.9 pounds.

Stock No.	D.C. Type Output	1-9	10-24	25-49	50-99
99F1490	BE-12 12V @ 1.8A	38.00	36.00	34.00	32.00

MODEL C214 ECONOMY DC RELAY SUPPLY

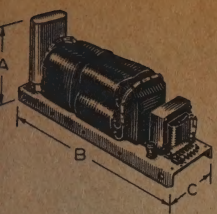


Specially designed for driving relays, solenoids, motors, and other surge type loads. Provides a DC output of 28 volts at 2.5 amperes from 105-125 and 210-250 volts, 57-63 Hertz. One-phase AC input. Regulation: ±2% for line and ±2% for load. Ripple is 0.1% plus ten millivolts RMS. Operating temperature: 0 to 40°C. Can be used up to 70°C with derating. Dimensions: 6.5" high x 5¾" wide x 6.5" long. Weight 5.5 pounds.

Stock No.	Type	1-9	10-24	25-49	50-99
99F1452	C-214	61.00	58.00	55.00	52.00

Power Supplies

TELE-DYNAMICS



PEC SERIES AC LINE CONDITIONER

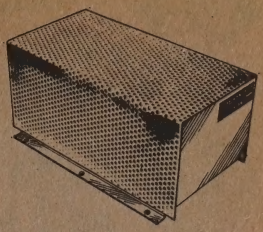
Instant response, 1 μsec transient suppression, noise filter.

Type	Power (VA)	Weight (Lbs.)	Fuse (Amps.)	Dimensions A	B	C
PEC-60	60	9	2	4¼	9	4
PEC-150	150	21	5	6	12	4
PEC-500	500	50	10	5½	17	5
PEC-1000	1000	90	20	7½	17	10¼

Stk. No.	Type	1-24	25-99
99F1364	PEC-60	150.00	135.00
99F1365	PEC-150	210.00	189.00
99F1366	PEC-500	310.00	279.00
99F1367	PEC-1000	650.00	465.00

AC LINE REGULATOR

Provides a solution to problems associated with hot summer season brownouts—when electric companies cut back on power output to some areas. When used to correct low power line voltages, LR series regulators eliminate computer garble, improve instrument accuracy, and prevent overheated motors. Also corrects voltage variations which are the result of inplant conditions when heavy equipment is turned on and off. Response time: 50 ms. Oper. Temp: 0-55°C. AC Output: 115V, 60 Hz.

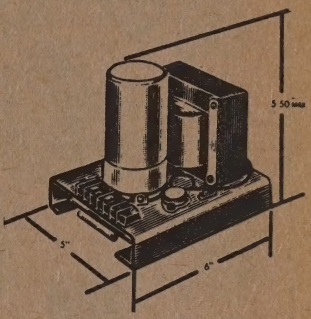


Stk. No.	Type	AC Input	Output Power	Regulation (Load & Line) 0-75% Load	76-100% Load	Wt. (lbs.)	Price 1-24	25-99
99F1349	LR-501	90- 95V, 60 Hz 95-125V, 60 Hz 125-130V, 60 Hz	500VA	±4% to ±7% ±1% ±4% to ±7%	±4% ±1% ±1%	31	250.00	225.00
99F1350	LR-1501	90- 95V, 60 Hz 95-125V, 60 Hz 125-130V, 60 Hz	1500VA	±4% to ±7% ±1% ±4% to ±7%	±4% ±1% ±1%	49	410.00	370.00

OEM SERIES REGULATED POWER SUPPLIES

I-OEM SERIES

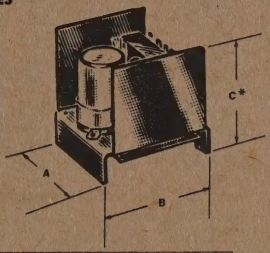
AC input 115/230 volts ±10%, 1-Phase 57 to 63 Hz (derate output current 20% at 50 Hz). Regulation line ±1%; load ±1%. Ripple 0.1% plus 10 mv rms max. Operating temp. 0 to 50°C (to 70°C with derating). Output voltage adjusts ±5%. Wt. 5.5 lbs.



Stk. No.	Type	Output Voltage	Max. Current Rating For Ambient Temperature 50°C	60°C	70°C	Optional Overvoltage Load Fuse Values	1-9	10-24	25-49	50-99
99F1551	I-OEM-5-5	5V	5.0A	3.8A	2.5A	5 AMP	73.00	69.00	66.00	62.00
99F1553	I-OEM-12-5	12V	5.0A	3.2A	2.0A	5 AMP	73.00	69.00	66.00	62.00
99F1556	I-OEM-24-2.5	24V	2.5A	2.2A	1.7A	3 AMP	73.00	69.00	66.00	62.00

II-OEM SERIES

Input and output are through a terminal strip on the open-type construction chassis. Operates from any AC input of 105-125V, 1-Phase, 57-63 Hz. Reg. of ±1% for line and ±1% for load. DC output adjustable 3.6 to 60 volts in four ranges, floating. Wt.: 30W, 5 lbs.; 60W, 7 lbs.; 120W, 12 lbs.



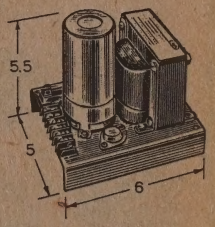
Model	A	B	C
30-OEM	5.0	5.0	5.0
60-OEM	5.0	7.0	5.38*
120-OEM	5.0	10.00	7.00

*7.0 for 60-OEM-4

Stock No.	Power Group	Type	DC Output	1-9	10-24	25-49	50-99
99F1352	30 Watts or 2.5 Amps Max.	30-OEM-1	3.6 to 9V	61.00	58.00	55.00	52.00
99F1353		30-OEM-2	9 to 17V				
99F1354		30-OEM-3	17 to 30V				
99F1355		30-OEM-4	30 to 60V				
99F1356	60 Watts or 5 Amps Max.	60-OEM-1	3.6 to 9V	69.00	66.00	62.00	59.00
99F1357		60-OEM-2	9 to 17V	69.00	66.00	62.00	59.00
99F1358		60-OEM-3	17 to 30V	69.00	66.00	62.00	59.00
99F1359		60-OEM-4	30 to 60V	80.00	76.00	72.00	68.00
99F1360	120 Watts or 10 Amps Max.	120-OEM-1	3.6 to 9V	113.00	107.00	102.00	96.00
99F1361		120-OEM-2	9 to 17V				
99F1362		120-OEM-3	17 to 30V				
99F1363		120-OEM-4	30 to 60V				

III-OEM 60 SERIES

- **Response Time 25 μsec**
- **0 to 50°C (to 70°C with derating)**
- **Weight 5.5 lbs.**

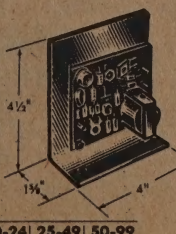


AC Input 105-125/210-250V, 1-phase, 57-63 Hz. Voltage 5 to 28 volts, floating. Current, 60 watts or 5 amps. Regulation line ±0.1%; load, ±0.1%. Ripple, 0.01% or 1 mv rms max. Overload protection by adjustable current limiting, factory set at 120%. Overvoltage protection: adjustable, crowbar type, factory set at 120%. Controls: Output voltage adjust ±2%; current limit adjust: overvoltage adjust. Operating temperature 0 to 50°C (to 70°C with 2%/°C derating from 50°C). Weight, 5.5 lbs.

Stock No.	Type	DC Output	1-9	10-24	25-49	50-99
99F1477	III-OEM-5.5	5V, 5A	94.00	89.30	84.60	79.90
99F1478	III-OEM-12-5	12V, 5A				
99F1497	III-OEM-15-4	15V, 4A				
99F1479	III-OEM-24-25	24V, 2.5A				

CVR-120 AC LINE REGULATOR

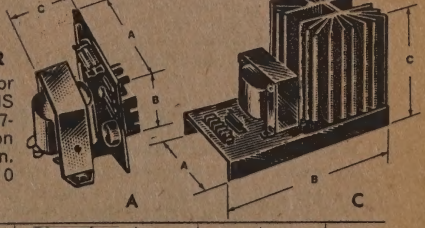
Symmetrically clips peaks of unregulated input voltage to produce a constant peak to peak output waveform. Response time: 10-50 μsec. Input: 100-130VAC, 47-420 Hz. Output: 270V p-p. Regulation: 1%. Power out: 120VA.



Stk. No.	Type	1-9	10-24	25-49	50-99
99F1512	CVR-120	34.00	32.50	30.50	29.00

CLIP-AC™ AC VOLTAGE REGULATOR

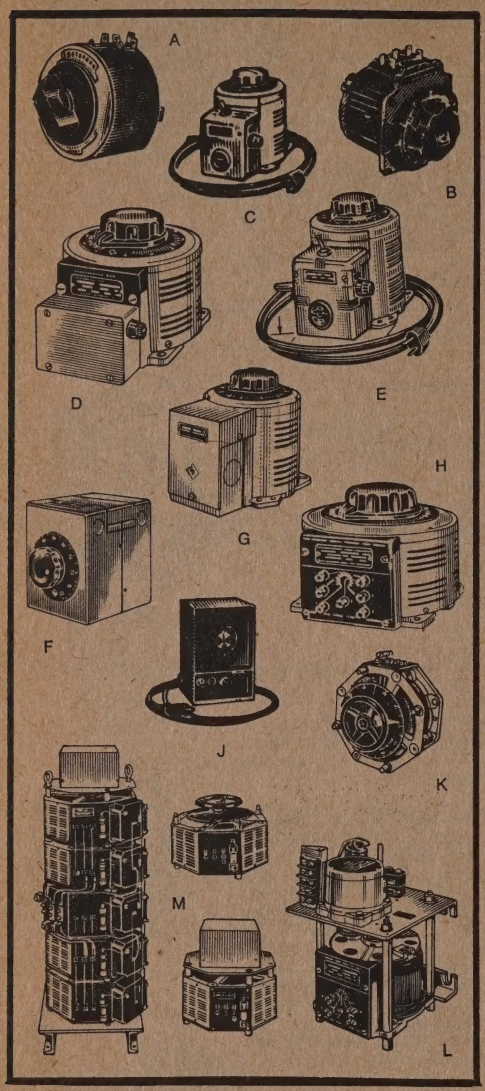
Both load and line regulator. Good for photo-optical applications where RMS regulated power is required. 100-130V, 47-420Hz input. Line and Load regulation ±0.5%. ±0.5% power factor regulation. Response time 10-50 μsec. Oper. Temp: 0 to 50°C.



Stk. No.	Type	Fig.	Power (VA)	Weight (lbs.)	Fuse (A)	Dimensions HxWxD	1-9	10-24	25-49	50-99
99F1394	C3003	A	30	1.5	0.4	3"x4"x2⅛"	55.00	52.50	49.50	47.00
99F1396	C3012	.....	120	3.2	1.5	3¼"x4½"x4"	70.00	66.50	63.00	59.50
99F1398	C3050	C	500	10.25	6	5"x6.12"x10.88"	160.00	152.00	144.00	136.00

Superior Electric Variable Transformers

POWERSTAT® VARIABLE TRANSFORMERS



Epoxy-coated coils. An average of 20% higher current ratings; 10:1 greater overload capability; longer life; greater resistance to fungus, salt spray and other contaminating atmospheres. Commutator bars imbedded in place to prevent steady-state operating temperature and severe overloads from distorting the commutator. Designed to deliver continuously adjustable voltage from AC power lines. No waveform distortion. Precious metal plated commutators. Excellent regulation. High efficiency. Conservative ratings. All manually operated types listed below except the 10B-12 are available with motor drives. 1156D-1256D series types are available in ratings to 244 KVA. Contact Newark for details.

Stock No.	Type No.	(†) Fig.	Input Volts	Output Volts	Max. Amps	Max. KVA	Net Each
05F800	10B	A	120	0-132	2.25	.30	16.75
79W050	L10B	J	120	0-132	1.75	.23	38.60
05F809	21	B	120	0-140	5		25.60
79W051	L21	J	120	0-140	4.5	.63	49.10
05F807	116BU	B	120	0-140	10	1.4	33.70
05F801	116B	C	120	0-140	10	1.4	45.50
79W052	116BT	G	120	0-140	10	1.4	45.00
05F1271	L116B	J	120	0-140	10	1.4	59.50
79W053	EN116B	F	120	0-140	8	1.1	68.50
05F857	3PN116B	C	120	0-140	10	1.4	52.50
79W054	VS3PN116B	E	120	0-140	10	1.4	104.70
05F743	117BU	B	120	0-120	12	1.4	36.20
05F839	117BT	G	120	0-120	12	1.4	46.80
79W055	EN117B	F	120	0-120	10	1.2	71.10
05F740	3PN117B	C	120	0-120	12	1.4	59.20
05F767	126U	B	120	0-140	15	2.1	61.70
79W056	126	D	120	0-140	15	2.1	68.60
79W057	3PN126	E	120	0-140	15	2.1	86.60
79W058	F126	D	120	0-140	15	2.1	82.10
06F158	136BU	B	120	0-140	22	3.1	89.80
05F812	136B	H	120	0-140	22	3.1	97.20
05F699	3PN136B	E	120	0-140	22	3.1	125.90
79W059	146U	B	120	0-140	30	4.2	144.60
05F1232	146	H	120	0-140	30	4.2	155.80
05F808	1156D	M	120	0-140	50	7.0	230.60
79W060	1156DU	K	120	0-140	50	7.0	225.90
**	M1156D	M	120	0-140	50	7.0	
05F1229	12	A	240*	0-240	.7	.17	26.80
05F895	22	B	240*	0-280	2.25	.63	37.40
05F672	216BU	B	240*	0-280	3.5	.98	40.50
05F802	216B	C	240*	0-280	3.5	.98	54.20
79W061	3PN216B	C	240*	0-280	3.5	.98	61.70
06F159	3PN217B	C	240*	0-240	5	1.2	63.00
05F769	226U	B	240*	0-280	7.5	2.1	61.70
05F768	226	D	240*	0-280	7.5	2.1	68.60
79W062	3PN226	E	240*	0-280	7.5	2.1	88.20
05F813	236B	H	240*	0-280	10	2.8	97.20
05F623	F236B	H	240*	0-280	10	2.8	116.90
06F160	3PN236B	C	240*	0-280	10	2.8	125.90
06F161	236BU	B	240*	0-280	10	2.8	89.80
79W063	246U	B	240*	0-280	15	4.2	144.60
05F1234	246	H	240*	0-280	15	4.2	155.80
79W064	F246	D	240*	0-280	15	4.2	171.90
05F806	1256D	M	240*	0-280	28	7.8	230.60
79W065	1256DU	K	240*	0-280	28	7.8	218.20
79W066	MB1256D	M	240*	0-280	28	7.8	200.00

(†) Figures are approximate. Contact Newark for exact details. (*) All 240 volt units except Types 12 & 22 can be operated with 120 or 240 input but output current must then be derated. Contact your local Newark field office for details. (**) Contact Newark for information.

L Type. Meets OSHA. Equipped in grounded NEMA cord-plug assembly, on-off switch, pilot light, grounded output receptacle, fuse. Type 116B has integrally designed nonprojecting handle. Recessed panel controls. Rear slots accept wall hanger brackets. Type L21 & L116B have Powerkote coils.

VS Type. Accuracy of ±3% full scale. Single units in 116B-216B thru 146-246 series available with knobs having direct-reading voltmeters. Can measure load voltage without need for installation of separate voltmeters. Voltmeter remains stationary as knob rim is turned to vary voltage.

EN Type. Enclosed in cast aluminum & aluminum sheet dust-tight housing. Benchwall, floor, back or front or panel mounted. Knockout on each side of each end section for cable/conduit wiring. Can be connected to allow either clockwise or counter-clockwise knob rotation to vary output voltage.

M Type. Compact, integral motor drive unit mounted on top of assembly. Same electrical ratings as manual counterparts. Operates on 120 volt, 50/60 Hz single phase. Speeds of 5, 15, 30 and 60 secs at 60 Hz. Adjustable limit switches at lower and upper limits of travel. Knockouts on screened models.

Note. For complete listing of single & 3 phase Powerstat Variable transformers contact local Newark sales office or Superior direct.

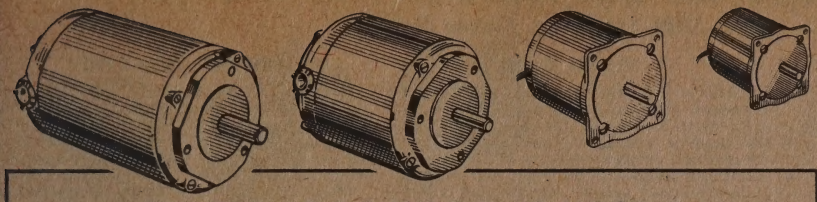
STABILINE AUTOMATIC VOLTAGE REGULATORS

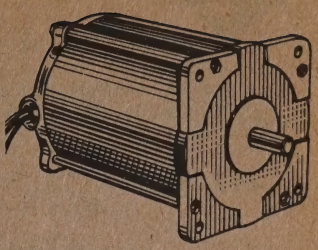
Instanteous electronic solid state with extremely fast correction, no moving parts. Maintains output voltage within 100 millivolt rms band for any combination of rated input voltage and/or load from 1.0 to 0 power factor lagging. Efficiency to 95%. All units have provision for remote sensing and have plug-in solid state circuit boards. Contact your local Newark sales representative for complete information on Superior Electrics line of automatic voltage regulators.

IES SERIES

Stock No.	Type No.	Volts Out	Volts Out Adj.	Volts In	Amps Out	KVA Out	Net Each
06F127	IES9101B	115	110-120	95-135	8.7	1.0	649.00
06F128	IES9103B	115	110-120	95-135	26.1	3.0	999.00
06F129	IES9106B	115	110-120	95-135	52.2	6.0	1151.00
79W067	IES9206B	230	220-240	195-255	26.1	6.0	1274.00

Superior Electric Motors





SLO-SYN AC SYNCHRONOUS MOTORS WITH DESIGNER SPECIFIED FEATURES

Permanent magnet AC motors with extremely rapid starting, stopping and reversing characteristics. Slow basic shaft speed of 72 rpm synchronous with line frequency of 60 Hz. Three lead types need only single-pole, 3 position switch for complete forward, reverse and off control. Nearly identical starting/operating current. Can be completely stalled without overheating. Starts or stops in less than 5° of shaft rotation. No need for mechanical or electrical braking. Can remain coupled to load and safely overdriven when used with auxilliary high speed motor. Phase shifting resistor and capacitor must be used when operating from single-phase source, but not from two-phase. Rated for cont. duty at max. ambient temp. of 65°C.

- **Brushless Construction**
- **Bi-Directional**
- **Constant Speed**
- **Instant Start, Stop**
- **Stallable**

Stock No.	Type	Max. Amps	Torque (Oz.-In.)	Inertia Momentum (Lbs.-In.)	Phase-Shifting Components: Resistor ±5% tol.	Phase-Shifting Components: Capacitor µF ±6% @ 330VAC	Motor Net	Weight Shpg.	Over-hang (Lbs.)	(Lbs.) Thrust	Each
79W082	LS50*	0.2	40	0.50	1000, 10 W	1.50	4¼	5¾	15	25	167.99
05F2186	TS25†	0.2	25	0.12	200, 25 W	1.75	2	2½	8	10	102.72
06F143	TS50†	0.3	50	0.25	300, 25 W	3.75	4¾	5¾	15	25	93.09
06F134	SS25#	0.1	24	0.15	500, 5 W	0.75	1¼	1½	8	10	69.55
05F847	SS50#	0.3	50	0.50	400, 25 W	2.25	3	3½	15	25	59.92
24F1646	SS50-1268#	0.3	80	0.5	400, 25 W	2.25	3	3½	15	25	59.92
05F844	SS150#	0.4	150	1.5	250, 25 W	3.75	6½	8	25	50	71.69
05F2180	SS250#	0.6	250	30.0	150, 50 W	6.50	6½	8	25	50	98.44
05F2183	SS400#	0.6	400	4.50	150, 50 W	6.50	12¼	13¾	25	50	155.15
24F1647	SS400-1101#	1.0	700	10.0	150, 50 W	11.0	14	15½	25	50	159.43
05F2182	X1000#	3.0	1000	9.0	65, 160 W	30.0	31	33	50	100	304.95
05F2185	X1500#	3.0	1500	12.0	55, 375 W	30.0	38	42	50	100	337.05
05F2184	SS1800#	4.0	1800	16.0	40, 375 W	60.0	45	50	50	100	413.02

(*) 120V, 50/60 HZ, 1 phase, 28.8rpm @ 60 Hz. (†) 120V, 50/60 Hz, 1 phase, 200rpm @ 60 Hz. (#) 120V, 50/60 HZ, 1 phase, 72rmp @ 60 Hz.

SPECIAL TYPES

A number of SLO-SYN motors are available for AC applications requiring special features or where operation under severe conditions is required. Many special types available from stock. Remainder can be supplied subject to normal production/delivery time. A setup charge may apply.

Militarized—Planetary Gear—Dust—Ignition Proof—Nuclear Radiation Resistant—Double End—Enclosed Resistor/Capacitor—High Temperature—Limited Vacuum.

UL LISTED

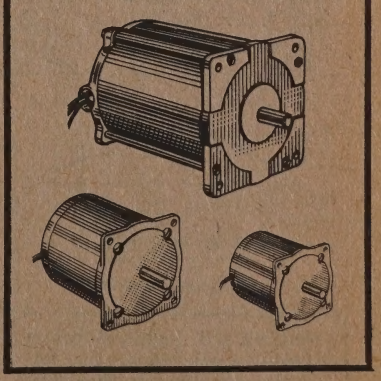
Standard, planetary gear and double end shaft models of the TS25, TS50, LS50, SS25, SS50, SS150, SS250 and SS400 motors can be supplied for applications requiring UL listing. These are identified with letter U suffix on type numbers. Are identical to corresponding non-listed motors. Listed under UL file number E31544.

SLO-SYN STEPPING MOTORS

- **Wide Range of Sizes and Torques**
- **Highest Torque to Inertial Ratios**
- **High Stepping Rates**
- **Fast Single-Step Response**

Permanent magnet rotors and eight-pole stators. No brushes, ratchets or detents. Shielded ball bearings insure reliability and long life. Motor shaft advances 200 steps per revolution (1.8° per step). 400 steps per revolution (0.9° per step) in the half-step mode. Current is maintained on the motor windings when the motor is not being stepped to provide a high holding torque. Six-lead motors are standard. Can be used as five-lead motor. Accuracy ±5% noncumulative.

Stock No.	Type No.	DC Volts	Amps per Wndg.	Torque (Oz.-In.)	Holding Torque	Res. Torque	Rotor Inertia (Lb.-In.)	Shaft Dia. (")	Overhang (Lb.)	Thrust Load (Lb.)	Net Wt. (Lb.)	Each
79W083	M112-326	1.8	12.7	840	1125	30	2.75	.500	25	50	14½	245.70
79W084	M112-FD12	3.6	6.1	840	1125	30	2.75	.500	25	50	14½	245.70
05F2203	M112-FJ12	3.6	6.1	840	1125	30	2.75	.500	25	50	14½	245.70
79W085	M112-FD08	5.7	3.8	840	1125	30	2.75	.500	25	50	14½	245.70
79W086	M112-FJ08	5.7	3.8	840	1125	30	2.75	.500	25	50	14½	245.70
05F2200	M093-FD11	2.8	5.5	300	450	15	0.64	.375	25	50	7¾	111.30
79W087	M093-FD07	4.5	3.5	300	450	15	0.64	.375	25	50	7¾	110.25
05F2199	M092-FD09	2.5	4.5	200	300	10	0.42	.375	25	50	5½	86.10
79W088	M092-FD08	3.0	4.0	200	300	10	0.42	.375	25	50	5½	85.05
79W089	M091-FD308	8.0	0.85	110	150	5	0.23	.375	25	50	3¼	75.60
05F2198	M091-FD09	1.8	4.7	110	150	5	0.23	.375	25	50	3¼	76.65
05F2197	M091-FD06	2.9	3.1	110	150	5	0.23	.375	25	50	3¼	76.65
05F2196	M063-FD09	2.2	4.6	100	150	10	0.11	.250	15	25	2¾	116.55
05F2195	M063-FD06	3.4	2.9	100	150	10	0.11	.250	15	25	2¾	116.55
05F2194	M062-FD09	1.7	4.7	65	100	8	0.08	.250	15	25	2	97.65
79W090	M062-FD03	5.3	1.6	65	100	8	0.08	.250	15	25	2	96.60
05F2192	M061-FD08	1.3	3.9	35	53	5	0.04	.250	15	25	1¼	81.90

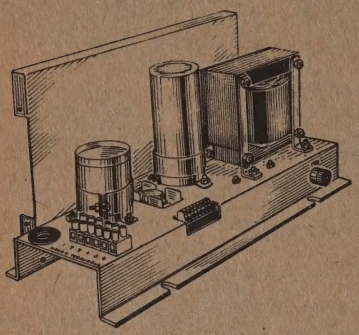


DESIGNER SPECIFIED FEATURES: Reliability (Billion Cycle) • Controllability • Variability • Repeatability • Positionability • Programmability

Superior ELECTRIC Motor Drives

SLO-SYN Stepping Motor Drives

MPS1000 POWER SUPPLY FOR STM101 AND PIM151



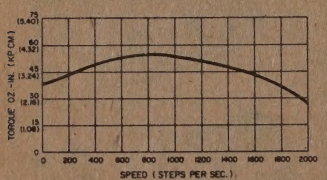
- **Input Voltage: 120, 60 Hz**
- **Output Voltages: 24VDC @ 6A**
  5VDC @ 1A
- **Oper. Temp.: 0 to 50°C, Free Air**
- **Size: 17″ long x 8″ high x 7″ wide**
- **Weight: Approx. 20 lbs.**

Chassis mounted power supply provides required voltage and current to operate STM101 Translator or PIM151 Preset Indexer. Provisions are made for physical mounting and interconnection of these modules. Six terminals are provided for motor leads, three for 120 VAC and ground, and eight for interconnections. Assures operation to specifications of STM101, PIM151 and all motors listed on this page.
05F831 .....NET 145.00

STEPPING MOTORS

For use with STM101 and PIM151 when combined with the MPS1000 per the charts on this page.

Stk. No.	Type	Each
05F2192	M061-FD08	81.90
79W090	M062-FD03	96.60
05F2195	M063-FD06	116.55
05F2197	M091-FD06	76.65
79W088	M092-FD08	85.05
79W087	M093-FD07	110.25
79W086	M112-FJ08	245.70

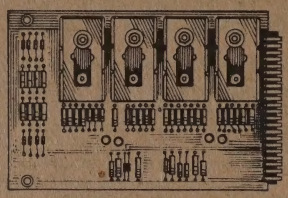


M062-FD03 MOTOR

Models with higher stepping speeds are available for other applications. See your local **NEWARK** facility for specific details on **Superior** products.

TRANSLATORS

Receive low-level signal pulses or square waves supplied by external sources and convert them into the proper switching sequence needed to drive SLO-SYN motors in steps. Translators drive motors one step for each pulse received and are incapable of counting pulses, requiring an external source for this information.



TYPE STM101 SLO-SYN TRANSLATOR MODULE

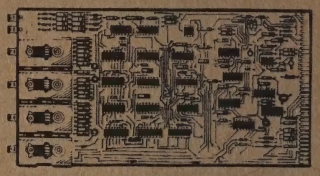
PC board contains logic elements for bi-directional control of SLO-SYN stepping motors. Separate 24VDC power supply (not supplied) is required. Triggered from an external pulse source or from internal oscillator. Motor driven one step for each pulse received. External pulse operation requires pulse width of 10 μs, 5VDC negative voltage change, and 1 μs rise and fall time.
05F829 .....NET 85.00

SPECIFICATIONS

Board Dimensions.....4¼″ x 6½″
Edge Connector (supplied).....Amphenol 22 pin
Power Supply.....24VDC 6 amperes
Temp. Range .....(oper.) 0-40°C (store) −55 to +85°C
Internal Osc. Range.....4-1000 pulses/s
Oscillator Stability .....±5%
Speed Control .....single-turn, linear potentiometer
External Pulse Req. ....amp: 5VDC negative going width: 10 μs, min. rise time: 1 μs, max.
Motor Compatibility .....**M061** thru **M112** (using series res.)
Stepping Mode.....full step

PRESET INDEXERS

Used to control indexing of SLO-SYN stepping motors. Provide count, direction and distance information from a single switch closure or pulse. Internal oscillators provide the necessary pulses and counting circuits assure that the motors are driven the correct number of steps. Some models can be directed by computer or by remote switches.



TYPE PIM151 SLO-SYN PRESET INDEXER MODULE

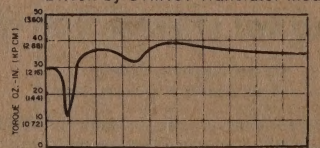
Has internal oscillators to provide the pulses and counting circuits to assure that motors are driven correct number of steps. PC board module contains preset indexer logic circuits, but not power supply and cabinet. Selection of number of steps motor is driven can be done with external BCD logic switches. Other externally controlled functions include Index, Start, Run and Jog. Count Complete signal is generated upon completion of motion.
05F830 .....NET 265.00

SPECIFICATIONS

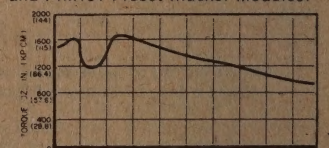
Board Dimensions.....5¾″ x 11
Edge Conn. (supplied).....Elco 36-pi
Power Supply .....24VDC, 6 amperes 5VDC, 1 amper
Temp. Range .....(oper.) 0-40°C (store) −55 to +88°C
Internal Osc. Range.....4-1000 pulses/
Speed Control..... single turn po
Acceleration Rate .....6000 steps/s
Deceleration Rate .....6000 steps/s
External Functions .....Index Start, Run Count Complete Sig
Count Insertion.....ext. BCD log. sw
Maximum Count .....99,999 step
Motor Compatibility ...**M061-M112** motor
Stepping Mode .....full ste

SPEED vs. TORQUE CURVES — STEPPING MOTORS

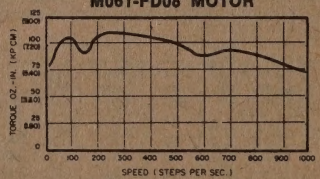
Driven by STM101 Translator Modules — and PIM151 Preset Indexer Modules.



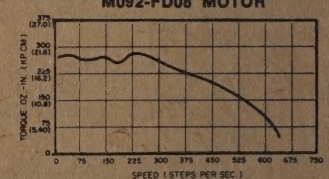
M061-FD08 MOTOR



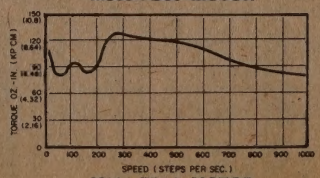
M092-FD08 MOTOR



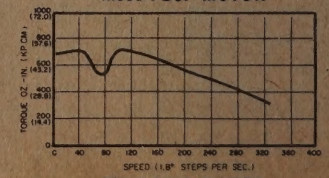
M063-FD06 MOTOR



M093-FD07 MOTOR



M091-FD06 MOTOR



M112-FJ08 MOTOR

Motors

hurst

SERIES PC-DA

Continuous duty reversible synchronous motor, 120 oz-in at 1 RPM. Positive clutch and instantaneous brake stops the shaft rotation within .2° at 1 RPM and 12° at 60 RPM. Starting time for the shaft is within 20 msec. Capacitor included. Ship. Wt. 1 lb. 5 oz.

Stk. No.	Type	RPM	1-4	5-9	10-24	25-49
24F1471	PC-DA-1	1	32.02	28.82	27.38	26.00
24F1582	PC-DA-2	2				
24F1472	PC-DA-4	4				
24F1473	PC-DA-6	6				
24F1474	PC-DA-10	10				
24F1583	PC-DA-12	12				
24F1475	PC-DA-30	30				
24F1476	PC-DA-60	60				

SERIES DA

Continuous duty synchronous motor, 150 in. oz. at 1 RPM. Instantly reversible with SPDT switching. Accurate both clockwise and counter clockwise. Capacitor included. Dimensions: 2½" dia. x 1¾" depth. Shaft of stainless steel 3/16" dia. x 1" long flatted. 60 Hz. 95/130V, 5 watts. Ship. Wt. 14 oz.

24F1456	DA-1	1	23.16	20.86	19.80	18.83
24F1580	DA-2	2				
24F1457	DA-4	4				
24F1458	DA-6	6				
24F1459	DA-10	10				
24F1581	DA-12	12				
24F1461	DA-60	60				

SERIES AR-DA

100 inch-ounce, reversible, high accuracy both clockwise and counter-clockwise. Operates as an automatic reset motor when a return spring is attached to the output shaft. When clutch is de-energized, the shaft is free for manual or automatic reset. Maximum error in seconds, 15625 divided by the rpm. Case: 2½x2⅛" dia. Clutch actuator, ⅞"H x 1⅜"W. Ship. Wt. 1½ lbs.

Stk No.	Type	RPM	1-4	5-9	10-24	25-49
24F3550	AR-DA 1	1	37.76	34.12	32.31	30.68
24F3551	AR-DA 4	4				
24F3552	AR-DA 6	6				
24F3553	AR-DA 10	10				
24F3555	AR-DA 60	60				

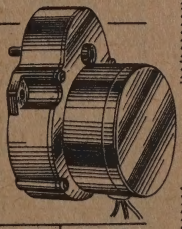
SERIES CA

Instantly reversible with SPDT switching. 100 inch-ounce torque rating at 1 RPM. Case dimensions, 2½" dia. x 2⅛". Shaft, 3/16" dia. x 1" long flattened. Ship. Wt. 1 lb. 2 oz.

24F1584	CA-½	½	20.86	18.76	17.83	16.95
24F1494	CA-1	1				
24F1585	CA-2	2				
24F1495	CA-4	4				
24F1496	CA-6	6				
24F1497	CA-10	10				
24F1586	CA-15	15				
24F1498	CA-30	30				
24F1499	CA-60	60				

MODEL A SYNCHRONOUS MOTOR

- **Reversible**
- **Fast Start/Stop**

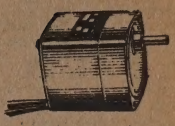


Instrument grade motor is suitable for numerous types of application: chart drives, computer terminal and peripheral equipment, card readers and medical instrumentation. Rotor torque: 2.3 oz.-in. @ 300 rpm. "Drop in" replacement for pear shaped gear cut motors. Die cast gear housing. Perm. mag.

Stk. No.	Type	RPM	1-4	5-9	10-24	25-49
24F3528	3002-001	1	21.19	19.88	18.77	17.66
24F3529	3002-003	2				
24F3530	3002-005	4	20.15	19.01	17.96	16.90
24F3531	3002-007	6				
24F3532	3002-008	8				
24F3533	3002-009	10				
24F3534	3002-010	12				
24F3535	3002-013	20	19.24	18.15	17.15	16.14
24F3536	3002-015	30				
24F3537	3002-016	60				
24F3538	3002-020	120				
24F3539	3001-001	300*	14.44	13.45	13.09	11.90

*Direct drive.

MODEL T

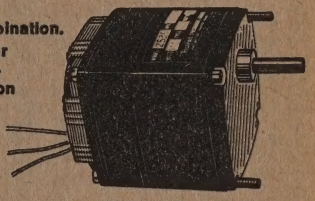


Permanent magnet synchronous reversible instrument motor. Specs: Gear train loading: 250 oz. in. @ 1 RPM. Heat rise: 40°C F.L. Voltage: 115 VAC. Freq: 60 Hz. Power input: 8½ watts. Rotation: reversible fast start/stop. Rotor speed: 300 RPM (synchronous). Torque (@ 300 RPM): 8 in. Capacitor included. Dim.: 2 17/32" x 2⅜" dia. Wt. less than 2 lbs.

Stk. No.	Part Number	Speed RPM	Rated Output Torque	1-4	5-9	10-24	25-49
24F1500	2602-001	1	250	39.13	36.95	34.77	32.60
24F1501	2602-004	2	233	37.10	35.04	32.98	30.92
24F1502	2602-012	4	218				
24F1503	2602-013	6	210	35.34	33.40	31.43	29.46
24F1504	2602-006	10	168				
24F1505	2602-014	30	64				
24F1506	2602-009	60	32				
24F1507	2602-015	120	16				
24F1508	2601-001	300	8	23.29	20.99	20.69	19.40

K-det SERIES INSTRUMENT MOTORS

- **"Heli-Spur" Gearing Combination.**
- **"Drop-In" Replacement for Other Motors of This Type.**
- **No Maintenance Lubrication Required.**



Designed for continuous duty applications requiring exceptional reliability, compact size and high output torque. Sealed ball bearings on rotor shaft. Stainless steel output shaft is supported by bronze inboard and output bearings with axial thrust provisions. "Heli-Spur" gearing combination consists of a "helical" primary gear stage and a "spur" secondary gear stage. Torque: 250 oz.-inch @ 1 rpm. Shaft: stainless steel ¼" dia. x 1" length, flatted (geared models). Direct drive: 3/16" dia. ⅝" length. Power: 115V 60Hz. Temp. rise: 40°C. Mounting: 2 of 4 frame screws on geared motors are extended for face-to-face mounting. Capacitor included.

MODEL KN (NORMAL SLIP-NONSYNCHRONOUS)

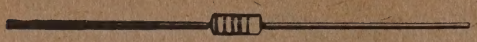
Stk. No.	Type	Lgth. (In.)	Torque (In-Oz.)	RPM	1-4	5-9	10-24	25-49
24F3540	2472-591	2 17/32	250	0.9	54.64	50.84	49.80	45.27
24F3541	2472-592	2 17/32	220	1.9				
24F3542	2472-593	2 17/32	205	2.8				
24F3543	2472-596	2 17/32	178	5.5	56.51	52.61	51.50	46.82
24F3544	2482-599	3 1/32	160	8.8				
24F3545	2482-603	3 1/32	150	13				
24F3546	2482-609	3 1/32	125	22	55.24	51.44	50.34	43.18
24F3547	2482-611	3 1/32	105	26				
24F3548	2482-613	3 1/32	54	52				
24F3549	2492-615	2⅞	35	86	52.12	48.51	47.50	27.56
24F3556	2492-616	2⅞	24	130				
24F3557	2492-618	2⅞	12	260				
24F3558	2462-590	2⅞	2.4	1550	34.40	31.83	30.32	24.07

MODEL KS (RELUCTANCE SYNCHRONOUS)

Stk. No.	Type	Lgth. (In.)	Torque (In.-Oz.)	RPM	1-4	5-9	10-24	25-49
24F1509	2422-535	2 17/32	250	1	54.64	50.84	49.80	45.27
24F1510	2422-563	2 17/32	200	1.5				
24F1511	2422-536	2 17/32	150	2				
24F1512	2422-537	2 17/32	100	3				
24F1513	2422-538	2 17/32	85	4				
24F1515	2422-541	3 1/32	95	6	56.51	52.61	51.50	46.82
24F1517	2432-543	3 1/32	72	10				
24F1519	2432-547	3 1/32	48	15				
24F1521	2432-553	3 1/32	29	25	55.24	51.44	50.34	45.76
24F1523	2432-555	3 1/32	27	30				
24F1524	2432-557	3 1/32	15	60				
24F1525	2442-559	2⅞	8.9	100	52.12	48.51	47.50	27.56
24F1526	2442-560	2⅞	5.9	150				
24F1527	2442-561	2⅞	4.4	200				
24F1528	2442-562	2⅞	2.9	300				
24F1529	2412-588	2 1/16	0.6	1800	34.40	31.83	30.32	24.07

Nytronics Fixed and Variable Inductors

DECI-DUCTOR



Subminiature inductor. Designed to meet all the environmental specifications of MIL-C-15305C, Grade 1, Class B. Inductance tolerance: ± 10% over entire range. Dielectric strength: 700 volts RMS at sea level. Operating temp.: −55°C to +125°C. 10 Hz to 2000 Hz @ 15G ± 10% maximum for 12 logarithmic swings each of 20 minute duration repeated for each of three mutually perpendicular planes Shock: 50G, 11 MS. Density characteristics: volume 0.002 cubic inches. Weight 0.35 grams. Dimensions: 0.100" diameter by 0.250" length. Inductance range: 0.10 μH to 1000 μH. One hundred fit in one-square inch space. Epoxy-molded reliability and uniformity.

PRICE LOCATOR

μH Range	1-24	25-49	50-99	100-249
.10-1.0	1.16	.78	.56	.43
1.2-27	1.26	.84	.60	.47
33-100	1.92	1.28	.92	.70
120-1000	2.32	1.55	1.11	.85

Stk. No.	Type DD-	μH	QMin @ MC		Stk No.	Type DD-	μH	QMin @ MC	
35F1845	0.10	.10	40	25	35F1870	12.0	12.0	45	2.5
35F1846	0.12	.12	40	25	35F1871	15.0	15.0	47	2.5
35F1847	0.15	.15	38	25	35F1872	18.0	18.0	50	2.5
35F1848	0.18	.18	38	25	35F1873	22.0	22.0	50	2.5
35F1849	0.22	.22	35	25	35F1874	27.0	27.0	50	2.5
35F1850	0.27	.27	35	25	35F1875	33.0	33.0	50	2.5
35F1851	0.33	.33	32	25	35F1876	39.0	39.0	50	2.5
35F1852	0.39	.39	32	25	35F1877	47.0	47.0	50	2.5
35F1853	0.47	.47	32	25	35F1878	56.0	56.0	50	2.5
35F1854	0.56	.56	32	25	35F1879	68.0	68.0	52	2.5
35F1855	0.68	.68	33	25	35F1880	82.0	82.0	52	2.5
35F1856	0.82	.82	30	25	35F1881	100	100	50	2.5
35F1857	1.00	1.00	30	25	35F1882	120	120	28	0.79
35F1858	1.20	1.20	30	7.9	35F1883	150	150	28	0.79
35F1859	1.50	1.50	32	7.9	35F1884	180	180	28	0.79
35F1860	1.80	1.80	35	7.9	35F1885	220	220	26	0.79
35F1861	2.20	2.20	35	7.9	35F1886	270	270	26	0.79
35F1862	2.70	2.70	37	7.9	35F1887	330	330	26	0.79
35F1863	3.30	3.30	45	7.9	35F1888	390	390	25	0.79
35F1864	3.90	3.90	45	7.9	35F1889	470	470	27	0.79
35F1865	4.70	4.70	45	7.9	35F1890	560	560	27	0.79
35F1866	5.60	5.60	52	7.9	35F1891	680	680	28	0.79
35F1867	6.80	6.80	52	7.9	35F1892	820	820	28	0.79
35F1868	8.20	8.20	60	7.9	35F1893	1000	1000	28	0.79
35F1869	10.0	10.0	60	7.9	....	....	....	....	....

WEE WEE-DUCTOR

This shielded inductor has great inductance-to-size ratio and meets the stringent requirements of MIL-C-15305C, Grade 1, Class B. The smallest shielded inductor for high density circuits. μH range: 0.10 to 10.000. Unique T lead construction used on all values from 1200 μH to 10,000 μH provides excellent reliability in ranges where fine wire sizes are used. Dimensions: 0.133" diameter x 0.335" length. Operating Temperature: −55°C to +125°C. Dielectric strength: 700 volts RMS at sea level. Inductance tolerance: ±10%. Density characteristics: volume, 0.0041 cubic inches: weight 0.50 grams max. To solve special problems in density circuit application.

PRICE LOCATOR

μH Range	1-24	25-49	50-99	100-249
.1-.82	2.57	1.71	1.22	.95
1.0-12	2.93	1.95	1.39	1.07
15-1000	3.47	2.32	1.65	1.27

Stk. No.	Type WEE- WEE	μH	QMin @ MHz		Stk. No.	Type WEE- WEE	μH	QMin @MHz	
35F1894	0.10	.10	42	25	35F1910	47	47	42	2.5
35F1895	0.15	.15	42	25	35F1911	68	68	46	2.5
35F1896	0.22	.22	42	25	35F1912	100	100	43	2.5
35F1897	0.33	.33	42	25	35F1913	150	150	49	0.79
35F1898	0.47	.47	41	25	35F1914	220	220	53	0.79
35F1899	0.68	.68	36	25	35F1915	330	330	57	0.79
35F1900	1.0	1.0	42	25	35F1916	470	470	50	0.79
35F1901	1.5	1.5	38	7.9	35F1917	680	680	56	0.79
35F1902	2.2	2.2	36	7.9	35F1918	1000	1,000	49	0.79
35F1903	3.3	3.3	38	7.9	35F1919	1500	1500	55	0.25
35F1904	4.7	4.7	42	7.9	35F1920	2200	2200	55	0.25
35F1905	6.8	6.8	45	7.9	35F1921	3300	3300	55	0.25
35F1906	10	10	51	7.9	35F1922	4700	4700	55	0.25
35F1907	15	15	45	2.5	35F1923	6800	6800	50	0.25
35F1908	22	22	42	2.5	35F1924	10000	10000	50	0.25
35F1909	33	33	46	2.5	....	....	....	....	....

SUPER WEE-DUCTOR

Ultra reliable molded shielded miniature inductor. Unique T design eliminates fine wire considerations. An R.F. inductor Specially designed to meet the demanding requirements of MIL-C-15305C, Grade 1, Class B. Inductance range: 0.1 μH to 100,000 μH. Inductance tolerance: ± 10% over the entire inductance range. Dielectric strength: 700 volts at sea level. Operating temperature: −55°C to +125°C. Density characteristics: volume 0.0076 cubic inches; weight, 0.75 grams maximum; Shielding: at 1000 Hz two units assembled side by side exhibit less than 3% coupling. Maximum current: based on temperature rise not to exceed 35°C at 90°C ambient. Size: 0.157" dia. x 0.395"L.

SWD—INDUSTRIAL TYPES

PRICE LOCATOR

μH Range	1-24	25-49	50-99	100-249
.1-.82	1.78	1.19	.85	.66
1-12	1.87	1.25	.90	.69
15-8200	2.36	1.57	1.12	.87
10,000-100,000	3.60	2.40	1.72	1.32

Stk. No.	Type SWD-	μH	QMin @ MHz		Stk. No.	Type SWD-	μH	QMin @ MHz	
35F1925	0.10	.10	50	25	35F1961	100	100	52	2.5
35F1926	0.12	.12	51	25	35F1962	120	120	57	.79
35F1927	0.15	.15	51	25	35F1963	150	150	56	.79
35F1928	0.18	.18	50	25	35F1964	180	180	60	.79
35F1929	0.22	.22	49	25	35F1965	220	220	58	.79
35F1930	0.27	.27	47	25	35F1966	270	270	60	.79
35F1931	0.33	.33	46	25	35F1967	330	330	54	.79
35F1932	0.39	.39	44	25	35F1968	390	390	67	.79
35F1933	0.47	.47	44	25	35F1969	470	470	60	.79
35F1934	0.56	.56	43	25	35F1970	560	560	60	.79
35F1935	0.68	.68	42	25	35F1971	680	680	60	.79
35F1936	0.82	.82	40	25	35F1972	820	820	57	.79
35F1937	1.0	1.0	47	25	35F1973	1000	1000	65	.79
35F1938	1.2	1.2	46	7.9	35F1974	1200	1200	45	.25
35F1939	1.5	1.5	45	7.9	35F1975	1500	1500	49	.25
35F1940	1.8	1.8	43	7.9	35F1976	1800	1800	47	.25
35F1941	2.2	2.2	45	7.9	35F1977	2200	2200	50	.25
35F1942	2.7	2.7	46	7.9	35F1978	2700	2700	47	.25
35F1943	3.3	3.3	44	7.9	35F1979	3300	3300	43	.25
35F1944	3.9	3.9	44	7.9	35F1980	3900	3900	43	.25
35F1945	4.7	4.7	44	7.9	35F1981	4700	4700	44	.25
35F1946	5.6	5.6	47	7.9	35F1982	5600	5600	45	.25
35F1947	6.8	6.8	50	7.9	35F1983	6800	6800	43	.25
35F1948	8.2	8.2	50	7.9	35F1984	8200	8200	42	.25
35F1949	10	10	49	7.9	35F1985	10000	10000	39	.25
35F1950	12	12	55	2.5	35F1986	12000	12000	31	.079
35F1951	15	15	44	2.5	35F1987	15000	15000	31	.079
35F1952	18	18	45	2.5	35F1988	18000	18000	31	.079
35F1953	22	22	46	2.5	35F1989	22000	22000	27	.079
35F1954	27	27	49	2.5	35F1990	27000	27000	27	.079
35F1955	33	33	45	2.5	35F1991	33000	33000	27	.079
35F1956	39	39	53	2.5	35F1992	39000	39000	27	.079
35F1957	47	47	52	2.5	35F1993	47000	47000	23	.079
35F1958	56	56	49	2.5	35F1994	56000	56000	23	.079
35F1959	68	68	51	2.5	35F1995	68000	68000	23	.079
35F1960	82	82	45	2.5	35F1996	82000	82000	21	.079
....	....	....	....	....	35F1997	100000	100000	18	.079

MS90537—MILITARY TYPES

PRICE LOCATOR

μH Range	1-24	25-49	50-99	100-249
.1-.82	1.78	1.19	.85	.66
1.-12	1.87	1.25	.90	.69
15-8200	2.36	1.57	1.12	.87
10,000-100,000	3.60	2.40	1.72	1.32

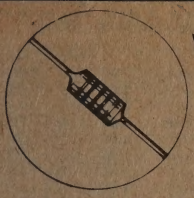
Stk. No.	Type 90537-	μH	QMin @ MHz		Stk. No.	Type 90537-	μH	QMin @ MHz	
35F1998	1	0.10	50	25	35F2016	37	100	52	2.5
35F1999	3	0.15	51	25	35F2017	39	150	56	.79
35F2000	5	0.22	49	25	35F2018	41	220	58	.79
35F2001	7	0.33	46	25	35F2019	43	330	54	.79
35F2002	9	0.47	44	25	35F2020	45	470	60	.79
35F2003	11	0.68	42	25	35F2021	47	680	60	.79
35F2004	13	1.0	47	25	35F2022	49	1000	65	.79
35F2005	15	1.5	45	7.9	35F2023	51	1500	49	.25
35F2006	17	2.2	45	7.9	35F2024	53	2200	50	.25
35F2007	19	3.3	44	7.9	35F2025	55	3300	43	.25
35F2008	21	4.7	44	7.9	35F2026	57	4700	44	.25
35F2009	23	6.8	50	7.9	35F2027	59	6800	43	.25
35F2010	25	10	49	7.9	35F2028	61	10000	39	.25
35F2011	27	15	44	2.5	35F2029	63	15000	31	.079
35F2012	29	22	46	2.5	35F2030	65	22000	27	.079
35F2013	31	33	45	2.5	35F2031	67	33000	27	.079
35F2014	33	47	52	2.5	35F2032	69	47000	23	.079
35F2015	35	68	51	2.5	35F2033	71	68000	23	.079
....	....	....	....	....	35F2034	73	10000	18	.079

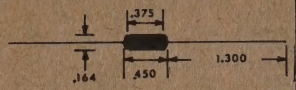
Note—Items not listed in the table of Military Types, but listed in the SWD table above, are available in Military type on special order.

Fixed and Variable Inductors

Nytronics

WEE-DUCTORS





Shielded with high inductance-to-size ratio. Meets environmental requirements of MIL-C-15305C. Grade 1 Class B. Inductance Tolerance; 0.1 to 220 μH ±10%; 27 μH to 1000 ±5%; 1200 μH to 56,000 μH ±10%; 68,000 μH to 180,000 μH ±20%. Dielectric strength; 700 volts RMS. Operating temp; 55°C to +125°C. Density characteristics; volume, 0.0087 cubic inches; weight: 0.75 gram maximum. Shielding; less than 3% coupling with 2 units measured at 1000 cycles.

PRICE LOCATOR

μH Range	1-24	25-49	50-99	100-249
.10-0.82	1.78	1.19	.85	.66
1.0-22	1.87	1.25	.90	.69
27-1000	2.59	1.73	1.24	.95
1200-4700	2.94	1.96	1.40	1.08
5600-56000	3.39	2.26	1.61	1.24
68000-180,000	5.11	3.41	2.43	1.87

Stk. No.	Type WEE-	μH	Q min @ MHz		Stk. No.	Type WEE	μH	Q min @ MHz	
35F2175	0.10	0.10	63	25	35F2192	68	68	40	2.5
35F2176	0.15	0.15	59	25	35F2193	100	100	63	.790
35F2177	0.22	0.22	56	25	35F2194	150	150	63	.790
35F2178	0.33	0.33	48	25	35F2195	220	220	57	.790
35F2179	0.47	0.47	48	25	35F2196	330	330	50	.790
35F2180	0.68	0.68	45	25	35F2197	470	470	66	.790
35F2181	1.0	1.0	42	7.9	35F2198	680	680	71	.790
35F2182	1.5	1.5	41	7.9	35F2199	1000	1000	62	.790
35F2183	2.2	2.2	42	7.9	35F2200	1500	1500	51	.250
35F2184	3.3	3.3	40	7.9	35F2201	2200	2200	50	.250
35F2185	4.7	4.7	40	7.9	35F2203	4700	4700	48	.250
32F2186	6.8	6.8	40	7.9	35F2205	10,000	10,000	36	.079
35F2187	10	10	46	2.5	35F2207	22,000	22,000	32	.079
35F2188	15	15	47	2.5	35F2209	47000	47000	25	.079
35F2189	22	22	47	2.5	35F2211	100,000	100,000	20	.079
35F2190	33	33	43	2.5	35F2212	150,000	150,000	20	.060
35F2191	47	47	46	2.5					

WEE V-L SUBMINIATURE VARIABLE SHIELDED INDUCTORS

Designed for close inductance adjustments in high density circuits. Magnetically shielded. Adjustable range; ±10% for all values shown except 0.10 μH and 0.12 μH which are ±5%. Designed to MIL-C-15305C, Grade 1, class B. Epoxy molded 0.300" dia. x 0.400" length. Oper. temp. -55°C to + 105°C. P.C. board mfg. is facilitated by 0.200 grid spacing.

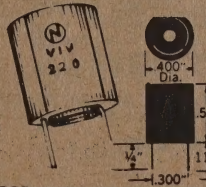
PRICE LOCATOR

μH Range	1-24	25-49	50-99	100-249
.10-.12	13.96	9.30	6.65	5.11
.15-.82	13.66	9.11	6.51	5.00
1.00-820	11.73	7.82	5.58	4.30
1000-22000	15.30	10.20	7.29	5.60
27000-100,000	16.74	11.16	7.97	6.13

Stk. No.	WEE V-L	μ H	MHz	Q Norm	Stk. No.	WEE V-L	μH	MHz	Q Nom.
35F2064	0.10	.10	25	70	35F2098	68	68	2.5	105
35F2066	0.15	.15	25	70	35F2100	100	100	2.5	95
35F2070	0.33	.33	25	80	35F2101	120	120	0.790	95
35F2071	0.39	.39	25	80	35F2102	150	150	0.790	90
35F2072	0.47	.47	25	80	35F2104	220	220	0.790	95
35F2074	0.68	.68	25	80	35F2106	330	330	0.790	100
35F2075	0.82	.82	25	85	35F2107	390	390	0.790	100
35F2076	1.00	1.00	25	85	35F2108	470	470	0.790	100
35F2077	1.2	1.2	7.9	90	35F2110	680	680	0.790	100
35F2078	1.5	1.5	7.9	100	35F2111	820	820	0.790	90
35F2079	1.8	1.8	7.9	115	35F2112	1000	1000	0.790	90
35F2080	2.2	2.2	7.9	110	35F2114	1500	1500	0.250	90
35F2081	2.7	2.7	7.9	110	35F2115	1800	1800	0.250	100
35F2082	3.3	3.3	7.9	90	35F2116	2200	2200	0.250	100
35F2083	3.9	3.9	7.9	90	35F2117	2700	2700	0.250	95
35F2084	4.7	4.7	7.9	95	35F2120	4700	4700	0.250	85
35F2085	5.6	5.6	7.9	95	35F2121	5600	5600	0.250	85
35F2086	6.8	6.8	7.9	85	35F2122	6800	6800	0.250	75
35F2087	8.2	8.2	7.9	95	35F2123	8200	8200	0.250	80
35F2088	10	10	7.9	90	35F2124	10000	10000	0.250	70
35F2089	12	12	2.5	120	35F2125	12000	12000	0.079	70
35F2090	15	15	2.5	120	35F2128	22000	22000	0.079	70
35F2092	22	22	2.5	125	35F2129	27000	27000	0.079	70
35F2093	27	27	2.5	115	35F2130	33000	33000	0.079	70
35F2094	33	33	2.5	120	35F2132	47000	47000	0.079	70
35F2095	39	39	2.5	120	35F2133	56000	56000	0.079	70
35F2096	47	47	2.5	110	35F2136	100000	100000	0.079	60
35F2097	56	56	2.5	115					

Type B-469 Alignment tool for above WEE VL.
35F2214 NET **1.00**

Reliable and stable over extreme temperature variations. Vertical to facilitate mounting on printed circuit boards. 0.40" dia. x 0.50" L. Range; 0.10 to 4700 μH. encapsulated in epoxy resin. Temp;-55°C to +125°C. Tunable range;0.33 to 4700 μH, ± 20%; 0.15 to 0.22 μH, ±15%. Meets MIL-C-15305A specs.



PRICE LOCATOR

μH Range	1-24	25-49	50 99	100-249
.1	8.98	5.98	4.27	3.29
.15-.22	9.34	6.22	4.45	3.42
.33-10	9.53	6.36	4.54	3.49
15-680	9.89	6.60	4.71	3.62
1000-4700	10.39	6.93	4.95	3.80

"VIV" MINIATURE VARIABLE INDUCTORS

Stk. No.	VIV	μH	Q@MHz		Stk. No.	VIV	μH	Q @	MHz
35F2035	0.10	.10	85	25	35F2048	15.0	15.0	65	2.5
35F2036	0.15	.15	100	25	35F2049	22.0	22.0	55	2.5
35F2037	0.22	.22	100	25	35F2050	33.0	33.0	54	2.5
35F2038	0.33	.33	100	25	35F2051	47.0	47.0	51	2.5
35F2039	0.47	.47	100	25	35F2052	68.0	68.0	55	2.5
35F2040	0.68	.68	100	25	35F2053	100	100	50	2.5
35F2041	1.00	1.00	90	25	35F2057	470	470	45	.79
35F2042	1.50	1.50	70	7.9	35F2058	680	680	42	.79
35F2043	2.20	2.20	73	7.9	35F2059	1000	1000	40	.79
35F2044	3.30	3.30	80	7.9	35F2061	2200	2200	44	.25
35F2045	4.70	4.70	75	7.9	35F2062	3300	3300	46	.25
35F2046	6.80	6.80	80	7.9	35F2063	4700	4700	48	.25
35F2047	10.0	10.0	82	7.9					

Type B-305. Aligning tool for VIV variable inductors.
35F2213. NET **1.00**

MAKE NEWARK YOUR DEPENDABLE SOURCE FOR ALL ELECTRONIC PARTS AND EQUIPMENT

J.W. Miller Chokes

FREQUENCY SELECTIVE R.F. CHOKES

Maximum efficiency and highest impedance at specific operating frequencies. Designed to cover the major amateur, industrial and citizens bands and will also operate efficiently at frequencies approximating the recommended frequencies.

Stk. No.	Type	uh	Freq. Mhz	Bulk Packed 1-99	100-249	250-499	500-Up
59F255	RFC-14	84	7-20	2.25	1.65	1.24	1.09
59F256	RFC-21	38.5	15-30	1.86	1.36	1.02	.90
59F258	RFC-50	9.2	30-90	1.41	1.03	.78	.68
59F259	RFC-144	1.72	75-180	1.05	.77	.58	.51

SUB-MINIATURE RF CHOKES

Iron care R.F. chokes designed to meet demand for high reliability, ultra-miniature components. Ideally suited to network and filter design, delay lines, and computer applications. Coils are impregnated with a moisture resistant lacquer; can be fungus-proofed per JAN-T-152 using varnish per MIL-V-173A. Can be encapsulated in epoxy resin to conform to Grade 1, Class B of MIL-C-15305. Wt.: 2oz.

Stock No.	Type	Induct *	Min. Q@F	1-99	100-249	250-499	500-Up
59F212	70F106A1	1.0 uH	41 @ 7.9 MHz	.99	.73	.54	.48
59F213	70F126A1	1.2 uH	45 @ 7.9 MHz	1.32	.97	.73	.64
59F214	70F156A1	1.5 uH	42 @ 7.9 MHz				
59F217	70F276A1	2.7 uH	34 @ 7.9 MHz				
59F218	70F336A1	3.3 uH	40 @ 7.9 MHz	.99	.73	.54	48
59F219	70F396A1	3.9 uH	35 @ 7.9 MHz				
59F220	70F476A1	4.7 uH	43 @ 7.9 MHz				
59F221	70F566A1	5.6 uH	41 @ 7.9 MHz				
59F222	70F686A1	6.8 uH	40 @ 7.9 MHz				
59F224	70F105A1	10 uH	36 @ 7.9 MHz				
59F226	70F155A1	15 uH	52 @ 2.5 MHz				
59F228	70F225A1	22 uH	51 @ 2.5 MHz				
59F230	70F335A1	33 uH	50 @ 2.5 MHz				
59F231	70F395A1	39 uH	48 @ 2.5 MHz				
59F232	70F475A1	47 uH	44 @ 2.5 MHz				
59F233	70F565A1	56 uH	45 @ 2.5 MHz	1.05	.77	.58	.51
59F234	70F685A1	68 uH	42 @ 2.5 MHz				
59F235	70F825A1	82 uH	41 @ 2.5 MHz				
59F236	70F104A1	100 uH	25 @ 2.5 MHz				
59F237	70F154A1	150 uH	47 @ 790 KHz				
59F238	70F224A1	220 uH	46 @ 790 KHz				
59F239	70F334A1	330 uH	41 @ 790 KHz				
59F240	70F474A1	470 uH	35 @ 790 KHz				
59F241	70F684A1	680 uH	37 @ 790 KHz				
59F242	70F824A1	820 uH	33 @ 790 KHz	1.11	.81	.61	.54
59F243	70F103A1	1.0 mh	30 @ 790 KHz				
59F244	70F153A1	1.5 mh	40 @ 250 KHz				
59F245	70F223A1	2.2 mh	40 @ 250 KHz	1.20	.88	.66	.58
59F246	70F333A1	3.3 mh	52 @ 250 KHz	1.23	.90	.68	.59
59F247	70F473A1	4.7 mh	49 @ 250 KHz	1.23	.90	.68	.59
59F248	70F683A1	6.8 mh	51 @ 250 KHz	1.23	.90	.68	.59
59F249	70F823A1	8.2 mh	48 @ 250 KHz	1.50	1.10	.83	.73
59F250	70F102A1	10.0 mh	41 @ 250 KHz	1.50	1.10	.83	.73
59F058	70F252AF	25 mh	59 @ 79 KHz	1.65	1.21	.91	.80
59F060	70F332AF	33 mh	61 @ 79 KHz	1.65	1.21	.91	.80

(*)0.1 to 1.0 μH ±20% 1.1 to 15 μH ±10% over 15 μH ±5%.

HEAVY DUTY HASH CHOKES

A series of relatively high inductance, high current hash filter chokes. Molded powdered iron form. Av. ship. wt. 2 oz.

Stock No.	Type	Uh 20%	Ohms Max.	Amps	Dimensions	1-99	100-249	250-499	500-Up
15F2250	5218	3.35	.010	20	1⅛×1⅜	2.28	1.67	1.25	1.10
15F2251	5219	4.9	.016	15	½×1¼	2.28	1.67	1.25	1.10
15F2252	5220	8.8	.021	10	½×1¼	1.80	1.32	.99	.87
15F2253	5230	4.0	.012	8	⅝×⅞	1.80	1.32	.99	.87
15F2254	5240	40.	.082	3	⅞×1¼	1.80	1.32	.99	.87
15F2255	5248	68.	.954	5	1⅛×1¼	1.89	1.39	1.04	.91
15F2256	5250	100.	.216	2	⅞×1¼	1.89	1.39	1.04	.91
15F2257	5252	125.	.08	3.5	½×1¼	2.25	1.65	1.24	1.09
15F2258	5254	250.	.17	2.5	⅞×1¼	2.25	1.65	1.24	1.09
15F2259	5256	500.	.26	2	⅞×1¼	2.25	1.65	1.24	1.09

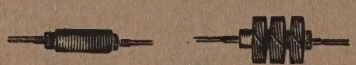
MIL-SPEC MOLDED R.F. CHOKES

Small hermetically sealed, R.F. chokes wound on iron or phenolic cores. Conform to MIL-C15305 Class 7. Designed for uses which require high quality, dependable performance and small sized chokes. Avg. shpg. wt.: 2 oz.

Stock No.	Type No.	MS Type	DC Res. Max.	mA Rtg. Max.	1-99	100-249	250-499	500-Up
15F2260	9310-00	18130-1	.03	2450				
15F2261	9310-02	18130-2	.055	1900				
15F2262	9310-04	18130-3	.09	1400				
15F2263	9310-06	18130-4	.12	1225				
15F2264	9310-07	18130-5	.135	1220				
15F2265	9310-08	18130-6	.15	1100				
59F100	9310-10	18130-7	.22	900				
59F101	9310-12	18130-8	.29	830	.60	.44	.33	.29
15F2266	9310-14	18130-9	.42	650				
15F2267	9310-16	18130-10	.50	600				
15F2268	9310-18	18130-11	.65	525				
15F2269	9310-20	18130-12	.95	435				
15F2270	9310-22	18130-13	1.20	385				
15F2271	9310-24	18130-14	2.00	300				
15F2272	9310-26	18130-15	2.30	280				
15F2273	9310-28	18130-16	2.60	260				
15F2274	9310-30	18130-17	.32	750				
15F2275	9310-32	18130-18	.50	600				
15F2276	9310-34	18130-19	.60	545				
15F2277	9310-36	18130-20	.90	445	.66	.48	.36	.32
15F2278	9310-38	18130-21	1.10	404				
15F2279	9310-40	18130-22	1.40	370				
59F102	9310-42	18130-23	2.25	280				
59F103	9310-44	18130-24	2.50	265				
59F104	9310-46		2.50	265				
15F2280	9310-48	18130-25	2.60	260	.75	.55	.41	.38
15F2281	9310-50		2.80	255				
15F2282	9310-52	18130-26	3.00	250				

Mold Size: .156 ±010 dia; .375 ±010 lgth. Leads: AWG #22 TCW; 1.437 ±188 lgth. Power Rating: .25 Watt max. at 90°C.

RF CHOKES WITH AXIAL LEADS



Iron Core Form - Single Layer Solenoid

Stock No.	Type	Induct.	Ohms Max.	mA	1-99	100-249	250-499	500-Up
59F282	4622	10 uH	.11	1500				
59F283	4624	15 uH	.17	1000				
59F284	4626	24 uH	.34	800				
59F285	4628	39 uH	.65	600	.96	.70	.53	.46
59F286	4629	55 uH	1.0	500				
59F287	4630	62 uH	1.2	475				
59F288	4631	82 uH	1.9	450	1.05	.77	.58	.51
59F289	4632	100 uH	3.0	400				

Phenolic Form—3 Section Pi Winding

59F292	4642	0.10mH	5.4	160	1.20	.88	.66	.58
59F293	4644	0.15mH	6.5	160	1.20	.88	.66	.58
59F294	4646	0.24mH	8.5	160	1.32	.97	.73	.64
59F296	4649	0.55mH	13.0	160	1.62	1.19	.89	.78
59F298	4651	0.75mH	19.0	160	1.62	1.19	.89	.78
59F299	4652	1.00mH	19.0	160	1.65	1.21	.91	.80

Iron Core Form—3 Section Pi Windings

59F302	4662	1.0mH	8.6	160	1.65	1.21	.91	.80
59F303	4664	1.5mH	11	160	1.65	1.21	.91	.80
59F304	4666	2.4mH	15	160	1.65	1.21	.91	.80
59F305	4668	3.9mH	20	160	1.65	1.21	.91	.80
59F309	4672	10.0mH	50	100	2.10	1.54	1.16	1.02

Solenoid or 3-pi universal windings. Impregnated with moisture, fungus resistant varnish. Operation up to UHF. Tol. ±5% exc. Sgl. Layer Phen .1- 1uH-20%, 1.1- 10uH-10%. Dimensions: Phenolic form—⅜" dia, ¾" L. Iron core form ⅞" long; Ferrite core chokes ¼" dia. ⅞" long. Avg Ship. wt.: 2 oz.

Phenolic Form—Single Layer Solenoid

Stock No.	Type	Induct. uH	Ohms Max.	mA	1-99	100-249	250-499	500-Up
59F264	4580	0.1	.017	3000				
59F266	4584	0.22	.020	2800				
59F267	4586	0.33	.024	2600	1.32	.97	.73	.64
59F268	4588	0.47	.034	2500				
59F269	4590	0.68	.036	2400				
59F272	4602	1.0	.050	2000				
59F273	4604	1.5	.093	1800				
59F274	4606	2.4	.190	1500	.84	.62	.46	.41
59F275	4608	3.9	.450	1000				
59F276	4609	5.5	.670	850				
59F277	4610	6.2	.830	700				
59F278	4611	8.2	1.20	600	.84	.62	.46	.41
59F279	4612	10.0	1.50	500				

Ferrite Core RF Chokes-3 Section Pi Windings

59F312	6302	2.5mH	9.0	160	1.62	1.19	.89	.78
59F313	6304	5.0mH	14	160	1.62	1.19	.89	.78
59F314	6306	10.0mH	31	100	1.86	1.36	1.02	.90
59F315	6308	25.0mH	82	65	1.86	1.36	1.02	.90
59F316	6310	50.0mH	127	65	2.10	1.54	1.16	1.02

J. W. Miller-Coils-Chokes

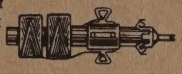
SHIELDED SUBMINIATURE ADJUSTABLE RF COILS

Small Q changes. Tuning adj. from top or bottom. Magnetic and electrostatic shielding. PC terminals, base and shield, ½" sq.×⅜"H. 2 oz.

Stock No.	Type No.	Inductance uh (*mh)	Res. Max.	Max. Ma.	1-99	100-249	250-499	500-Up
15F2311	9050	1.5- 3.0	.66	80				
15F2312	9051	3.0- 7.0	.85	125				
15F2313	9052	7.0-14.0	1.38	80	3.21	2.35	1.77	1.55
15F2314	9053	14.0-28.0	2.10	80				
15F2315	9054	28.0-60.0	3.00	100				
15F2316	9055	60.0-120.0	4.00	100	3.30	2.42	1.82	1.60
12F2317	9056	120.0-280.0	5.75	80				
12F2318	9057	280.0-650.0	12.00	80				
15F2319	9058	650.0- 1.3*	15.0	100	3.90	2.86	2.15	1.89
15F2320	9059	*1.3- 3.0*	23.0	100				
15F2321	9059-1	*1.8- 2.2*	10.0	141				
12F2322	9060	*3.0- 10.0*	76.0	30				
15F2323	9061	*8.0- 20.0*	110.0	30	4.56	3.34	2.51	2.20
15F2324	9062	*15.0- 40.0*	150.0	30				
15F2325	9063	*20.0- 60.0*	175.0	25				

ADJUSTABLE WIDE RANGE TAPPED INDUCTORS

Large inductance change. Excellent Q. Tap at one third the total turns. Size: ⅞" max. dia. × 2¼" long. Mounting hole: 5/16" Weight: 3 oz.



Stock No.	Type No.	Inductance mh (*uh)	Res. Max.	Max. Ma.	1-99	100-249	250-499	500-Up
15F2326	9011	40.* - .240	2.04	250	5.70	4.18	3.14	2.76
12F2327	9012	.180- .800	4.08	250	3.60	2.64	1.98	1.74
15F2328	9013	.570- 2.80	8.52	250	3.60	2.64	1.98	1.74
15F2329	9014	2.10 - 8.00	15.4	250	4.80	3.52	2.64	2.32
15F2330	9015	6.00 - 16.0	33.6	200	3.90	2.86	2.15	1.89
15F2331	9016	12.0 - 40.0	91.2	125	5.70	4.18	3.14	2.76
15F2332	9017	30.0 -105.0	148.0	75	3.60	2.64	1.98	1.74
15F2333	9018	78.0 -240.0	264.0	75	4.14	3.04	2.28	2.00
15F2334	9019	180.0 -750.0	620.0	50	6.00	4.40	3.30	2.90

MOLDED COILS

FIXED COILS

Freq. Range: 50 MHz-450 MHz. Lead Lgth: 3/16", 1/32" Max. Lgth: .38". Max. Width: .23"

Stock No.	Type No.	Ind. uH	Min. Q	DC Amps	Wire Size	1-99	100-249	250-499	500-Up
15F2283	75F238mpc	.023	110	1	22				
15F2284	75F328mpc	.032	110	1	22				
15F2285	75F518mpc	.051	110	1	22				
15F2286	75F117mpc	.110	110	1	22				
15F2287	75F157mpc	.150	110	1	22	.72	.53	.40	.35
15F2288	75F277mpc	.270	110	.5	26				
15F2289	75F397mpc	.390	110	.5	26				
15F2290	75F477mpc	.470	110	.5	26				
15F2291	75F597mpc	.590	110	.5	26				

Series 48A—ADJUSTABLE COILS

Freq. Range: 30 MHz. -250 MHz. Min. Q: 100. DC Current: 2 A. #20 AWG. Coil OD: .310". Lgth: .75"

Stock No.	Type	Inductance Range μH	No. of Turns	1-99	100-249	250-499	500-Up
15F2292	48A518mpc	.046-.055	1½				
15F2293	48A778mpc	.071-.082	2½				
15F2294	48A117mpc	.099-.122	3½				
15F2295	48A147mpc	.118-.157	4½	1.54	1.13	.84	.74
15F2296	48A187mpc	.150-.207	5½				
15F2297	48A227mpc	.181-.278	6½				
15F2298	48A257mpc	.209-.283	7½				
15F2299	48A287mpc	.241-.316	8½				
15F2300	48A317mpc	.270-.351	9½				

Series 49A—ADJUSTABLE COILS

Freq. Range: 10 MHZ-250MHZ. #22 AWG. Coil OD: .285". DC Current 1.5 A. Min. Q 100, *70. Length: 0.87".

15F2301	49A678mpc	.060-.074	2½				
15F2302	49A127mpc	.116-.132	3½				
15F2303	49A167mpc	.134-.194	4½				
15F2304	49A217mpc	.170-.258	5½				
15F2305	49A347mpc	.250-.415	7½	1.54	1.13	.84	.74
15F2306	49A537mpc*	.393-.657	10½				
15F2307	49A757mpc*	.600-.900	14½				
15F2308	49A997mpc*	.810-1.160	18½				
15F2309	49A126mpc*	.960-1.340	21½				
15F2310	49A146mpc*	1.180-1.530	24½				

VERTICAL MOUNTED PC VELVETORK ADJUSTABLE RF COILS

COILS WOUND ON FORM NO. 23A013

Polyester impregnated Alpha-Cellulose tubing. Internally bonded resilient ribs. Adjustable from either end. Size ⅜" dia. ×¾" long. (Form only, over collar). Both thread and torque control.

Stock No.	Type No.	Inductance uH(mh)	Max. Res.	Max. Ma.	1-99	100-249	250-499	500-Up
15F2335	23A107rpc	.095- .125	.02	4100				
15F2336	23A157rpc	.130- .170	.02	1600				
15F2337	23A227rpc	.185- .265	.02	1600	1.65	1.21	.91	.80
15F2338	23A337rpc	.285- .410	.03	1000				
15F2339	23A477rpc	.420- .580	.03	2500				
15F2340	23A687rpc	.540- .850	.03	1600				
15F2341	23A827rpc	.640- 1.000	.03	1600				
15F2342	23A106rpc	.760- 1.25	.04	1600	1.65	1.21	.91	.80
15F2343	23A156rpc	1.20 - 1.87	.06	1000				
15F2344	23A226prc	1.65 - 2.75	.14	400				
15F2345	23A336rpc	2.40 - 4.10	.17	400	1.65	1.21	.91	.80
15F2346	23A476rpc	3.40 - 5.80	.24	400	1.65	1.21	.91	.80
15F2347	23A686rpc	4.60 - 8.50	.39	250	1.71	1.25	.94	.83
15F2348	23A826rpc	5.60 -10.0	.64	160	1.71	1.25	.94	.83
15F2349	23A105rpc	7.10 -12.5	.77	160	1.71	1.25	.94	.83
15F2350	23A155rpc	10.0 -18.7	1.68	100	2.25	1.65	1.24	1.09

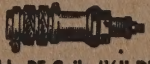
Stock No.	Type No.	Inductance μ H (mh)*	Max. Res.	Max. Ma.	1-99	100-249	250-499	500-Up
15F2351	23A225rpc	14.8 - 27.5	1.91	100	1.80	1.32	.99	.87
15F2352	23A335rpc	22.0 - 41.0	2.34	100	1.80	1.32	.99	.87
15F2353	23A475rpc	31.0 - 58.0	2.72	100	1.80	1.32	.99	.87
15F2354	23A685rpc	43.5 -85.0	3.30	100	1.92	1.41	1.06	.93
15F2355	23A224rpc	160.0 -275.0	6.70	100	2.40	1.76	1.32	1.16
15F2356	23A334rpc	240.0 -410.0	8.30	100				
15F2357	23A824rpc	700.0 - 1.00*	14.90	100				
15F2358	23A103rpc	910.0 - 1.25*	17.10	100	2.40	1.76	1.32	1.16
15F2359	23A333rpc	2.40*- 4.10*	42.90	65				
15F2360	23A473rpc	3.40*- 5.80*	51.60	65				
15F2361	23A683rpc	5.15*- 8.50*	63.60	65	2.40	1.76	1.32	1.16
15F2362	23A823rpc	7.40*- 10.00*	75.60	65	2.56	1.87	1.41	1.24
15F2363	23A102rpc	9.80*- 12.50*	87.30	65	2.40	1.76	1.32	1.16
15F2364	23A332rpc	18.20*- 41.00*	244.0	33	3.29	2.42	1.81	1.69
15F2365	23A682rpc	40.00*- 85.00*	378.0	33	2.55	1.87	1.40	1.23

ADJUSTABLE RF COILS AND CERAMIC FORMS

Permeability tuned coils wound on silicone impregnated ceramic forms. Subminiature coils mount by means of bushing requiring 11/64" hole. Miniature coils mount in 3/16" hole; standard coils mount w/bushing requiring ¼" hole.

Standard RF Coils and Forms (⅜" Dia.,) 1-1/16 " Long.

Stk. No.	Type	Ind. μ H	1-99	100-249	Bulk Packed 250-499	Bulk Packed 500-Up
59F337	4400-2	Form only	3.30	2.42	1.82	1.60
59F338	4403	.990- 1.50	4.80	3.52	2.64	2.32
59F339	4404	1.60- 3.10				
59F340	4405	3.30- 6.50				
59F341	4406	7.30- 14.0	5.10	3.74	2.81	2.47
59F342	4407	16.0 - 29.0				
59F343	4408	33.0 - 66.0				
59F344	4409	74.0 - 124.0				
59F345	4410	138 - 238.0				
59F346	4411	270 - 451.0	5.25	3.85	2.89	2.54
59F347	4412	495 - 760.0				
59F348	4413	825 -1300.0				
59F349	4414	1400 -2000.0				



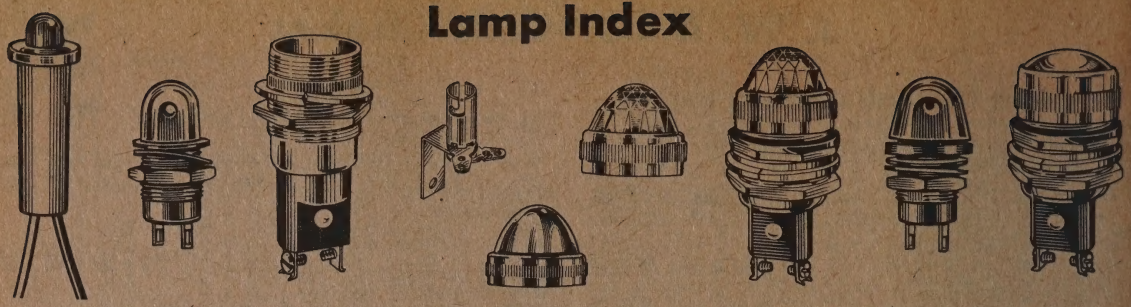
Miniature Adjustable RF Coils (¼" Dia., ⅞" Long)

Stk. No.	Type	Ind. μ H	1-99	100-249	Bulk Packed 250-499	Bulk Packed 500-Up
59F352	4500-2	Form only	1.80	1.32	.99	.87
59F358	4506	9.90-15.0	3.90	2.86	2.15	1.89
59F360	4508	26.0-33.0	3.90	2.86	2.15	1.89
59F362	4511	66.0-114.0	3.90	2.86	2.15	1.89
59F363	4512	120.-190.	4.20	3.08	2.31	2.03
59F364	4513	209-314	4.20	3.08	2.31	2.03
59F365	4514	350-475	4.20	3.08	2.31	2.03

Subminiature Adjustable RF Coils (3/16" Dia., ⅝" Long)

59F319	4300-2	Form only	1.77	1.30	.97	.86
59F322	4303	.440- .620	3.60	2.64	1.98	1.74
59F325	4306	1.60- 2.40	3.60	2.64	1.98	1.74
59F326	4307	2.70- 4.20	3.60	2.64	1.98	1.74
59F327	4308	4.70- 6.80	3.60	2.64	1.98	1.74
59F328	4309	7.80-11.0	3.60	2.64	1.98	1.74

Lamp Index



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Datalamp Cartridges

DIALIGHT

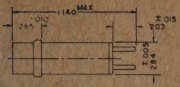

Fig. 1 SHORT CYLINDRICAL LENS

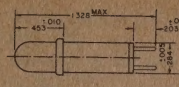

Fig. 2 STOVEPIPE LENS

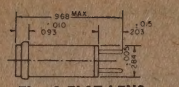

Fig. 3 FLAT LENS

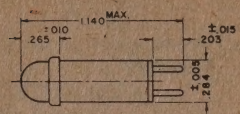

Fig. 7 SHORT STOVEPIPE LENS

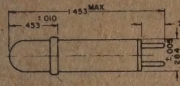

Fig. 4 STOVEPIPE LENS

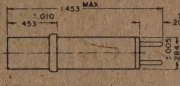

Fig. 5 LONG CYLINDRICAL LENS

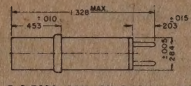

Fig. 6 LONG CYLINDRICAL LENS

NEON CARTRIDGES

Neons offered with the lower resistor value gives the best indication, with a minimum life of 5000 hours, while the higher value results in long life, where 25000 hours or more is required. Neons without a built-in resistor must have the necessary current limiting resistor added externally. The high brightness types offer relatively constant light output through life, and five times the brightness of the standard neon; they should be used in all cases where the circuit voltage is adequate.

STANDARD BRIGHTNESS TRANSPARENT 105-125V AC-DC (FIG. 2)

Stock No.	Type	Lamp	Built-In Res.	Lens Color	1-9	10-24
25F1100	507-3835-0931-600	NE2E	None	Red	1.39	1.16
25F1101	507-3835-0933-60	NE2E	None	Amber		
25F1102	507-3835-0935-600	NE2E	None	White		
25F1104	507-3835-0937-600	NE2E	None	Clear		

HIGH BRIGHTNESS TRANSPARENT 110-125V AC (FIG. 2)

25F1229	507-3836-0931-600	NE2H	None	Red	1.39	1.16
25F1230	507-3836-0933-600	NE2H	None	Amber		
25F1231	507-3836-0935-600	NE2H	None	White		
25F1233	507-3836-0937-600	NE2H	None	Clear		

STANDARD BRIGHTNESS TRANSPARENT 105-125V AC-DC (FIG. 6)

25F1105	507-3835-1531-600	NE2E	None	Red	1.39	1.16
25F1106	507-3835-1533-600	NE2E	None	Amber		
25F1107	507-3835-1535-600	NE2E	None	White		
25F1109	507-3835-1537-600	NE2E	None	Clear		

HIGH BRIGHTNESS TRANSPARENT 110-125V AC (FIG. 6)

25F1234	507-3836-1531-600	NE2H	None	Red	1.39	1.16
25F1235	507-3836-1533-600	NE2H	None	Amber		
25F1236	507-3836-1535-600	NE2H	None	White		
25F1238	507-3836-1537-600	NE2H	None	Clear		

STANDARD BRIGHTNESS 105-125V AC (FIG. 4)

Stock No.	Type	Lamp	Built-In Res.	Lens Color	1-9	10-24
25F1180	507-4537-0931-640	A1B	56K	Red	1.87	1.56
25F1181	507-4537-0933-640	A1B	56K	Amber		
25F1182	507-4537-0935-640	A1B	56K	White		
25F1184	507-4537-0937-640	A1B	56K	Clear		

HIGH BRIGHTNESS 110-125V AC (FIG. 4)

25F1190	507-4538-0931-610	A1C	22K	Red	1.87	1.56
25F1191	507-4538-0933-610	A1C	22K	Amber		
25F1192	507-4538-0935-610	A1C	22K	White		
25F1194	507-4538-0937-610	A1C	22K	Clear		

STANDARD BRIGHTNESS 105-125V AC (FIG. 5)

25F1185	507-4537-1531-640	A1B	56K	Red	1.87	1.56
25F1186	507-4537-1533-640	A1B	56K	Amber		
25F1187	507-4537-1535-640	A1B	56K	White		
25F1189	507-4537-1537-640	A1B	56K	Clear		

HIGH BRIGHTNESS 110-125V AC (FIG. 5)

25F1195	507-4538-1531-610	A1C	22K	Red	1.87	1.56
25F1196	507-4538-1533-610	A1C	22K	Amber		
25F1197	507-4538-1535-610	A1C	22K	White		
25F1199	507-4538-1537-610	A1C	22K	Clear		

INCANDESCENT LAMP CARTRIDGES

Ratings of incandescent lamps in amperes are purely nominal and the values shown are subject to ±7% to ±10% tolerances. Quality control in lamp manufacture aims at producing lamps that will deliver rated hours at rated volts. Operation of lamps at nominal amperes will produce unsatisfactory life performance. It is undesireable to operate lamps from circuit voltages much higher than ratings by means of dropping resistors. Maximum power that may be put in is 2 to 3 watts.

TRANSLUCENT 6V, 0.2 Amp. (FIG. 2)

Stock No.	Type	C.P.	Hours	Lens Color	1-9	10-24
25F1110	507-3906-0971-600	.60	1,000	Red	1.80	1.52
25F1111	507-3906-0972-600	.60	1,000	Green		
25F1112	507-3906-0973-600	.60	1,000	Amber		
25F1114	507-3906-0975-600	.60	1,000	White		

TRANSLUCENT 6V, 0.2 Amp. (FIG. 1)

25F1128	507-3906-1471-600	.60	1,000	Red	1.80	1.52
25F1129	507-3906-1472-600	.60	1,000	Green		
25F1130	507-3906-1473-600	.60	1,000	Amber		
25F1132	507-3906-1475-600	.60	1,000	White		

TRANSLUCENT 6.3V, 0.2 Amp. (FIG. 2)

25F1239	507-3909-0971-600	.40	20,000	Red	1.90	1.60
25F1240	507-3909-0972-600	.40	20,000	Green		
25F1241	507-3909-0973-600	.40	20,000	Amber		
25F1243	507-3909-0975-600	.40	20,000	White		

TRANSPARENT 10V, .014 Amp. (FIG. 1)

45F500	507-3910-1431-600	.004	50,000	Red	2.57	2.16
45F501	507-3910-1432-600	.004	50,000	Green		
45F502	507-3910-1433-600	.004	50,000	Amber		

TRANSPARENT 10V, .040 Amp. (FIG. 1)

25F1172	507-3911-1431-600	.08	10,000	Red	2.27	1.90
25F1173	507-3911-1432-600	.08	10,000	Green		
25F1174	507-3911-1433-600	.08	10,000	Amber		
25F1175	507-3911-1435-600	.08	10,000	White		

TRANSLUCENT 14V, 0.08 Amp. (FIG. 2)

25F1116	507-3913-0971-600	.50	1,500	Red	1.89	1.59
25F1117	507-3913-0972-600	.50	1,500	Green		
25F1118	507-3913-0973-600	.50	1,500	Amber		
25F1120	507-3913-0975-600	.50	1,500	White		

TRANSLUCENT 14V, 0.08 Amp. (FIG. 1)

Stock No.	Type	C.P.	Hours	Lens Color	1-9	10-24
25F1134	507-3913-1471-600	.50	1,500	Red	1.89	1.59
25F1135	507-3913-1472-600	.50	1,500	Green		
25F1136	507-3913-1473-600	.50	1,500	Amber		
25F1138	507-3913-1475-600	.50	1,500	White		

TRANSLUCENT 14V, 0.08 Amp. (FIG. 2)

25F1245	507-3914-0971-600	.30	15,000	Red	2.02	1.69
25F1246	507-3914-0972-600	.30	15,000	Green		
25F1247	507-3914-0973-600	.30	15,000	Amber		
25F1249	507-3914-0975-600	.30	15,000	White		

TRANSLUCENT 14V, .080 Amp. (FIG. 1)

25F1168	507-3914-1471-600	.30	15,000	Red	2.02	1.69
25F1169	507-3914-1472-600	.30	15,000	Green		
25F1170	507-3914-1473-600	.30	15,000	Amber		
25F1171	507-3914-1475-600	.30	15,000	White		

TRANSLUCENT 28V, 0.04 Amp. (FIG. 3)

25F1093	507-3917-0371-600	.34	4,000	Red	1.73	1.45
25F1094	507-3917-0372-600	.34	4,000	Green		
25F1095	507-3917-0373-600	.34	4,000	Amber		
25F1096	507-3917-0375-600	.34	4,000	White		

TRANSLUCENT 28V, 0.04 Amp. (FIG. 2)

25F1122	507-3917-0971-600	.34	4,000	Red	1.73	1.45
25F1123	507-3917-0972-600	.34	4,000	Green		
25F1124	507-3917-0973-600	.34	4,000	Amber		
25F1126	507-3917-0975-600	.34	4,000	White		

TRANSLUCENT 28V, 0.04 Amp. (FIG. 1)

25F1140	507-3917-1471-600	.34	4,000	Red	1.73	1.45
25F1141	507-3917-1472-600	.34	4,000	Green		
25F1142	507-3917-1473-600	.34	4,000	Amber		
25F1144	507-3917-1475-600	.34	4,000	White		

TRANSLUCENT 28V, .040 Amp. (FIG. 1)

25F1176	507-3918-1471-600	.30	7,000	Red	2.05	1.71
25F1177	507-3918-1472-600	.30	7,000	Green		
25F1178	507-3918-1473-600	.30	7,000	Amber		
25F1179	507-3918-1475-600	.30	7,000	White		

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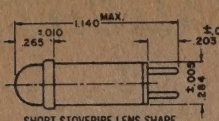
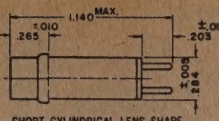
Note: DATALAMPS Sold Only In Multiples Of 5





SOLID-STATE CARTRIDGES

Light source is a solid state lamp that provides the advantages of low power with extremely long life and is compatible with integrated circuits (can be driven directly by RTL, DTL, and TTL logic). May be used as direct replacements for existing cartridges using an incandescent lamp operating from a DC power source. An internal fresnel ring pattern in its lens design assures maximum distribution of the light output. Cartridge is supplied in a black anodized finish which produces a high contrast ratio. To facilitate proper installation of the cartridge, the polarity is marked (+) on the cartridge housing and the terminal base is keyed.

SHORT CYLINDRICAL 3.6V DC (FIG. 1)

Stk. No.	Type	Lens	1-9	10-24	25-99
25F1429	507-4756-3331-500	Red	1.96	1.74	1.58
25F1461	507-4856-3332-500	Green	2.17	1.92	1.73
25F1462	507-4956-3333-500	Yellow	2.17	1.92	1.73

SHORT STOVEPIPE 3.6V (FIG. 7)

Stk. No.	Type	Lens	1-9	10-24	25-99
25F1423	507-4756-3731-500	Red	1.96	1.74	1.58
25F1473	507-4856-3732-500	Green	2.17	1.92	1.73
25F1474	507-4956-3733-500	Yellow	2.17	1.92	1.73

SHORT CYLINDRICAL 5V DC (FIG. 1)

Stk. No.	Type	Lens	1-9	10-24	25-99
25F1430	507-4757-3331-500	Red	1.96	1.74	1.58
25F1463	507-4857-3332-500	Green	2.17	1.92	1.73
25F1464	507-4957-3333-500	Yellow	2.17	1.92	1.73

SHORT STOVEPIPE 5V (FIG. 7)

Stk. No.	Type	Lens	1-9	10-24	25-99
25F1424	507-4757-3731-500	Red	1.96	1.74	1.58
25F1475	507-4857-3732-500	Green	2.17	1.92	1.73
25F1476	507-4957-3733-500	Yellow	2.17	1.92	1.73

SHORT CYLINDRICAL 6V DC (FIG. 1)

Stk. No.	Type	Lens	1-9	10-24	25-99
25F1431	507-4758-3331-500	Red	1.96	1.74	1.58
25F1465	507-4858-3332-500	Green	2.17	1.92	1.73
25F1466	507-4958-3333-500	Yellow	2.17	1.92	1.73

SHORT STOVEPIPE 6V DC (FIG. 7)

Stk. No.	Type	Lens	1-9	10-24	25-99
25F1425	507-4758-3731-500	Red	1.96	1.74	1.58
25F1477	507-4858-3732-500	Green	2.17	1.92	1.73
25F1478	507-4958-3733-500	Yellow	2.17	1.92	1.73

SHORT CYLINDRICAL 10V DC (FIG. 1)

Stk. No.	Type	Lens	1-9	10-24	25-99
25F1432	507-4759-3331-500	Red	1.96	1.74	1.58
25F1467	507-4859-3332-500	Green	2.17	1.92	1.73
25F1468	507-4959-3333-500	Yellow	2.17	1.92	1.73

SHORT STOVEPIPE 10V DC (FIG. 7)

Stk. No.	Type	Lens	1-9	10-24	25-99
25F1426	507-4759-3731-500	Red	1.96	1.74	1.58
25F1479	507-4859-3732-500	Green	2.17	1.92	1.73
25F1480	507-4959-3733-500	Yellow	2.17	1.92	1.73

SHORT CYLINDRICAL 14V DC (FIG. 1)

Stk. No.	Type	Lens	1-9	10-24	25-99
25F1433	507-4760-3331-500	Red	1.96	1.74	1.58
25F1469	507-4860-3332-500	Green	2.17	1.92	1.73
25F1470	507-4960-3333-500	Yellow	2.17	1.92	1.73

SHORT STOVEPIPE 14V DC (FIG. 7)

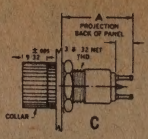
Stk. No.	Type	Lens	1-9	10-24	25-99
25F1427	507-4760-3731-500	Red	1.96	1.74	1.58
25F1481	507-4860-3732-500	Green	2.17	1.92	1.73
25F1482	507-4960-3733-500	Yellow	2.17	1.92	1.73

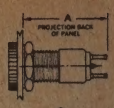
SHORT CYLINDRICAL 28V DC (FIG. 1)

Stk. No.	Type	Lens	1-9	10-24	25-99
25F1434	507-4761-3331-500	Red	2.17	1.92	1.74
25F1471	507-4861-3332-500	Green	2.38	2.11	1.93
25F1472	507-4961-3333-500	Yellow	2.38	2.11	1.93

SHORT STOVEPIPE 28V DC (FIG. 7)

Stk. No.	Type	Lens	1-9	10-24	25-99
25F1428	507-4761-3731-500	Red	2.17	1.92	1.74
25F1483	507-4861-3732-500	Green	2.38	2.11	1.93
25F1484	507-4961-3733-500	Yellow	2.38	2.11	1.93





DATALAMP HOLDERS

Datalamp Holder is available with or without screw-on collar. The use of either is dependent on the desired front-of-panel appearance. The standard black anodized flange nut and collar produce the desired maximum contrast. In addition, the terminals of the holder are marked "A" and "B." The "A" terminal would denote positive (+) polarity. This feature insures proper installation and wiring.

CHART

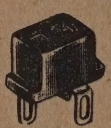
DATA-LAMP HOLDER	Accommodate Cartridge Figure Numbers	Turret Terminals	Solder Cup Terminals	Dim. A Max.
C	1, 2, 3, 6, 7	508-8738-504	508-7538-504	57/64
G	1, 2, 3, 6, 7	250-8738-14-504	250-7538-14-504	1 1/32
C	4, 5	508-8745-504	508-7545-504	63/64
G	4, 5	250-8745-14-504	250-7545-14-504	1 1/8

TURRET TERMINALS

Stk. No.	Type	Description	1-9	10-24	25-99
25F1291	508-8738-504	With Collar	1.91	1.60	1.42
25F1485	250-8738-14-504	Without Collar	1.73	1.44	1.29
25F1292	508-8745-504	With Collar	1.91	1.60	1.42
25F1486	250-8745-14-504	Without Collar	1.73	1.44	1.29

SOLDER CUP TERMINALS

Stk. No.	Type	Description	1-9	10-24	25-99
25F1167	508-7538-504	With Collar	1.91	1.60	1.42
25F1487	250-7538-14-504	Without Collar	1.73	1.44	1.29
25F1209	508-7545-504	With Collar	1.91	1.60	1.42
25F1489	250-7545-14-504	Without Collar	1.73	1.44	1.29


515-0050

CARTRIDGE CONNECTORS

Type 515-0050. Molded phenolic; solder lug terminals are of beryllium copper, cadmium plated, with elongated slots.

Stk. No.	Type	1-9	10-24	25-99	100-249
25F1251	515-0050	.29	.25	.24	.22

515-0012

Type 515-0012. Sleeve of aluminum with black anodized finish. Insulation of black molded phenolic. Solder cup terminals of phosphor bronze, gold plated.

Stk. No.	Type	1-9	10-24	25-99	100-249
25F1252	515-0012	.96	.79	.67	.56

SPRING CLIP

Effective when conventional mounting is not practical. For all Dialight Plug-in Neon, incandescent and solid-state lamps. Cartridges. Self-retaining. Of tubular heat treated spring steel.

Stk. No.	Type	1-9	10-24	25-99	100-249
25F1253	515-0051	.16	.14	.12	.08

TWIN LAMP DATALIGHT

No. 253-6939-1437-504. Compact dual lamp cartridge housing. Mounts in ¾" clearance hole. Permits independent operation of each lamp. Cartridges replace from front. Clear plastic lens. Less cartridge. Accommodates cartridge figure nos. 1, 2, 3, 6, 7.

Stk. No.	Type	1-9	10-24	25-99
25F1166	253-6939-1437-504	5.31	4.85	4.46

No. 253-6939-1435-504. Dual lamp cartridge housing. Similar to 253-6939-1437-504, above. White lens.

Stk. No.	Type	1-9	10-24	25-99
25F1254	253-6939-1435-504	5.31	4.85	4.46

Note: CARTRIDGES ON THIS PAGE ONLY AVAILABLE IN MULTIPLES OF 5

Sub-Miniature & Ultra-Miniature Lights DIALIGHT

DATALITES WITH PERMANENT NEON LAMPS
Lamps are built-in—not replaceable. Units mount in ⅜" clearance hole.

ilt-in; a rugged, long-life NE-2E Neon Glow Lamp with formed p and double length electrodes—1/25 watt, starting voltage of 65 C and 90 DC. (*) With built in resistor of 100,000 ohms for 105-25 V. DC service. Resistors to Mil-R-11 spec.

Lightweight construction of aluminum, black anodized finish. Plastic lens give wide angle visibility. 2 insulated terminals of low carbon steel, solder plated. With mounting hardware.

Conform to military specifications (Mil-L-3661)

Stovepipe: Without Built-in Resistor
(1²⁵⁄₆₄x½" Overall: 1½ Oz. Shpg. Wt.)

Stock No.	Type 249-	Lens Color	1-9	10-24	25-99
25F1146	7840-0931-504	Red	1.90	1.69	1.56
25F1147	7840-0933-504	Amber			
25F1148	7840-0935-504	White			
25F1150	7840-0937-504	Clear			

(*) With Built-in 100-K Resistor
(1³³⁄₆₄"x½" Overall; 2 Oz. Shpg. Wt.)

25F1151	7841-0931-574	Red	2.32	2.08	1.92
25F1152	7841-0933-574	Amber			
25F1153	7841-0935-574	White			
25F1155	7841-0937-574	Clear			

REEN or BLUE LENSES are not recommended for use with Neon mps.

Short Cylindrical; Without Built-in Resistor
(1²⁵⁄₆₄x½" Overall; 1½ Oz. Shpg. Wt.)

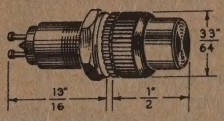
Stock No.	Type 249-	Lens Color	1-9	10-24	25-99
25F1156	7840-1431-504	Red	1.90	1.69	1.56
25F1157	7840-1433-504	Amber			
25F1158	7840-1435-504	White			
25F1160	7840-1437-504	Clear			

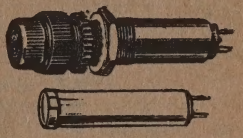
(*) With Built-in 100-K Resistor
(1²⁵⁄₆₄x½" Overall; 2 oz. Shpg. Wt.)

25F1161	7841-1431-574	Red	2.32	2.08	1.92
25F1162	7841-1433-574	Amber			
25F1163	7841-1435-574	White			
25F1165	7841-1437-574	Clear			

ERIES 250 INCANDESCENT DATALITE ASSEMBLY

akes the lamp cartridge illustrated, available in voltages from 6V 120V Polycarbonate lens with matted back. Unit designed for sertion from the rear of the panel in a ⅜" clearance hole. omes with screw-on "Data Cap" for high light transmission. hosphor-bronze, gold-plated terminals. 2.02" L x .515" da.





COMPLETE ASSEMBLIES

Stock No.	Solder Cup Terminals 250-7558-	Cap Color	1-9	10-24	25-99
60F1216	3331-504	Red	2.63	2.20	1.99
60F1217	3332-504	Green			
60F1218	3333-504	Amber			
60F1220	3335-504	White			

Stock No.	Turret Terminals 250-8758-	Cap Color	1-9	10-24	25-99
60F1222	3331-504	Red	2.63	2.20	1.99
60F1223	3332-504	Green			
60F1224	3333-504	Amber			
60F1226	3335-504	White			

LEAR LENS DATALAMP CARTRIDGE FOR ABOVE

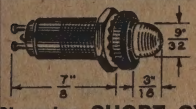
Stock No.	Type 507-	V	1-9	10-24	25-99
60F1228	5819-0747-600	6	2.15	1.82	1.64
60F1229	5820-0747-600	12			
60F1230	5821-0747-600	28			
60F1231	5822-0747-600	48	2.15	1.82	1.64
60F1232	5823-0747-600	60			
60F1233	5824-0747-600	120			

DATA CAP

Red data cap for complete Assemblies listed above.

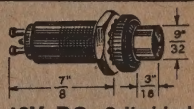
Stock No.	Type	1-9	10-24	25-99
25F1523	250-3331-500	.66	.55	.50

NEWARK can supply all your needs.



SOLID STATE DIODE-LITES

Complete package-light source, housing, and lens-ready for permanent panel mounting. Light source is a solid state lamp that provides the advantages of low power with extremely long life and is compatible with integrated circuits.



Stovepipe SHORT CYLINDRICAL 3.6V DC

Stk. No.	Type	Lens	1-9	10-24	25-99
25F1459	249-7867-3331-504	Red	2.84	2.51	2.28
25F1543	249-7967-3332-504	Green	3.11	2.75	2.51
25F1545	249-8067-3333-504	Yellow	3.11	2.75	2.51

SHORT STOVEPIPE 3.6V DC

25F1456	249-7867-3731-504	Red	2.84	2.51	2.28
25F1537	249-7967-3732-504	Green	3.11	2.75	2.51
25F1538	249-8067-3733-504	Yellow	3.11	2.75	2.51

SHORT CYLINDRICAL 5V DC

25F1435	249-7868-3331-504	Red	2.84	2.51	2.28
25F1546	249-7968-3332-504	Green	3.11	2.75	2.31
25F1547	249-8068-3333-504	Yellow	3.11	2.75	2.31

SHORT STOVEPIPE 5V DC

25F1437	249-7868-3731-504	Red	2.84	2.51	2.28
25F1539	249-7968-3732-504	Green	3.11	2.75	2.51
25F1540	249-8068-3733-504	Yellow	3.11	2.75	2.51

SHORT CYLINDRICAL 6V DC

25F1458	249-7869-3331-504	Red	2.84	2.51	2.28
25F1548	249-7969-3332-504	Green	3.11	2.75	2.51
25F1549	249-8069-3333-504	Yellow	3.11	2.75	2.51

SHORT STOVEPIPE 6V DC

25F1448	249-7869-3731-504	Red	2.84	2.51	2.28
25F1541	249-7969-3732-504	Green	3.11	2.75	2.51
25F1542	249-8069-3733-504	Yellow	3.11	2.75	2.51

SHORT CYLINDRICAL 10V DC Cylindrical

Stk. No.	Type	Lens	1-9	10-24	25-99
25F1454	249-7870-3331-504	Red	2.84	2.51	2.28
25F1531	249-7970-3332-504	Green	3.11	2.75	2.51
25F1532	249-8070-3333-504	Yellow	3.11	2.75	2.51

SHORT STOVEPIPE 10V DC

25F1449	249-7870-3731-504	Red	2.84	2.51	2.28
25F1525	249-7970-3732-504	Green	3.11	2.75	2.51
25F1526	249-8070-3733-504	Yellow	3.11	2.75	2.51

SHORT CYLINDRICAL 14V DC

25F1455	249-7871-3331-504	Red	2.84	2.51	2.28
25F1533	249-7971-3332-504	Green	3.11	2.75	2.51
25F1534	249-8071-3333-504	Yellow	3.11	2.75	2.51

SHORT STOVEPIPE 14V DC

25F1450	249-7871-3731-504	Red	2.84	2.51	2.28
25F1527	249-7971-3732-504	Green	3.11	2.75	2.51
25F1528	249-8071-3733-504	Yellow	3.11	2.75	2.51

SHORT CYLINDRICAL 28V DC

25F1436	249-7872-3331-504	Red	3.07	2.72	3.48
25F1535	249-7972-3332-504	Green	3.37	2.99	2.73
25F1536	249-8072-3333-504	Yellow	3.37	2.99	2.73

SHORT STOVEPIPE 28V DC

25F1438	249-7872-3731-504	Red	3.07	2.72	2.48
25F1529	249-7972-3732-504	Green	3.37	2.99	2.73
25F1530	249-8072-3733-504	Yellow	3.37	2.99	2.73

Complete Assembly

Base Assembly

Type 81 Faceted

Type 135 Cylindrical (Translucent)

Type 52 Stove Pipe (Internally Fluted Transparent)

Type 95 Stove Pipe (Smooth Face Translucent)

ASSEMBLIES FOR PSB BULBS—BASE HOUSING

Accommodates T-2 incandescent bulb with telephone slide base (PSB Type) in a range of voltages from 6 to 120 volts. Uses any of 4 styles of high temperature Lexan caps in various colors. Phenolic housing, white nickel finish. Rated 75 watts, 125 volts. Solder terminals. Electrical contact can be made with AMP connector 42198-2. Mounting in 11/16 clearance hole. 1 27/32 overall size.

Stock No.	Type No.	1-9	10-24	25-99	100-249
60F1550	81-1059-01-102	1.45	1.30	1.19	1.12

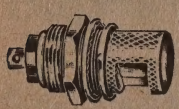
LENSES FOR HOUSING ABOVE

Color	Transluc. Cyl. Stock No	Transluc. Cyl. Type	Transpar. Fluted Stock No	Transpar. Fluted Type	Transluc. Smooth Stock No	Transluc. Smooth Type
Red	60F1551	135-3271	60F1558	52-3191	60F1565	95-3171
Green	60F1552	135-3272	60F1559	52-3192	60F1566	95-3172
Amber	60F1553	135-3273	60F1560	52-3193	60F1567	95-3173
Blue	60F1554	135-3274	60F1561	52-3194	60F1568	95-3174
White	60F1555	135-3275	60F1562	52-3195	60F1569	95-3175
Yellow	60F1556	135-3276	60F1563	52-3196	60F1570	95-3176
Clear	...	...	60F1564	52-3197	...	...

Prices	1-9	10-24	25-99	100-249
	.38	.35	.31	.29

SERIES 81—TRANSPARENT FACETED LENSES

Color	Stock No.	Type	1-9	10-24	25-99	100-249
Red	60F1572	81-0431-100	.50	.47	.43	.41
Green	60F1573	81-0432-100				
Amber	60F1574	81-0433-100				
Blue	60F1575	81-0434-100				
White	60F1576	81-0435-100				
Yellow	60F1577	81-0436-100				
Clear	60F1578	81-0437-100				

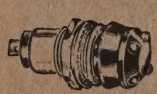


1 TERMINAL LIGHT SHIELD ASSEMBLY SUB-MINIATURE FOR DIALS, INSTRUMENTS, CONTROL PANELS

Mtg. hole 15/32" d. Opening is 1/4"x3/16". Same features as the 2-terminal assemblies except for use on grounded circuits and with either soldering or binding screw terminal. Molded phenolic insulation material of military specification grade. Meets MIL-SPEC. MIL-L-7806A. Uses T-1 3/4 lamp. Overall size, approx. 1 1/4" Cap unscrews for bulb replacement. With lockwasher and nut, Less lamp. Shpg. wt., 1 1/2 ozs. 201 suffix indicates black nickel. 301, chrome.

Stk. No.	Mfg. No.	Terminal	1-9	10-24	25-99	100-249
25F910A*	4-1930-2900-201	Solder	2.52	2.23	2.04	1.82
25F911A**	4-1830-2900-201	Screw	2.94	2.60	2.35	2.11
25F911B**	4-1830-2900-301	Screw	2.94	2.60	2.35	2.11
25F910B*	4-1930-2900-301	Solder	2.52	2.23	2.04	1.82

SERIES 270 FOR TRANSLUCENT PANEL EDGE LIGHTING



For Mil-P-7788 plastic plate panels. Emits light through colored filter into the plastic panel. Meets Mil-L-7806. Mounts in 15/32" clearance hole. Complete unit, hardware, supplied. Less T-1 3/4 lamp. Overall size 1 7/16" Shpg. wt. 1 1/2 oz.

EDGE LIGHTING ASSEMBLIES—SOLDER TERMINAL

Stk. No.	Type No.	Mil. Type No.	Filter Color	1-9	10-24	25-99	100-249
25F967	270-1930-0111-702	MS25010A11A	Red	1.26	1.06	.94	.85
25F969	270-1930-0121-702	...	Green				
25F973	270-1930-0171-702	MS25010A12A	Clear				

C7A (NE-2D) NEON SUB-MINIATURES MS25257

Uses T-2 Neon Glow Lamp. 62K Resistor is built in for use on 105-125 volts AC or DC. Stovepipe lens is plastic with 180° lens spread. Shank of lens holder is crimped in 3 places to secure the lamp. Lens holder unscrews from front of panel for easy replacement of lamp. An anti-rotation notch on face of flange prevents rotation of unit while mounting nut is being tightened. Mounting bushing is aluminum with black anodize finish. Steel internal tooth lockwasher and hex mounting nut are cadmium plated and coated with iridite. Terminals are brass, hot-tinned, with elongated slots. Less lamp. Size 1 1/2x5/8". Shpg. wt. 2 oz. Front mounting in 15/32" clearance hole.

Stock No.	Type No.	Mil. Std. Dwg. No.	Lens Color
25F1200	137-8836-0933-552	MS25257-2	Aviat. Yel.
25F1201	137-8836-0931-552	MS25257-4	Ident. Red
25F1202	137-8836-0937-552	MS25257-6	Clear

Prices	1-9	10-24	25-99	100-249
	3.18	2.65	2.35	2.06

Series 137-8864 Holders. For bright light when used with (9A-NE-2J) lamp, built-in 22K Res. on 110-125 VAC (†) 33K Res. for long life. Black anodize finish, aluminum bushing, steel hardware. Less lamp. (**) LH74/1 Base Assembly.

Stk. No.	Type No.	1-9	10-24	25-99	100-249
45F504	137-8864-09-512	2.77	2.31	2.06	1.80
45F505	137-8864-09-532†	2.77	2.31	2.06	1.80
25F333	361-8836-09-552**	2.77	2.31	2.11	1.84

LENSES TO BE USED WITH SERIES 137-8864 HOLDERS

Stk. No.	Type No.	Color	1-9	10-24	25-99	100-249
45F506	137-0931	Red	.41	.34	.29	.26
45F507	137-0933	Amber				
45F509	137-0937	Clear				

Series 181-8864, 181-8836 Holders. For use on 105-125VAC or DC with built-in 62K Res., except (*) 110-125VAC only with built-in 22K Res. Same as 137-8836 series except with retained "O" ring seal, water-tight construction. Less lamp.

Stk. No.	Type No.	1-9	10-24	25-99	100-249
45F510	181-8836-09-553	3.17	2.66	2.43	2.13
45F511	181-8864-09-513*				

LENSES TO BE USED WITH SERIES 181-8864, 181-8836 HOLDERS

Stk. No.	Type No.	Color	1-9	10-24	25-99	100-249
45F512	181-0931-003	Red	.71	.63	.56	.49
45F514	181-0935-003	White				
45F515	181-0937-003	Clear				

TELEPHONE SLIDE BASE INDICATOR LIGHTS

37-0428

70-0428

Back of panel mount in 9/16" clearance hole. Takes T-2 incandescent bulb with telephone side base. Front panel lamp replacement. With knurled ring, lockwasher, and hex mounting nut.Chrome finish. Solder term. Overall size: 2 15/16". Less lamp. Wt., 3 oz.

Stk. No.	Type	1-9	10-24	25-99	100-249
45F682	70-0428-11-306	1.90	1.69	1.57	1.35
45F683	33-0428-01-306				

LENS CAPS FOR ABOVE HOLDERS

Stk. No.	Stovepipe Type	Color	Stk. No.	Convex Type
45F684	70-1131-300	Red	45F689	37-0111-300
45F685	70-1132-300	Green	45F690	37-0112-300
45F686	70-1133-300	Amber	45F691	37-0113-300
	...	Blue	45F692	37-0114-300
45F688	70-1135-300	White	45F693	37-0115-300

Prices	1-9	10-24	25-99	100-249
	1.12	.95	.89	.75

Sub-Miniature & Indicator Lights

DIALIGHT

INDICATOR LIGHTS—TWO TERMINAL—FULLY INSULATED

Stovepipe Lens

Front Mounting

Front or Back Mounting

Cylindrical Lens

eet MIL requirements. Phenolic insulated. Lens cap assembly unscrews m front of panel for easy replacement of lamp. Two terminals (solder-g) provided for electrical connections. Anti-rotation (locked) construc-n provides secure locking of socket terminal assembly and center ter-nal. Stovepipe and cylindrical lenses molded of high heat plastic. Light urce T-1¾ midget flange base lamp; voltage range: 1.35 to 28. Order lder and lens separately to obtain necessary parts for self-assembly of mplete unit. Less lamp.

HOLDERS

ront mounting in 17/32".

Stk. No.	Type	1-9	10-24	25-99	100-249
25F1615	101-5030-09-201	1.59	1.32	1.16	1.03

ront or back mounting in 15/32" clearance hole.

Stk. No.	Type	1-9	10-24	25-99	100-249
25F1228	101-3830-09-201	1.59	1.32	1.16	1.03

STOVEPIPE LENS CAPS

Color	TRANSLUCENT Stk. No.	TRANSLUCENT Mfg. No.	TRANSPARENT Stk. No.	TRANSPARENT Mfg. No.
Red	25F1269	101-0971	25F1588	101-0931
Green	25F1270	101-0972	25F1589	101-0932
Amber	25F1271	101-0973	25F1590	101-0933
Blue	25F1272	101-0974	25F1591	101-0934
White	25F1273	101-0975	25F1592	101-0935
Yellow	25F1274	101-0976	25F1593	101-0936
Clear			45F516	101-0937

Prices	1-9	10-24	25-99	100-249
	.41	.34	.29	.26

FLAT CYLINDRICAL LENS CAPS

Color	TRANSLUCENT Stk. No.	TRANSLUCENT Mfg. No.	TRANSPARENT Stk. No.	TRANSPARENT Mfg. No.
Red	25F1616	140-1471	25F1622	140-1431
Green	25F1617	140-1472	25F1623	140-1432
Amber	25F1618	140-1473	25F1624	140-1433
Blue	25F1619	140-1474	25F1625	140-1434
White	25F1620	140-1475	25F1626	140-1435
Yellow	25F1621	140-1476	25F1627	140-1436
Clear			25F1628	140-1437

Prices	1-9	10-24	35-99	100-249
	.41	.34	.29	.26

SNAP-IN NEON FLASHING INDICATOR LIGHT

Flashing light for warning panel. Snap-in mounting for panels up to 3/16" thick. Low profile cap with black bezel. Nominal rate of 130 flashes per minute. Mounts in .755" hole.

Stk. No.	Type	Color	1-9	10-24	25-99	100-249
25F1451	539-1544-1891-001	Red	4.98	4.62	4.21	3.72
25F1452	539-1544-1893-001	Yellow				
25F1453	539-1544-1895-001	White				

INCANDESCENT SUB-MINIATURES MS 25226

ses T-1¾ incandescent lamps of 1.35 to 28 v. Front anel mounting in 16/32" clearance hole. Shipping eight, 1½ oz. less lamp.

Lens Color	Stock No.	Type No.	Mil. Std. Dwg. No.
Aviat. Yel.	25F1203	162-8430-0933-502	MS25256-2
Aviat. Green	25F1204	162-8430-0932-502	MS25256-4
Ident. Red	25F1205	162-8430-0931-502	MS25256-6
Aviat. White	25F1206	162-8430-0937-502	MS25256-8
Transl. White	25F1207	162-8430-0975-502	MS25256-10
Aviation Blue	25F1208	162-8430-0934-502	MS25256-12

Prices	1-9	10-24	25-99	100-249
	1.90	1.60	1.42	1.26

SERIES 81-HOLDERS

11/16" MTG. CLEARANCE HOLE ENCLOSED INDICATOR

Takes T-3¼ incandescent lamp. Has no resistor, for use on 2-120 VAC or VDC. Meets Mil. specs., mounts in 11/16" clearance hole in panels up to 3/8" thick. Polished chrome. Less lamp. Order holder and lens separately to obtain complete unit.

Stk. No.	Base Type No.	Terminal	Finish	1-9	10-24	25-99
45F528	81-0410-01-201	Solder	Blk. Nickel	1.39	1.25	1.14
57F3713	81-0410-01-301	Solder	Chrome	1.39	1.25	1.14
57F3719	81-1310-01-301	Screw	Chrome	1.51	1.30	1.18
45F530	81-9110-01-102	Solder	Wh. Nickel	1.12	1.05	.97

SERIES 81—LENS ASSEMBLIES

Screw in lenses. **Convex** lenses back frosted except (*) Unfrosted Faceted lenses are unfrosted.

POLISHED CHROME FINISH

Lens Color	CONVEX LENS Stk. No.	CONVEX LENS Type No.	FACETED LENS Stk. No.	FACETED LENS Type No.
Red	25F1029	81-0111-300	25F1036	81-0431-300
Green	25F1030	81-0112-300	25F1037	81-0432-300
Amber	25F1031	81-0113-300	25F1038	81-0433-300
Blue	25F1032	81-0114-300	25F1039	81-0434-300
White	25F1033	81-0135-300*	25F1040	81-0435-300
Lt. Yel.	25F1034	81-0116-300	25F1041	81-0436-300
Clear	25F1035	81-0117-300	25F1042	81-0437-300

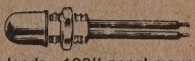
	1-9	10-24	25-99	100-249
Prices	.60	.56	.50	.47

WHITE NICKEL FINISH

Lens Color	CONVEX LENS Stk. No.	CONVEX LENS Type No.	FACETED LENS Stk. No.	FACETED LENS Type No.
Red	25F1555	81-0111-100	25F1562	81-2131-100
Green	25F1556	81-0112-100	25F1563	81-2132-100
Amber	25F1557	81-0113-100	25F1564	81-2133-100
Blue	25F1558	81-0114-100	25F1565	81-2134-100
White	25F1559	81-0135-100*	25F1566	81-2135-100
Lt. Yel.			25F1567	81-2136-100
Clear			25F1568	81-2137-100

	1-9	10-24	25-99	100-249
Convex				
Faceted	.50	.47	.43	.41

SUB MINIATURE INDICATOR LIGHTS



MS25446. High reliability T-1 filament lamp in high impact plastic cap. Molded to mounting bushing. Dustproof, moistureproof. Anti-rotation construction. Flexible 6" Type E wire leads. .193" panel mounting hole clearance. Lens cap dia.: 7/32" long. Lamp rating: 5.0 volt at .06 amps 60,000 hr. of life. 6.3 volts .07 amps, 6000 hrs. Sealed unit, non-replaceable lamp.

Lens Color	Stock No.	Type No.	Mil. Spec.
Red	25F1295	252-9951-0971	MS25446-4
Green	25F1294	252-9951-0972	MS25446-3
Amber	25F1297	252-9951-0973	MS25446-6
Blue	25F1293	252-9951-0974	MS25446-2
White	25F1296	252-9951-0975	MS25446-5
Clear	25F1298	252-9951-0937	MS25446-7

Prices	1-9	10-24	25-99	100-249
	3.84	3.42	3.13	2.79

WATER-TIGHT 2-TERMINAL SUB-MINIATURE LIGHTS

(Also see other Dialight pages for large oil-tight indicator lights) With retained "O" ring seal. Front mounting in 15/32" clearance hole. Takes T-1¾ midget flange base incandescents. From 1.35 to 28 volts. Lugs of brass and hottinned. Lockwasher, hex-nut supplied. Less lamp. Wt. 2 oz.

Holder Lens Cap

HOLDERS

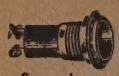
Stk. No.	Type	1-9	10-24	25-99	100-249
25F1637	177-8430-09-503	1.72	1.45	1.31	1.18

LENS CAPS FOR ABOVE HOLDERS

Lens Color	Stk. No.	Transparent	Stk. No.	Translucent
Red	25F1638	177-0931-003	45F694	177-0971-003
Green	25F1639	177-0932-003	45F695	177-0972-003
Amber	25F1640	177-0933-003	45F696	177-0973-003
Blue	25F1641	177-0934-003	45F697	177-0974-003
White	25F1642	177-0935-003	45F698	177-0975-003
Yellow	25F1643	177-0936-003	45F699	177-0976-003
Clear	25F1644	177-0937-003		

Prices	1-9	10-24	25-99	100-249
	.74	.62	.56	.52

DIALIGHT Indicator Lights & Pilot Assemblies


Screw Lug

Solder Lug

SERIES-95 HOLDERS 11/16" MTG. CLEARANCE HOLE T3¼ Neon Lamps

STANDARD BRIGHTNESS

Meet MIL-L-3661. Use B1A (NE-51) neon lamp. Has built-in 56-K resistor. For use on 105-125 VAC or VDC. 2 1/16" long, mounts in 11/16" clearance hole. Less lamp.

Stk. No.	Type	Finish	Term.	1-9	10-24	25-99	100-249
45F549	95-0408-09-241	Black Nickel	Solder	1.38	1.17	1.07	1.00
45F547	95-1308-09-241	Black Nickel	Screw	1.47	1.28	1.17	1.09
45F488	95-0408-09-341	Polished Chrome	Solder	1.67	1.43	1.32	1.17
57F3727	95-1308-09-341	Polished Chrome	Screw	1.80	1.54	1.39	1.24

HI-BRIGHTNESS

Meet MIL-L-3661. Use B2A(NE-51H) neon lamp. Has built-in 22-K resistor. For use on 110-125 VAC. 2 1/16" long, mounts in 11/16" clearance hole. Less lamp.

Stk. No.	Type	Finish	Term.	1-9	10-24	25-99	100-249
45F548	95-0463-09-211	Black Nickel	Solder	1.38	1.17	1.07	1.00
45F550	95-1363-09-211	Black Nickel	Screw	1.47	1.31	1.19	1.11
45F489	95-0463-09-311	Polished Chrome	Solder	1.67	1.43	1.32	1.17
57F3731	95-1363-09-311	Polished Chrome	Screw	1.80	1.54	1.39	1.24

Meet MIL-L-3661. Use B2A(NE51H) neon lamp. Has built-in 68-K resistor. For use on 210-250 VAC or VDC.

Stk. No.	Type	Finish	Term.	1-9	10-24	25-99	100-249
45F551	95-9463-09-361	Polished Chrome	Solder	1.67	1.43	1.32	1.17
45F552	95-9363-09-361	Polished Chrome	Screw	1.80	1.54	1.39	1.24

COMMERCIAL TYPE NEONS

Not MIL. Use B2A(NE-51H) neon lamp. Phenolic body, 2 1/16" long, mounts in 11/16" clearance hole. *Has built-in 56-K resistor, for use on 105-125 VAC or VDC ACC. B1A (NE-51) lamp. (†) Has built-in 22-K resistor, for use on 110-120 VAC. ACCOM. B2A (NE-51H) lamp.

Stk. No.	Type	Finish	Term.	1-9	10-24	25-99	100-249
45F555	95-9108-09-142*	White Nickel	Solder	1.23	1.14	1.05	.98
45F556	95-9163-09-112†	White Nickel	Solder	1.26	1.18	1.08	1.01

T-3¼ INCANDESCENT LAMPS 11/16" MTG. CLEARANCE HOLE ENCLOSED INDICATOR

Meet MIL-L-3661. Use T-3¼ incandescent lamp with miniature bayonet base 2-55 volts. 2 1/16" long, mounts in 11/16" clearance hole. Less lamp.

Stk. No.	Type	Finish	Term.	1-9	10-24	25-99	100-249
45F553	95-0410-09-201	Black Nickel	Solder	1.12	1.02	.92	.79
45F554	95-1310-09-201	Black Nickel	Screw	1.23	1.09	1.00	.85
57F3723	95-0410-09-301	Polished Chrome	Solder	1.39	1.20	1.08	1.00
57F3729	95-1310-09-301	Polished Chrome	Screw	1.50	1.29	1.16	1.05

COMMERCIAL TYPE INCANDESCENT

Not MIL. No resistor, for use on 2-55 VAC. Use T-3¼ incandescent lamp. Phenolic body, 2 1/16" long, mounts in 11/16" clearance hole. Less lamp.

Stk. No.	Type	Finish	Term.	1-9	10-24	25-99	100-249
45F557	95-9110-09-102	White Nickel	Solder	1.06	.99	.91	.84

LENS FOR ABOVE HOLDERS

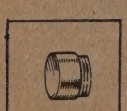
Stove Pipe (Internally Fluted Translucent)

Stove Pipe (Smooth Face Transparent)

(*) Not Recommended for Use with Neon Lamps

Short Stovepipe Fluted		Lens Color	Short Stovepipe Plain	
Stock No.	Type No.		Stock No.	Type No.
25F334	52-0991	Red	25F466	95-0931
25F335	52-0992	Green*	25F465	95-0932
25F336	52-0993	Amber	25F467	95-0933
25F337	52-0994	Blue*	25F474	95-0934
25F338	52-0997	Clear	25F468	95-0937
25F339	52-0995	White	25F469	95-0935

1-9	10-24	25-99	100-249
.29	.25	.24	.21



Lens Color	Cylindrical	
	Stock No.	Type No.
Red	45F560	135-1431
Green*	45F561	135-1432
Amber	45F562	135-1433
Blue*	45F563	135-1434
Clear	45F564	135-1437
White	45F565	135-1435

1-9	10-24	25-99	100-249
.29	.24	.23	.20

OIL TIGHT ASS'Y FOR 11/16" MTG. HOLE

Base-Screw Terminal

Base-Solder Terminal

Plain

Fluted

OIL-TIGHT PILOT LIGHT HOLDER-LESS LAMP FOR 11/16" MOUNTING HOLE FOR T3¼ INCAND. LAMP

Stk. No.	Type	Term.	1-9	10-24	25-99	100-249
45F566	125-0410-11-103	Solder	1.89	1.77	1.63	1.53
25F906	125-1310-11-103	Screw	2.00	1.88	1.72	1.62

OIL-TIGHT PILOT LIGHT HOLDER FOR USE WITH B1A(NE-51) FOR 11/16" MOUNTING HOLE-LESS LAMP WITH 56-K RESISTOR BUILT-IN

Stk. No.	Type	Term.	1-9	10-24	25-99	100-249
45F567	125-0408-11-143	Solder	2.21	2.07	1.91	1.78
25F907	125-1308-11-143	Screw	2.37	2.23	2.05	1.92

STOVEPIPE LENS

	Internally Fluted		Frosted Back		Plain	
Color	Stk. No.	Type 125	Stk. No.	Type 125	Stk. No.	Type 125
Red	45F568	1191-403	45F575	1111-403	45F582	1131-403
Green*	45F569	1192-403	.....	.....	45F583	1132-403
Amber	45F570	1193-403	45F577	1113-403	45F584	1133-403
Blue*	45F571	1194-403	.....	.....	45F585	1134-403
White	45F572	1195-403	.....	.....	45F586	1135-403
Lt. Yellow	45F573	1196-403	.....	.....	45F587	1136-403
Clear	45F574	1197-403	45F581	1117-403	45F588	1137-403

1-9	10-24	25-99	100-249
1.03	.91	.85	.78

(*) Not Recommended for Use with Neon Lamps

OIL-TIGHT ASSEMBLIES FOR 1" MTG. HOLE

Screw Terminal Base

Faceted Lens

Enclosed assemblies for heavy duty industrial applications. Gasketed lens. Lens gives 180° light spread. Takes 6S6 incandescent (bayonet or screw mt.) lamp. Supplied less lamp. 1 3/16 x 1 7/8". Mounting Wt. 3 oz.

656—SCREW EXCEPT (*) BAYONET

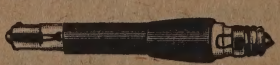
Stock No.	Type No.	1-9	10-24	25-99	100-249
45F589	103-3502-05-103*	3.55	3.32	3.04	2.83
45F590	103-3101-05-103	3.11	2.91	2.66	2.47

LENS FOR ABOVE BASES TORPEDO FACETED LENS DOME LENS (FROSTED BACK)

Stock No.	Type No.	Color	Stock No.	Type No.
45F591	103-1331-403	Red	45F598	103-1211-403
45F592	103-1332-403	Green	45F599	103-1212-403
45F593	103-1333-403	Amber	45F600	103-1213-403
45F594	103-1334-403	Blue	45F601	103-1214-403
45F595	103-1335-403	White	45F602	103-1235-403*
45F596	103-1336-403	Yellow	45F603	103-1216-403
45F597	103-1337-403	Clear	45F604	103-1217-403

1-9	10-24	25-99	100-249
1.41	1.23	1.13	1.00

*Unfrosted



PILOT BULB REMOVER

Type 506-0045. Molded of rubber. Has two hollow ends which stretch over and engage lamps tightly. One end for T-3¼ type bulbs; the other for T-4½ type bulbs. Core of solid rubber provides needed rigidity for sure grip. Wt., 4 oz.

Stock No.	Type No.	1-9	10-24	25-99	100-249
25F1544	506-0045	.49	.45	.42	.38

Type 506-0073. Molded rubber. One end for T-3¼ types. Other for S6 candelabra screw base bulbs.

Stock No.	Type No.	1-9	10-24	25-99	100-249
25F480	506-0073	.45	.35	.30	.27

Indicator Light Assemblies

DIALIGHT

Base
31-0914

Base
31-3101

Smooth Lens

32-0111

Faceted Lens

32-0431

U.L. APPROVED INDICATOR LIGHT ASSEMBLIES

andelabra socket; lamp removable from front. Requires 1" clearance ole for mounting. Less lamp. Series 31-0914-01 for use with B7A (NE-5) neon glow lamps in 115 volt circuit. 2⅝" long. 4 oz. Series 31-3101 ndicator light is for use with S6 bulb on 115 volt circuit. 5 oz. Less mp. Order holder and lens separately to obtain necessary parts for elf-assembly of complete unit. For example: 32-0111-300 lens plus 31-914-01-102 holder becomes a 32-0914-0111-302 assembly.

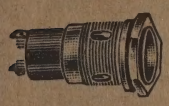
Stock No.	Type No.	1-9	10-24	25-99	100-249
45F605	31-0914-01-102	2.00	1.88	1.72	1.62
45F606	31-3101-01-102	1.81	1.69	1.56	1.44

LENS CAPS FOR ABOVE HOLDERS

Stk. No.	Type No.	Color	Stk. No.	Type No.
25F1576	32-0111-300	Red	25F1582	32-0431-300
25F1577	32-0112-300	Green	25F1583	32-0432-300
25F1578	32-0113-300	Amber	25F1584	32-0433-300
25F1579	32-0114-300	Blue	25F1585	32-0434-300
25F1580	32-0116-300	Lt. Yellow	25F1586	32-0436-300

1-9	10-24	25-99	100-249
.71	.67	.62	.58

OIL-TIGHT ASSEMBLIES FOR 1" MOUNTING HOLE



Holder

Smooth Lens

Uses Neon Glow Lamps

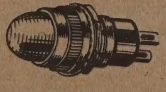
or use with the B7A (NE-45) candelabra screw base lamp. Resistor uilt-in the lamp base. Overall size approx. 1³⁄₁₆x2⁷⁄₃₂". Comes with split ckwasher and hex nut. Less lamp. Shpg. wt., 3 ozs. Order holder and ns separately to obtain necessary parts for self-assembly of complete lit. Dome Style Unfrosted Lens except (†) - frosted back.

Stock No.	Type No.	1-9	10-24	25-99	100-249
45F607	103-3114-05-103	2.96	2.78	2.55	2.40

LENS CAPS FOR ABOVE HOLDER

Stock No.	Type No.	Color	1-9	10-24	25-99	100-249
45F608	103-1231-403	Red	1.41	1.23	1.13	1.00
45F609	103-1233-403	Amber				
45F610	103-1236-403	Yellow				
45F611	103-1237-403	Clear				
45F612	103-1217-403	Clear†				

OIL-TIGHT ASSEMBLY FOR 1⅛" MOUNTING HOLE



lse B2A (NE-51H) neon lamp. Has built-n 22-K resistor. For use on 110-125 'AC, bright light. Mounts in 11/16" learance hole. Less lamp.

HOLDER

Stock No.	Type No.	1-9	10-24	25-99	100-249
45F618	125-0463-11-113	2.21	2.07	1.91	1.78

UNFROSTED STOVEPIPE LENS CAPS FOR ABOVE HOLDER

Stock No.	Type No.	Color	1-9	10-24	25-99	100-249
45F582	125-1131-403	Red	1.03	.91	.85	.78
45F584	125-1133-403	Amber				
45F588	125-1137-403	Clear				

Make NEWARK Your Dependable Source
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PRESS-TO-TEST ASSEMBLY FOR 1" MOUNTING HOLE

Conforms to MIL Specs.

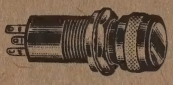
Mounts in 1" clearance hole. Overall size approx. 1¼x3¼". Three, rugged binding screw terminals: 2 for "normal" circuit; 1 for "test" circuit. Uses S6 bulbs with candelabra screw base. Supplied less lamp. Transparent, back frosted lens.

Stock No.	Type No.	1-9	10-24	25-99	100-249
45F620	820-2701-01-502	8.03	6.73	6.05	5.30

LENS CAPS FOR ABOVE HOLDERS

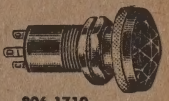
Stock No.	Type No.	Color	1-9	10-24	25-99	100-249
45F621	820-0111-500	Red	1.97	1.75	1.62	1.33
45F622	820-0112-500	Green				
45F623	820-0113-500	Amber				
45F627	820-0117-500	Clear				

PRESS-TO-TEST ASSEMBLY FOR ⅝" MOUNTING HOLE



804-1710

803-1710



806-1710

Built-in bulb-testing device. Units light when pressed if lamp is satisfactory. 3 solder lugs. 180° visible light beam for daylight, indirect "halo" light for night. Less lamps. Accommodates T-3¼ lamp.

WITH MECHANICAL SHUTTER DIMMER—⅝" LENS

Stk. No.	Type	Mil. Type No.	Lens Color
25F991	804-1710-0331-504	MS25331-2	Red
25F992	804-1710-0332-504	MS25331-3	Green
25F993	804-1710-0333-504	MS25331-4	Amber

WITHOUT DIMMER-½" LENS

25F995	803-1710-0331-504	MS25331-6	Red
25F996	803-1710-0332-504	MS25331-7	Green
25F997	803-1710-0333-504	MS25331-8	Amber

WITHOUT DIMMER-1" LENS

25F1510	806-1710-0431-504	.....	Red
25F1511	806-1710-0432-504	.....	Green
25F1512	806-1710-0433-504	.....	Amber

Lens	1-9	10-24	25-99	100-249
804 Series	4.60	4.00	3.60	3.23
803 Series	3.99	3.38	2.99	2.64
806 Series	4.61	3.85	3.45	3.05

PRESS-TO-TEST ASSEMBLIES FOR 1³⁄₃₂" MOUNTING HOLE

Accommodates T-1¾ lamp. QPL listed. Mounts from back of panel. Marking is die-stamped and filled on all lens caps.

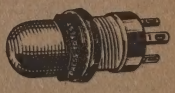
FOR T-1¾ LAMP

Lens Color	Dimming Stk. No.	Dimming MS No.	Type 801-1030	Non-Dimming Stk. No.	Non-Dimming MS No.	Type 800-1030
Clear	25F983	25041-1	0337-504	25F987	25041-5	0337-504
Red	25F984	25041-2	0331-504	25F988	25041-6	0331-504
Green	25F985	25041-3	0332-504	25F989	25041-7	0332-504
Amber	25F986	25041-4	0333-504	25F990	25041-8	0333-504
Blue	25F1514	25041-10	0334-504	25F1515	25041-11	0334-504

	1-9	10-24	25-99	100-249
801 Series	3.77	3.33	3.04	2.73
800 Series	3.16	2.70	2.46	2.17

SERIES 812

Meet or exceed requirements of MIL-L-7961B and MIL-L-3661. 3 terminals. "Press-To-Test" marking is die-stamped and filled on the flange nut. Accommodates T-1¾ lamp. Mounts from back of panel in ⅞" hole.



BASE ASSEMBLY

Stk. No.	Type	1-24	25-49	50-99	100-249
25F1600	812-1030-09-506	2.37	2.00	1.79	1.58

NON-DIMMER TRANSLUCENT ½" STOVEPIPE LENS CAPS

25F1609	812-0975	White	1.02	.89	.80	.72
25F1610	812-0971	Red				
25F1611	812-0972	Green				
25F1612	812-0973	Amber				

DIALIGHT Indicator Lights and Sockets

MINIATURE OPEN TYPE

HOLDER

CAP

Miniature screw and (*) bayonet socket assemblies. Uses faceted jewels. Mounts in 11/16" hole. Bulb removable from front. With tinned solder lugs. Uses T-3¼ Bulb. Less bulbs. Wt. 3 oz.

HOLDER

Stk. No.	Type	1-9	10-24	25-99	100-249
45F670	502-8136-102*	.87	.76	.69	.59
45F671	502-8137-102				

OPEN BAYONET TYPE

Open type pilot light assembly. Has min. bay. socket. Uses faceted jewel. Requires 11/16" mtg. hole. Designed for mounting on panels up to ¼" thick. With mtg. washers. Uses T-3¼ lamp. Less lamp. Tinned lugs. 4 oz.

HOLDER

Stk. No.	Type	1-9	10-24	25-99	100-249
45F672	502-8140-100	1.04	.92	.84	.77

HALF INCH DIA. LENS CAPS FOR ABOVE HOLDERS

Faceted		Lens Color	Convex-frosted Except* Back	
Stk No.	Type		Stk. No.	Type
25F1562	81-2131-100	Red	25F1555	81-0111-100
25F1563	81-2132-100	Green	25F1556	81-0112-100
25F1564	81-2133-100	Amber	25F1557	81-0113-100
25F1565	81-2134-100	Blue	25F1558	81-0114-100
25F1566	81-2135-100	White	25F1559	81-0135-100*
25F1568	81-2137-100	Clear	25F1561	81-0117-100

	Type	1-9	10-24	25-99	100-249
Prices	Faceted Convex	.50	.47	.43	.41

TAMPER PROOF OPEN TYPE

CAP

HOLDER

115 volt pilot light assemblies, uses faceted jewels, chrome-plated brass holder. Candelabra socket for S6 Lamp requires 11/16" hole for mounting. Less lamp. 4 oz.

HOLDER

Stk. No.	Type	1-9	10-24	25-99	100-249
45F673	502-2511	.71	.66	.59	.54

FACETED LENS CAPS FOR ABOVE HOLDER

Stk. No.	Type	Lens Color	1-9	10-24	25-99	100-249
25F430	514-2512-0431-302	Red	1.26	1.18	1.09	1.02
25F431	514-2512-0432-302	Green				
25F432	514-2512-0433-302	Amber				

OPEN TYPE

CAP

HOLDER

Complete with (*) candelabra, (†) bayonet or (#) m screw base sockets for standard pilot bulbs. Uses ceted jewels in nickel plated brass holders. Lug ter nals. Requires 7/16" hole for mtg. Less bulbs. Wt. 2 o

HOLDER

Stk. No.	Type	Lamp Used	1-9	10-24	25-99	100-249
45F674	502-1010*	S6	.62	.58	.53	.49
45F675	502-1024†	T3¼	.45	.40	.36	.33
45F676	502-1015#	T3¼	.45	.40	.36	.33

FACETED LENS FOR ABOVE HOLDERS

Stk. No.	Type	Lens Color	1-9	10-24	25-99	100-249
25F435	514-1012-2131-102	Red	.48	.45	.41	.39
25F436	514-1012-2132-102	Green				
25F347	514-1012-2133-102	Amber				
25F439	514-1012-2135-102	White				

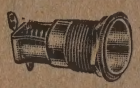
1-INCH OPEN PLATED TYPE ASSEMBLY

Polished chrome-plated brass jewel holde *Uses T-3¼" bay, base lamp. #Uses S6 ca screw lamp. Reg. 1" mtg. holes. Less lamps. 3 o

Stk. No.	Type	1-9	10-24	25-99	100-249
45F677	502-3241-102*	1.07	.97	.90	.84
45F679	502-3214-102#	1.18	1.06	.97	.91

OPEN CANDELABRA

CAP



Accomodates faceted jewels holder. Candelabra socket for lamp. Require 1" hole. Less Lar Wt. 5 oz.

HOLDER

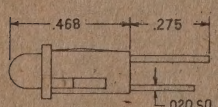
Stk. No.	Type	1-9	10-24	25-99	100-249
45F700	502-3228-102	1.31	1.19	1.09	1.02

LENS CAPS FOR HOLDER LISTED ABOVE

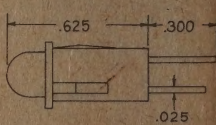
Stk. No.	Convex frosted except* unfrosted	Lens Color	Stk. No.	Faceted Type
25F1576	32-0111-300	Red	25F1582	32-0431-300
25F1577	32-0112-300	Green	25F1583	32-0432-300
25F1578	32-0113-300	Amber	25F1584	32-0433-300
25F1579	32-0114-300	Blue	25F1585	32-0434-300
45F681	32-0135-300*	White	45F680	32-0435-300
25F1580	32-0116-300	Lt. Yellow	25F1586	32-0436-300
25F1581	32-0117-300	Clear	25F1587	32-0437-300

Quantity	1-9	10-24	25-99	100-249
Price	.71	.67	.62	.58

558 & 559 SERIES SNAP-IN LED INDICATORS



Snap-in mounting requires no additional hardware. 558 Series mounts in .156" hole. 559 Series mounts in .250" hole. Compact design allows high density packaging. Straight terminals suitable for wire-wrapping and/or soldering, or 6" wire leads. Black housing enhances contrast ratio. Polarity identified. High brightness LEDs. Wide angle visibility. Low power requirements: 15-20 mA. IC compatible. Vibration and shock resistant.



558 SERIES
REQUIRES EXTERNAL RESISTOR

Stk. No.	Type	LED Color	Description	1-99	10-24	25-99	100-249
25F1490	558-0101-001	Red	Straight Terminals	.75	.60	.60	.40
25F1491	558-0201-001	Green	Straight Terminals	1.10	.95	.95	.75
25F1492	558-0301-001	Yellow	Straight Terminals	1.10	.95	.95	.75
25F1493	558-0101-003	Red	Wire Leads	1.17	1.02	1.02	.88
25F1494	558-0201-003	Green	Wire Leads	1.53	1.32	1.32	1.15
25F1495	558-0301-003	Yellow	Wire Leads	1.53	1.32	1.32	1.15

WITH INTEGRAL RESISTOR (5V, 15mA TYPICAL)

25F1496	558-0102-001	Red	Straight Terminals	1.00	.85	.85	.65
25F1497	558-0202-001	Green	Straight Terminals	1.40	1.25	1.25	.95
25F1498	558-0302-001	Yellow	Straight Terminals	1.40	1.25	1.25	.95
25F1499	558-0102-003	Red	Wire Leads	1.52	1.31	1.31	1.13
25F1500	558-0202-003	Green	Wire Leads	2.08	1.80	1.80	1.56
25F1501	558-0302-003	Yellow	Wire Leads	2.08	1.80	1.80	1.56

559 SERIES
REQUIRES EXTERNAL RESISTOR

Stk. No.	Type	LED Color	Description	1-9	10-24	25-99	10 24
25F1502	559-0101-001	Red	Straight Terminals	.75	.60	.60	.4
25F1503	559-0201-001	Green	Straight Terminals	1.10	.95	.95	.7
25F1505	559-0301-001	Yellow	Straight Terminals	1.10	.95	.95	.7
25F1506	559-0101-003	Red	Wire Leads	1.13	.98	.98	.8
25F1508	559-0201-003	Green	Wire Leads	1.49	1.29	1.29	1.1
25F1516	559-0301-003	Yellow	Wire Leads	1.49	1.29	1.29	1.1

WITH INTEGRAL RESISTOR (5V, 15mA TYPICAL)

25F1517	559-0102-001	Red	Straight Terminals	1.00	.85	.85	.6
25F1518	559-0202-001	Green	Straight Terminals	1.40	1.25	1.25	.9
25F1519	559-0302-001	Yellow	Straight Terminals	1.40	1.25	1.25	.9
25F1520	559-0102-003	Red	Wire Leads	1.47	1.27	1.27	1.0
25F1521	559-0202-003	Green	Wire Leads	2.02	1.75	1.75	1.5
25F1522	559-0302-003	Yellow	Wire Leads	2.02	1.75	1.75	1.5

"ULTRALITES" .20", .30" & .40" ROUND INDICATORS

PRICING CODE

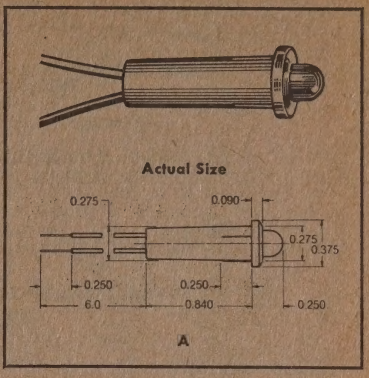
Key	1-9	10-24	25-99	100-249
A	1.11	1.00	.90	.81
B	1.39	1.25	1.13	1.02
C	1.49	1.34	1.20	1.09
D	1.30	1.17	1.05	.95
E	1.54	1.39	1.25	1.13
F	1.63	1.47	1.32	1.19
G	2.13	1.92	1.72	1.56
H	2.22	2.00	1.80	1.63
J	2.31	2.09	1.87	1.70
K	2.40	2.17	1.95	1.77
L	2.50	2.25	2.02	1.84
M	2.59	2.34	2.10	1.90

Fig. A. 0.2" Round Indicators are solid-state devices useful in low-power circuits. Has chrome bezel, current-limiting resistor, and up to 160° effective field of indication. Mounts in 3/32" hole; comes with 6 inch insulated leads. Body material is nylon.

Stk. No.	Type	VDC	mA	Color	Code
39F2530	6080-900-304	2	40*	Red	A
39F2531	6080-002-304	2	40*	Red†	B
39F2532	6080-005-304	2	40*	Grn.†	C
39F2533	6080-004-304	2	40*	Yel.†	C
39F2534	6081-900-304	5	16	Red	D
39F2535	6082-002-304	5	40	Red†	E
39F2536	6082-005-304	5	40	Grn.†	F
39F2537	6082-004-304	5	40	Yel.†	F

Fig. B. 0.3" Round Indicators. Similar to 0.4" indicators below except for following: Mounts in 3/8 inch dia. hole, unit is slightly smaller than shown in figure B.

Stk. No.	Type	VDC	mA	Color	Code
39F2538	6330-302-505R	2	40*	Red	G
39F2539	6330-002-505R‡	2	40*	Red	H
39F2540	6330-301-505A	2	40*	Amb.	J
39F2541	6330-001-505A‡	2	40*	Amb.	K
39F2542	6330-305-505G	2	40*	Grn.	J
39F2543	6330-005-505G‡	2	40*	Grn.	K
39F2544	6332-302-505R	5	40	Red	J
39F2545	6332-002-505R‡	5	40	Red	K
39F2546	6332-301-505A	5	40	Amb.	L
39F2547	6332-001-505A‡	5	40	Amb.	M
39F2548	6332-305-505G	5	40	Grn.	L
39F2549	6332-005-505G‡	5	40	Grn.	M



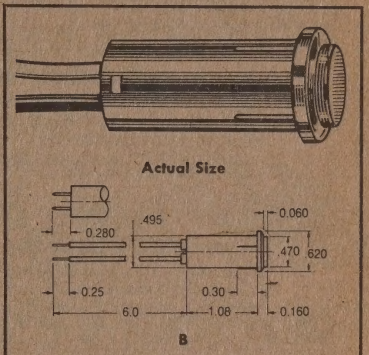
0.4" ROUND INDICATORS

Fig. B. These miniature solid-state devices feature wide effective field of indication—up to 140°, unequaled brightness and spot size and chrome bezel. Require low power drain. Luminous intensity at 40 mA: Red—13 mcd, Amber—10 mcd, Green—5 mcd. Maximum reverse voltage—5 VDC.

Stk. No.	Type	VDC	mA	Color	Code
39F2550	6340-302-505R	2	40*	Red	G
39F2551	6340-002-505R‡	2	40*	Red	H
39F2552	6340-301-505A	2	40*	Amb.	J
39F2553	6340-001-505A‡	2	40*	Amb.	K
39F2554	6340-305-505G	2	40*	Grn.	J
39F2555	6340-005-505G‡	2	40*	Grn.	K
39F2556	6342-302-505R	5	40	Red	J
39F2557	6342-002-505R‡	5	40	Red	K
39F2558	6342-301-505A	5	40	Amb.	L
39F2559	6342-001-505A‡	5	40	Amb.	M
39F2560	6342-305-505G	5	40	Grn.	L
39F2561	6342-005-505G‡	5	40	Grn.	M

ERRATA CODE

(*) Requires ext. current limiting resistor
(†) Indicates Hi-Efficiency
(‡) Solder lugs on leads. All others have wire terminals.



"SOLID-STATE ASTROLITE" SUBMINIATURE INDICATOR LITES

- **LOW POWER DRAIN, FAST RESPONSE**
- **60° VIEWING ANGLE**
- **IDEAL FOR COMPUTER AND MEDICAL APPLICATIONS**

Submidget w/built-in bright red LED; 60° viewing. Life rated in years; resistant to shock/vibration. Compatible with low E pwr. supply, or drive directly with solid-state circuitry. Operates on 1.8 to 2.8 VDC. Mounts in .191" dia. "D" hole in 3/16" max. thk. panels on 11/32" min. ctrs. 1.—6" wire leads, 105°C PVC ins. 2.—3/8" lg. wire terminals.

Stk. No.	Fig.	Type No.	1-9	10-24	25-99	100-249
39F3420	1.	6039-004-304	1.87	1.74	1.66	1.39
39F3421	2.	6039-005-304	1.58	1.47	1.32	1.18

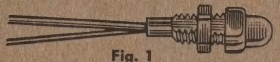
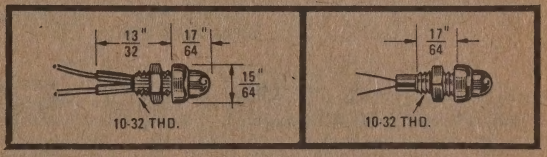


Fig. 1

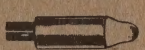
Fig. 2



CM20 SERIES SUBMINIATURE LENS-END LITES

CM20-1

CM20-2


CM20-3

CM20-4

CM20-6

CM20-7

Type	Lamp Type	Volts	Amps ±10%	Life (Hours)
CM20-1#	TL-1¾	2.5	.350	10,000
CM20-2††	SL-1¾	3.0	.325	10,000
CM20-3§	TL-1¾	2.5	.350	10,000
CM20-4‡‡	TL-1¾	2.5	.350	10,000
CM20-6**	TL-1¼	6.0	.200	1,000
		5.1	.180	10,000
CM20-7**	TL-1¼	28.0	.040	1,000
		24.0	.036	10,000
CM20-1‡‡	TL-1¾	5.0	.350	10,000

PRICING TABLE

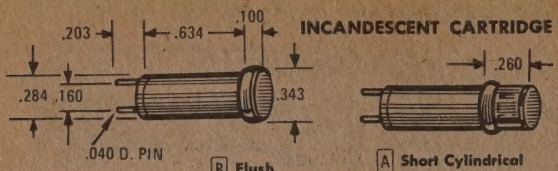
Stock No.	Type	1-9	10-24	25-99	100-249
25F1720	CM20-1	2.75	2.55	2.27	2.05
25F1721	CM20-2	5.17	4.81	4.25	3.85
25F1722	CM20-3	2.82	2.63	2.32	2.10
25F1723	CM20-4	3.43	3.19	2.83	2.56
25F1725	CM20-6	2.57	2.39	2.11	1.91
25F1726	CM20-7	2.64	2.45	2.17	1.97
67F4574	CM20-17	4.68	4.35	3.84	3.48

- **Choice of lead styles**
- **Intense spot of luminous and infrared energy**
- **Choice of spot shape and orientation**

For close proximity use with photosensors where an intense spot of luminous and infrared energy is required. CM20-1, CM20-2 (right angle lens), and CM20-17 are mounted in bi-pin cartridges. Clear anodized aluminum body; stainless steel terminals; nylon insulation. CM20-3 thru CM-20-17 are packaged in gold anodized aluminum sleeves with 24 AWG stranded wire leads. Type B insulation per MIL-W-16878. Semi-resilient thermosetting resin encapsulation. Wt. ½ oz. Note: (#) Spot covers 1/8" dia. target when projected 3/8" from end of bulb at min. intensity of 750 foot-candles. (††) When projected 1" from end of bulb, spot covers 1" dia. at 350 foot-candles. (§) 3/8" from bulb, spot covers 1/16" dia. at 750 foot-candles. Spot is narrow elliptical. (‡‡) Same as CM20-3 except spot covers 1/8" dia. target. Spot is round elliptical. (**) No specifications for spot, however, lamp is axially aligned.

Miniature Lamp Indicators

INCANDESCENT CARTRIDGE INDICATOR LAMPS & HOLDERS



B Flush A Short Cylindrical

Ideal for all subminiature applications: computers, data processing equipment, instrumentation, etc. Mount in cartridge holder or mounting clip (not incl.). Clear anodized aluminum housing; nylon insulation. Stainless steel pins, off center for polarization. Meets MIL-L-3661 requirements. Mounts in 9/32" clearance hole. Available with hot stamped legends.

A 14.0 VOLTS, 0.08 AMP TRANSLUCENT

Stock No.	Type No.	Lens Color	1-9	10-24	25-99	100-249
39F2450	CML64028J	Red	1.90	1.60	1.47	1.24
39F2451	CML640282	Green				
39F2452	CML642083	Amber				
39F2453	CML640284	Blue				
39F2454	CML640285	White				
39F2455	CML640286	Yellow				

CM21-3 SERIES CARTRIDGE INDICATOR CONNECTOR

CM21-3 connectors are convenient low cost devices for use with cartridge indicators. Connector bodies are high temperature phenolic. The contacts are cadmium plated brass for corrosion resistance.

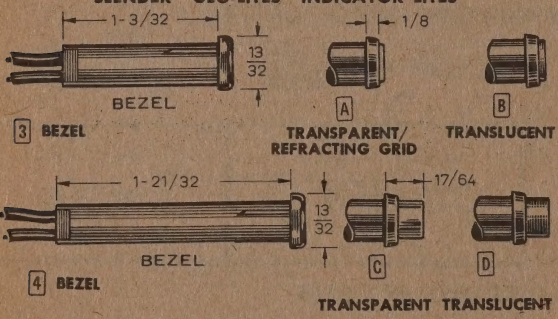
Stock No.	Type	1-9	10-24	25-99	100-249
35F016	CM21-3	.37	.33	.30	.27

CARTRIDGE INDICATOR MOUNTING CLIP

For mounting CML cartridge indicators directly into panels. Spring tempered steel, black rust-preventive finish.

Stock No.	Type	1-9	10-24	25-99	100-249
39F3509	CML10380	.10	.08	.07	.06

SLENDER "GLO-LITES" INDICATOR LITES



Slender "Glo-Lites" are offered in amber or green neon or incandescent lamps. All types mount in 7/16" holes on centers as close as 7/16". Neon lamps **C2A** and **G2B** are rated at 125VAC, 1/4 watt and are high brightness. **C2A** is amber, **G2B** is green. Incandescent lamp ratings: **2181**—6.3 VDC; **2182**—14 VDC; **2187**—28 VDC. Lens colors: **A**—amber, **B**—blue, **C**—colorless, **G**—green, **R**—red, **W**—white, **Y**—yellow. **Specify color when ordering.**

INCANDESCENT LAMPS

Stk. No.	Type	Fig.	Lens	Volts	Amps	Lamp	1-9	10-24	25-99
39F2514	6386-003-507	3	B*	6.3VDC	.20	2181	1.58	1.47	1.32
39F2515	6387-003-507	3	B*	14VDC	.08	'2182	1.58	1.47	1.32
39F2516	6388-003-507	3	B*	28VDC	.04	2187	1.85	1.85	1.65
39F2517	6386-003-607	3	D	6.3VDC	.20	2181	1.58	1.47	1.32
39F2518	6387-003-607	3	D	14VDC	.08	2182	1.58	1.47	1.32
39F2519	6388-003-607	3	D	28VDC	.04	2187	1.85	1.85	1.65

Colors: (*) R-Y-G-B; all others R-Y-G

AMBER NEON LAMPS

26F0013	6483-003-583	4	A	125VAC	.....	C2A	1.53	1.53	1.37
26F0014	6483-403-603	4	C	125VAC	.....	C2A	1.53	1.53	1.37

Colors: A-R-W-C

GREEN NEON LAMPS

39F2520	6483-005-583	4	A	125VAC	.....	G2B	1.78	1.68	1.49
39F2521	6483-405-603	4	C	125VAC	.....	G2B	1.78	1.68	1.49

Colors: C-W-G

A 28.0 VOLTS, 0.04 AMP TRANSLUCENT

Stock No.	Type No.	Lens Color	1-9	10-24	25-99	100-249
39F2456	CML640111	Red	1.64	1.37	1.25	1.07
39F2457	CML640112	Green				
39F2458	CML640113	Amber				
39F2459	CML640114	Blue				
39F2460	CML640115	White				
39F2461	CML640116	Yellow				

B 14.0 VOLTS, 0.08 AMP TRANSLUCENT LONG LIFE

39F2468	CML540281	Red	1.90	1.60	1.47	1.24
39F2469	CML540282	Green				
39F2470	CML540283	Amber				
39F2471	CML540284	Blue				
39F2472	CML540285	White				
39F2473	CML540286	Yellow				

B 28.0 VOLTS, 0.04 AMP TRANSLUCENT

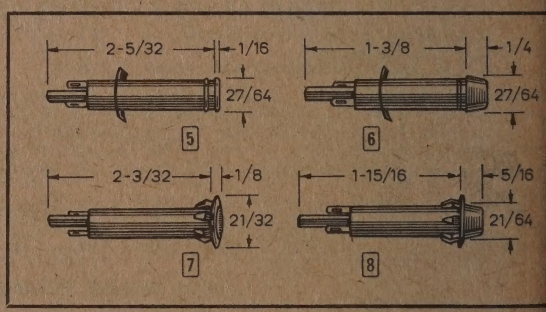
39F2474	CML540111	Red	1.64	1.37	1.25	1.07
39F2475	CML540112	Green				
39F2476	CML540113	Amber				
39F2477	CML540114	Blue				
39F2478	CML540115	White				
39F2479	CML540116	Yellow				

CML SERIES T-1¾ AND T-2 CARTRIDGE HOLDERS

Body collar, facing nut, aluminum black anodized. Lock washe and hex nut, cadmium plated steel. Insulator, phenolic. Letter and B are located on the base for terminal identification. Termin pins are located off-center for correct polarity in DC circuits.

Stock No.	Type	Fig.	Terminals	1-9	10-24	25-99	100-249
35F022	CML10203-1	A	Solder cup	1.92	1.92	1.56	1.23
35F020	CML10202-1	B	Turret	1.92	1.92	1.56	1.23

NEON "GLO-LITES" INDICATOR LITES



Neon "Glo-Lites" feature built-in series limiting resistor, front pan mounting and 125 VAC operation. Mounting: Figs. 5 & 6: 3/8" di hole; Figs. 7 & 8: 1/2" dia. hole. U.L. and C.S.A. approved. Ambe red and white lens lamps have C2A high brightness neon lamp green lamps have G2B high brightness lamp. **Specify color whe ordering.**

AMBER, RED OR WHITE LENS

Stk. No.	Type	Fig.	Leads	Lamp	1-9	10-24	25-9
26F0005	6063-000-534	5	Solder lugs	C2A	1.21	1.11	1.00
26F0006	6063-000-634	6	Solder lugs	C2A	1.21	1.11	1.00
26F0007	6063-003-534	5	Wire	C2A	1.10	1.01	.92
26F0008	6063-003-634	6	Wire	C2A	1.10	1.01	.92
26F0009	6073-000-534	7	Solder lugs	C2A	1.29	1.18	1.06
26F0010	6073-000-634	8	Solder lugs	C2A	1.29	1.18	1.06
26F0011	6073-003-534	7	Wire	C2A	1.19	1.09	.99
26F0012	6073-003-634	8	Wire	C2A	1.46	1.34	1.21

GREEN LENS

39F2522	6063-005-534	5	Solder lugs	G2B	1.31	1.20	1.09
39F2523	6063-005-634	6	Solder lugs	G2B	1.31	1.20	1.09
39F2524	6073-005-534	7	Solder lugs	G2B	1.46	1.34	1.21
39F2525	6073-005-634	8	Solder lugs	G2B	1.46	1.34	1.21
39F2526	6063-035-534	5	Wire	G2B	1.25	1.14	1.03
39F2527	6063-035-634	6	Wire	G2B	1.25	1.14	1.03
39F2528	6073-035-534	7	Wire	G2B	1.39	1.28	1.16
39F2529	6073-035-634	8	Wire	G2B	1.39	1.28	1.16

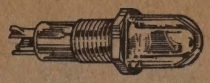
Lighted Devices

"FLUSHLITE" INDICATOR LIGHTS

High brightness, all nylon neon indicator lamp features built-in series limiting resistor and diffused lighting. Operates on 125 VAC @ ⅛ watt. 5000 hours min. life. Mounts front or rear. Available in amber, red or white. **Specify color when ordering.**

Stk. No.	Type	Dimensions	1-9	10-24	25-99	100-249
25F1996	6103-000-924	1⅛"Lx⅜"H	1.19	1.09	.99	.75

"POSTLITE" INDICATOR LIGHTS



High brightness neon lamp with built-in series limiting resistor. Operates on 105-125 VAC; 25000 hours average life. Front mounting in ½" dia. hole on panels up to 5/16" thick. Available in amber, red and colorless. **Specify color when ordering.**

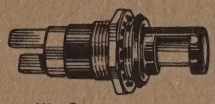
Stk. No.	Type	Dimensions	1-9	10-24	25-99	100-249
25F1997	6053-000-023	2 1/32"Lx⅝" Dia.	1.26	1.18	1.05	.94

INSTRUMENT LIGHTS

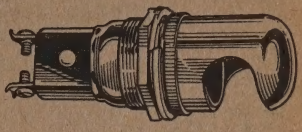
Min. Bayonet. Uses T-3¼ incand. lamp (not incl.). Threaded aluminum hood has black exterior finish. Mounts in 13/16" dia. hole in panels up to 13/32" thk.; incl. mtg. hdwe. —224 and —228 have transparent window and are dust/drip proof. Solder lug or ¼" quick connect terms.

Stk. No.	Type No.	Term.	EACH 1-9	10-24	25-99	100-249
39F3462	900-200	S	2.45	2.05	1.89	1.67
39F3463	900-208	F	1.97	1.85	1.74	1.63
39F3464	900-224	S	2.54	2.38	2.24	2.10
39F3465	900-228	F	2.77	2.49	2.31	2.14

Key: S—solder lugs. F—quick connect.



Min. Bayonet

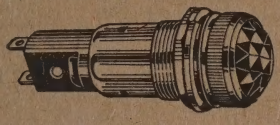


Candelabra Base

Candelabra Base. Front or rear mtg.; nickel pl. friction hood. Uses 120V, 6s6 lamp (not incl.) Mounts in 1" dia. hole on 1⅜" ctrs. in panels up to ½" thk. Screw terminals.

Stk. No.	Type No.	1-9	10-24	25-99	100-249
39F3466	900-006	2.44	2.13	2.00	1.83

1" DIA., "J"-SLOT, LENS INDICATOR LIGHT



For 125 V operation. Uses S6 incand. candelabra screw base lamp (not incl.). Lens cap/bezel shank has "J" slots & exclusive tension anti-rotation lamp retainer for security against shock/vibration. UL & CSA listed at 75 W. 125V. Solder lugs. Multi-faceted jewel lens incl. SPECIFY LENS COLOR: B, G, R, T, W, Y.

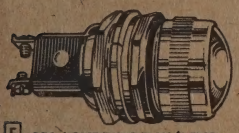
Stk. No.	Type No.	1-9	10-24	25-99	100-249
39F3467	5766-522-116	2.61	2.47	2.34	2.21

"TITELITES" LARGE LENS INDICATOR LITES

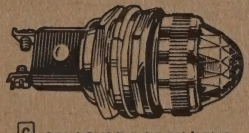
C CANDELABRA SCREW

D LENS

E LENS



F SPLASHPROOF W/LENS



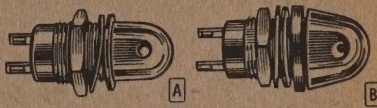
G SPLASHPROOF W/LENS

Standard indicator lites mount in 1" diameter hole and have large lenses for exceptional front and side lighting, as well as visibility from a distance. "Titelites" are the same as standard lites except that they have two neoprene gaskets for splash-proof protection against intrusion of water or oil. Both indicator lites feature a candelabra screw base and a choice of lenses. Hex nut and lockwasher supplied for mounting. For incandescent 6S6, 120 VAC or B7A, 125 VAC neon bulbs—1" diameter mounting hole. Bulbs not included. Lens colors: Incandescent lamps—Red, yellow, green, blue, white or colorless. Neon lamps—lens colors: Red, yellow or colorless. **Specify lens color when ordering.** U.L. and C.S.A. listed for 75W, 125V oper.

Stk. No.	Type	Figure Base	Lens	1-9	10-24	25-99
39F2503	5786-523-105	C	F	3.24	2.75	2.59
39F2504	5786-523-416	C	D	3.24	2.75	2.59
39F2505	5789-523-430	C	E	3.87	3.55	3.31
39F2506	5796-523-105	F	F	4.01	3.71	3.47
39F2507	5796-523-416	G	G	4.01	3.71	3.47

MIDGET FLANGED MILITARY INDICATOR LITES

Lampholders and lenses conform to MIL-spec MIL-L-3661B. All units are front mounting w/ hardware. Colors: **B**—blue, **C**—colorless, **G**—green, **R**—red, **W**—white, **Y**—yellow. **Specify color when ordering.** Use with T-1¾ incandescent lamps (not included).



A B

Stk. No.	Type	Fig.	Max. Amps	1-9	10-24	25-99	100-249
39F2500	5131-038-303	A	0.5	1.52	1.38	1.30	1.21
39F2501	5139-038-403	B	0.5	2.13	2.00	1.85	1.74

LAMPHOLDERS ONLY

Stk. No.	Type	Figure	1-9	10-24	25-99	100-249
39F2502	5131-038	A	1.37	1.16	1.09	.96
39F2329	5139-038	B	1.70	1.41	1.33	1.16

"ASTROLITE" INDICATOR LITES

T-1 indicators built to meet MS25446. Built-in long life T-1 incandescent lamps with light output visible a full 180°. Mounting: .193" diameter "D" hole. Housing and mounting nut: brass, nickel plated. Termination: two #26 AWG. Stranded teflon insulated 6" lead wires. Dust proof, moisture proof, sealed unit with a non-re-placeable lamp. MIL units have 5 volt lamps, .06 amp.

MILITARY "ASTROLITES"

Stk. No.	Type	Color	MIL Spec	1-9	10-24	25-99	100-249
39F3493	6026-001-704	Red	MS25446-4				
39F3494	6026-001-704	Green	MS25446-3				
39F3495	6026-001-704	Amber	MS25446-6	3.78	3.52	3.17	2.82
39F3496	6026-001-704	Blue	MS25446-2				
39F3497	6026-001-704	White	MS25446-5				
39F3498	6026-001-703	Clear	MS25446-7				

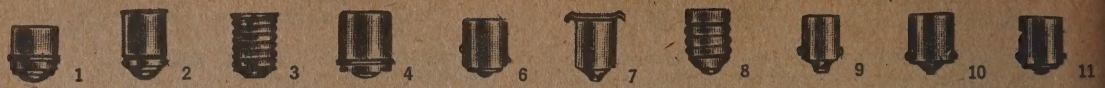
COMMERCIAL "ASTROLITES"

Stk. No.	Type	Color	VDC	Amps	1-9	10-24	25-99	100-249
39F2508	6037-001-704	Red	12	.05				
39F2509	6037-001-704	Green	12	.05				
39F2510	6037-001-704	Amber	12	.05	2.49	2.32	2.09	1.86
39F2511	6037-001-704	Blue	12	.05				
39F2512	6037-001-704	White	12	.05				
39F2513	6037-001-704	Clear	12	.05				

Contact NEWARK For Large Quantity Prices

Chicago Miniature Lamps

BASE STYLES



1 Flanged | 2 Grooved | 3 Screw | 4 Flanged | 6 Bayonet | 7 Flanged | 8 Screw | 9 Bayonet | 10 Bayonet | 11 Bayonet

SOLD IN MULTIPLES OF 10 ONLY

Lamps listed in this catalog are the more popular types available from Chicago Miniature. If your application requires special lamp or a lamp not shown, send Newark a description of your needs. We will submit our recommendations. "AS" types are aged & selected for critical application. W—wire terminals. (*)—Not illustrated. (+)—Wedge base. L—Long life.

GENERAL SERVICE LAMPS

Stock No.	Type	Design V.	Design Amp	Life Hours	†	Bulb	10 Each	100 Each
27F100	PR-2	2.38	.50	15	7	B-3½	.22	.18
27F101	PR-3	3.57	.50	15	7	B-3½	.23	.19
27F102	PR-4	2.33	.27	10	7	B-3½	.23	.19
27F103	PR-6	2.47	.30	30	7	B-3½	.23	.19
27F105	PR-12	5.95	.50	15	7	B-3½	.23	.19
27F106	PR-13	4.75	.50	15	7	B-3½	.23	.19
27F107	6	6.4	3.0	500	11	S-8	.52	.43
27F108	6IF	6.4	3.0	500	11	S-8	.62	.52
27F109	8	8.0	2.2	500	11	S-8	.61	.51
27F110	8IF	8.0	2.2	500	11	S-8	.80	.69
25F091	10	2.5	.5	3000	*	G-3½	.35	.30
25F092	12	6.3	.15	L	*	G-3½	.26	.21
27F111	13	3.7	.30	15	8	G-3½	.18	.15
27F112	14	2.47	.30	15	8	G-3½	.18	.15
25F006	19	14.4	.10	1000	*	G-3½	.40	.34
27F113	27	4.9	.30	30	8	G-4½	.30	.22
25F1645	37	14.0	.09	1500	+	T-1¾	.34	.30
27F115	40	6.3	.15	3000	8	T-3¼	.13	.11
27F117	43	2.5	.50	3000	9	T-3¼	.28	.24
27F118	44	6.3	.25	3000	9	T-3¼	.15	.13
27F119	45	3.2	.35	3000	9	T-3¼	.24	.20
27F120	46	6.3	.25	3000	8	T-3¼	.14	.12
27F121	47	6.3	.15	3000	9	T-3¼	.14	.12
27F122	48	2.0	.06	1000	8	T-3¼	.27	.23
27F123	49	2.0	.06	1000	9	T-3¼	.21	.18
27F124	50	7.5	.22	1000	8	G-3½	.20	.17
27F125	51	7.5	.22	1000	9	G-3½	.16	.14
27F126	53	14.4	.12	1000	9	G-3½	.17	.15
27F127	55	7.0	.41	500	9	G-4½	.24	.21
27F128	57	14.0	.24	500	9	G-4½	.17	.15
25F832	63	7	.63	1000	10	G-6	.25	.22
25F1646	73	14.0	.08	15000	+	T-1¾	.36	.31
25F1647	74	14.0	.10	500	+	T-1¾	.36	.31
27F133	82	6.5	1.05	500	11	G-6	.25	.22
25F1648	85	28.0	.04	7000	+	T-1¾	.39	.34
25F1649	86	6.3	.20	20000	+	T-1¾	.39	.34
27F135	88	6.8	1.9	300	11	S-8	.41	.36
27F138	93	12.8	1.04	500	10	S-8	.32	.28
25F094	112	1.2	.22	5	8	GTL-3	.18	.15
25F834	130	6.3	.15	3000	6	G-3½	.23	.19
25F143	131	1.3	.10	50	8	G-3½	.21	.17
25F1652	158	14.0	.24	500	+	T-3¼	.19	.16
25F090	159	6.3	.15	10000	+	T-3¼	.25	.21
25F1717	161	14.0	.19	4000	+	T-3¼	.19	.16
25F1718	168	14.0	.35	1500	+	T-3¼	.20	.17
25F835	219	6.3	.25	L	10	G-3½	.40	.34
27F147	222	2.25	.25	5	8	GTL-3	.25	.22
27F149	233	2.33	.27	10	8	G-3½	.23	.20
25F095	239	6.3	.36	5000	9	T-3¼	.30	.25
25F150	240	6.3	.36	5000	9	T-3¼	.27	.23
27F152	252	2.5	.35	10000	4	GTL-1¾	2.65	2.30
27F153	253X	2.5	.35	10000	2	GTL-1¾	3.20	2.78
25F096	259	6.3	.25	10000	+	T-3¼	.20	.17
27F154	261	2.5	.35	10000	2	GTL-1¾	5.16	4.47
27F1012	268	2.5	.35	10000	4	T-1¾	1.89	1.59
27F162	276	28.0	.06	25000	2	T-1¾	1.00	.87
25F1719	305	28.0	.56	480	10	S-8	.65	.54
25F1835	305IF	28.0	.56	480	10	S-8	.73	.61
27F158	307	28.0	.66	320	10	S-8	.51	.44
25F836	307IF	28.0	.66	300	10	S-8	.65	.54
25F1836	308	28.0	.67	300	11	S-8	.76	.63
27F160	313	28.0	.17	500	9	T-3¼	.32	.27
26F500	323	3.0	.19	350	*	T-1¼	1.50	1.25
26F537	324	3.0	.19	350	*	T-1¼	.55	.48
26F501	327	28.0	.04	7000	4	T-1¾	.58	.49
26F502	327AS15	28.0	.04	7000	4	T-1¾	2.09	1.69
26F503	327AS25	28.0	.04	7000	4	T-1¾	1.19	1.03
26F504	328	6.0	.20	1000	4	T-1¾	.35	.29
26F541	330	14.0	.08	750	4	T-1¾	.79	.67
26F542	331	1.35	.06	500	4	T-1¾	.95	.81
26F544	334	28.0	.04	7000	2	T-1¾	.87	.74
26F508	335	28.0	.04	7000	3	T-1¾	1.51	1.27
26F547	336	14.0	.08	750	2	T-1¾	1.43	1.20
26F548	337	6.0	.20	1000	2	T-1¾	1.70	1.43
26F552	338	2.7	.06	6000	4	T-1¾	.86	.72

GENERAL SERVICE LAMPS

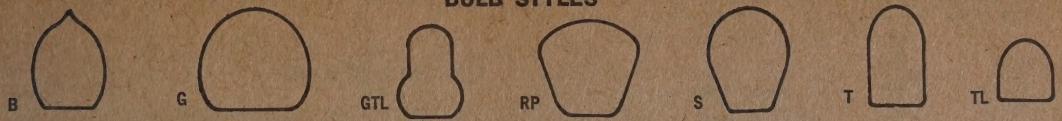
Stock No.	Type	Design V.	Design Amp.	Life Hours	†	Bulb	10 Each	100 Each
26F511	342	6.0	.04	10000	3	T-1¾	1.73	1.46
26F554	344	10.0	.014	10000	4	T-1¾	1.35	1.18
26F555	345	6.0	.04	10000	4	T-1¾	1.49	1.17
26F914	346	18.0	.04	10000	2	T-1¾	1.24	.99
25F008	349	6.3	.20	3000	4	T-1¾	1.07	.91
26F915	367	10.0	.04	5000	4	T-1¾	1.69	1.42
27F166	370	18.0	.04	10000	4	T-1¾	1.49	1.23
27F1017	373	14.0	.08	750	3	T-1¾	1.72	1.44
27F167	375	3.0	.015	10000	4	T-1¾	2.11	1.80
27F1018	376	28.0	.06	25000	4	T-1¾	1.06	.90
26F916	380	6.3	.04	50000	4	T-1¾	2.08	1.75
26F917	381	6.3	.20	50000	4	T-1¾	1.11	.93
26F918	382	14.0	.08	50000	4	T-1¾	1.17	.99
27F1021	385	28.0	.04	50000	4	T-1¾	1.96	1.65
27F168	386	14.0	.08	50000	2	T-1¾	1.52	1.27
26F919	387	28.0	.04	25000	4	T-1¾	.60	.50
27F169	388	28.0	.04	25000	2	T-1¾	1.51	1.27
27F1022	397	10.0	.04	5000	2	T-1¾	1.06	.90
25F837	398	6.3	.20	3000	2	T-1¾	1.06	.89
25F009	399	28.0	.04	25000	3	T-1¾	1.06	.90
25F838	425	5.0	.50	15	8	G-4½	.21	.18
27F178	502	5.1	.15	100	8	G-4½	.17	.15
25F839	515D	5.0	.115	40000	W	T-1¼	.86	.74
25F841	583D	5.0	.06	100000	W	T-1¼	.84	.73
25F1837	656	28.0	.06	5000	+	T-3¼	.50	.42
26F521	680	5.0	.06	100000	W	T-1	1.90	1.59
25F842	680AS15	5.0	.06	100000	W	T-1	2.19	1.81
26F523	682	5.0	.06	100000	1	T-1	2.27	1.90
25F843	682AS15	5.0	.06	100000	1	T-1	2.55	2.14
26F525	683	5.0	.06	100000	W	T-1	1.90	1.59
25F844	683AS15	5.0	.06	100000	W	T-1	2.19	1.83
26F527	685	5.0	.06	100000	1	T-1	2.27	1.90
25F845	685AS15	5.0	.06	100000	1	T-1	2.55	2.14
26F533	715	5.0	.115	40000	W	T-1	1.90	1.59
26F534	715AS15	5.0	.115	40000	W	T-1	2.19	1.83
26F535	718	5.0	.115	40000	1	T-1	2.30	1.92
26F536	718AS15	5.0	.115	40000	1	T-1	2.55	2.14
25F846	755	6.3	.15	50000	9	T-3¼	.32	.27
25F847	756	14.0	.08	50000	9	T-3¼	.43	.36
25F010	757	28.0	.08	7000	9	T-3¼	.47	.39
27F187	1034	12.8	1.80	200	*	S-8	.34	.30
27F189	1073	12.8	1.80	200	10	S-8	.33	.27
25F848	1130	6.4	2.6	200	11	S-8	.56	.47
27F192	1133	6.2	3.91	200	10	RP-11	.68	.55
27F193	1141	12.8	1.44	500	10	S-8	.32	.28
27F195	1143	12.5	2.00	400	10	RP-11	1.06	.89
27F198	1184	5.5	6.25	100	11	RP-11	1.24	1.08
27F202	1251	28.0	.23	L	10	G-6	.54	.47
25F849	1445	18.0	.15	250	10	G-3½	.24	.20
27F214	1487	14.0	.20	3000	8	T-3¼	.30	.27
27F215	1488	14.0	.15	200	9	T-3¼	.32	.28
27F217	1490	3.2	.16	3000	9	T-3¼	.25	.22
27F220	1493	6.5	2.80	100	11	S-8	1.50	1.32
27F221	1503	5.9	6.53	200	*	RP1-1	2.70	2.37
25F1838	1618	6.4	2.8	200	11	S-8	.52	.46
25F1839	1619	6.7	1.90	500	10	S-8	1.64	1.57
27F223	1630	6.5	2.75	100	*	S-8	1.78	1.56
25F862	1648	8.0	2.0	1500	11	S-8	1.30	1.14
25F1857	1683	28.0	1.02	500	10	S-8	1.19	1.04
25F1858	1691	28.0	.61	1000	10	S-8	1.28	1.07
26F556	1705D	14.0	.08	750	W	T-1¾	.66	.55
26F557	1728D	1.35	.06	500	W	T-1¾	.42	.35
26F558	1730D	6.0	.04	10000	W	T-1¾	1.08	.92
26F559	1738D	2.7	.06	6000	W	T-1¾	.49	.41
27F1025	1762D	28.0	.04	7000	W	T-1¾	.48	.41
26F561	1764D	28.0	.04	7000	W	T-1¾	.54	.45
26F562	1764/LSV	28.0	.06	25000	W	T-1¾	.97	.81
26F512	1767	2.5	.20	500	3	T-1¾	.78	.63
26F513	1768	6	.20	1000	3	T-1¾	.89	.75
26F564	1775	6.3	.075	500	3	T-1¾	1.12	.94
27F226	1783D	2.5	.20	500	W	T-1¾	.42	.36
27F1026	1784D	6.0	.20	1000	W	T-1¾	.74	.62
27F227	1813	14.4	.10	1000	9	T-3¼	.28	.25
27F228	1815	14	.20	3000	9	T-3¼	.24	.21
27F229	1816	13	.33	1000	9	T-3¼	.27	.24

(†)—Base style

Chicago Miniature Lamps

CHICAGO MINIATURE/DRAKE

BULB STYLES



GENERAL SERVICE LAMPS (CONT'D)

*Knurled screw. †Specs midget flanged. ‡Spec. screw.

Stock No.	Type	Design V.	Design Amps	Life Hours	Base Style	Bulb Style	Each 10-90	Each 100-490	Each 500-Up
27F230	1819	28	.04	1000	9	T-3¼	.38	.34	.29
27F231	1820	28	.10	1000	9	T-3¼	.37	.31	.25
27F232	1821	28	.17	500	8	T-3¼	.85	.71	.58
27F233	1822	36	.10	1000	9	T-3¼	.79	.69	.59
27F234	1828	37.5	.05	3000	9	T-3¼	.61	.56	.52
27F235	1829	28	.075	1000	9	T-3¼	.38	.32	.26
25F085	1835	55.0	.05	5000	9	T-3¼	.77	.64	.52
27F236	1847	6.3	.15	20000	9	T-3¼	.18	.16	.13
27F237	1850	5	.09	1500	9	T-3¼	.35	.30	.24
25F1900	1864	28.0	.17	1500	9	T-3¼	.45	.38	.31
27F239	1866	6.3	.25	20000	9	T-3¼	.23	.19	.16
27F240	1869D	10.0	.014	10000	W	T-1¾	1.15	.98	.79
27F241	1891	14.0	.24	500	9	T-3¼	.17	.14	.11
27F242	1892	14.4	.12	1000	9	T-3¼	.26	.22	.18
27F243	1893	14.0	.33	3000	9	T-3¼	.19	.16	.13
25F1901	1895	14.0	.27	1500	9	G-4½	.20	.17	.14
27F244	2102D	18.0	.04	10000	W	T-1¾	.86	.73	.59
27F245	2107D	10.0	.04	5000	W	T-1¾	1.32	1.11	.89
25F099	2114D	6.0	.06	3000	W	T-1¾	.69	.60	.51
27F247	2124D	2.5	.35	10000	W	GTL-1¾	2.16	1.80	1.47
25F185	2128	3.0	.0125	16000	W	T-1	3.84	3.33	2.82
25F1902	2136D	2.5	.350	10000	W	GTL-1¾	4.26	3.69	3.13
25F086	2158D	3.0	.015	10000	W	T-1¾	1.16	.99	.81
27F250	2162D	14.0	.100	10000	W	T-1¾	.67	.57	.46
25F186	2169D	2.5	.350	10000	W	T-1¾	1.31	1.10	.89
25F1903	2180D	6.3	.04	50000	W	T-1¾	1.11	.93	.75
25F087	2181D	6.3	.20	50000	W	T-1¾	.60	.51	.41
25F187	2182D	14.0	.08	50000	W	T-1¾	.65	.56	.44
27F1028	2187D	28.0	.04	25000	W	T-1¾	.94	.79	.64
27F096	6803	5.0	.060	100000	W	T-¾	2.69	2.36	2.02
25F189	6833	5.0	.060	100000	W	T-¾	2.07	1.80	1.52
25F1904	6838	28.0	.024	16000	W	T-1	1.94	1.69	1.43
25F191	6839	28.0	.024	16000	1	T-1	2.43	2.11	1.79
25F193	7153	5.0	.115	40000	W	T-¾	2.12	1.84	1.56
27F294	7216	5	.125	5000	W	T-1	2.53	2.19	1.86
25F1907	8362	14.0	.08	50000	3	T-1¾	.94	.80	.66
25F1908	8369	28.0	.065	5000	3	T-1¾	1.00	.85	.70
25F1913	8610	6.3	.20	5000	W	T-1¼	.92	.80	.67
25F1909	8623	28.0	.04	1000	**	T-1¾	1.87	1.62	1.45
25F195	8627	28.0	.04	1000	W	T-1¾	1.15	.99	.84
25F1910	8632	28.0	.04	1000	†	T-1¼	1.87	1.62	1.37
25F1911	8635	28.0	.04	1000	‡	T-1¼	2.03	1.76	1.49
26F592	8640	14	.08	1000	W	T-1¼	.87	.76	.64
25F199	8666	5.0	.08	15000	W	T-¾	2.47	2.14	1.81
27F297	8805D	5	.06	100000	W	T-1¾	.60	.51	.42

STANDARD VOLTAGE LAMPS

Stock No.	Type	Design V.	Design Watts	Life Hours	Base Style	Bulb Style	EACH
27F259	3S6/5	120	3	3000	8	S-6	1.10
27F260	6S6	115	6	1500	8	S-6	.41
27F261	6S6	145	6	1500	8	S-6	1.10
27F262	6S6/DC	120V	6	1500	11	S-6	.68
27F263	6T4½/1	120V	6	1500	8	T-4½	1.248
27F264	7C7	115-125	7	3000	8	C-7	.34
27F265	10C7	115-125	10	....	8	C-7	.18
27F266	10C7DC	115-125	10	3000	11	C-7	.80
27F267	10S6C	230	10	1500	8	S-6	1.25

INDICATOR LAMPS

pecial units for Dialco series of 81 in-icator lights. T-2 Incandescent bulb with lide base: ¼" diam., 5000 hr. life. **PKG. OF 10 ONLY.**

Stock No.	Type	Volts	Amps	End. Foot Candles	Each 10-90	Each 100-990	Each 1000-Up
27F075	6PSB	6	.140	800	1.00	.87	.75
27F076	12PSB	12	.170	2400	1.00	.87	.75
27F077	24PSB	24	.073	2200	1.00	.87	.75
27F078	28PSB	28	.040	1900	1.00	.87	.75
27F079	48PSB	48	.053	1500	1.00	.87	.75
27F080	60PSB	60	.050	2400	1.00	.87	.75
27F081	120PSB	120	.025	1600	1.09	.95	.82

SOLD IN MULTIPLES OF 10 ONLY

NEON GLOW LAMPS

§Cand. Screw.

Stock No.	Type	Design V	Design W	Life Hours	Base	Bulb	10-Up EACH
25F810	A1B	105-125	1/25	25000	W	T-2	.18
25F811	A1C	105-125	1/10	25000	W	T-2	.25
27F251	NE2(A1A)	105-125	1/17	25000+	W	T-2	.18
27F252	NE2D(C7A)	105-125	1/12	25000	4	T-2	.96
25F812	NE2E(A9A)	105-125	1/12	25000	W	T-2	.15
27F253	NE2H(C2A)	105-125	1/4	25000	W	T-2	.15
25F813	NE2J(C9A)	105-125	1/4	25000	4	T-2	1.07
25F814	NE21(B6A)	110-125	1/4	7500	10	T-4½	2.24
25F815	NE30(J5A)	110-125	1	10000	8	S-11	2.00
25F816	NE32(L5A)	110-125	1	10000	11	G-10	1.97
27F254	NE45(B7A)	110-125	1/4	7500	8	T-4½	1.35
27F255	NE48(B9A)	110-125	1/4	7500	11	T-4½	1.10
27F256	NE51(B1A)	105-125	1/25	15000+	10	T-3¼	.39
27F257	NE51H(B2A)	105-125	1/7	25000	10	T-3¼	.39
25F817	NE56(J9A)	210-250	1	10000	*	S-11	2.02
25F818	NE57(F3A)	110-125	1/4	7500	ϕ	T-4½	1.55
25F819	NE58(F4A)	210-250	1/2	100000	8	T-4½	1.43
27F258	NE83(5AH)	60-100	.....	.....	W	T-2	.35
25F080	NE86(5AJ)	55	.....	2000	W	T-2	.35

CM7-SERIES BI-PIN LAMPS

Stock No.	Type	Design V.	Design Amps	Life Hours	Bulb	Each 10-90	Each 100-490	Each 500-Up
25F820	CM7-7112	5.0	.021	10000	T-¾	4.18	3.64	3.12
25F823	CM7-7118	5.0	.115	40000	T-¾	4.19	3.67	3.15
27F268	CM7-7327	28.0	.04	7000	T-1¾	.73	.62	.51
27F269	CM7-7328	6.0	.20	1000	T-1¾	.67	.58	.50
27F270	CM7-7330	14.0	.08	750	T-1¾	.74	.65	.56
25F854	CM7-7344	10.0	.014	10000	T-1¾	1.23	1.05	.86
25F853	CM7-7349	6.3	.20	3000	T-1¾	.92	.78	.64
25F855	CM7-7367	10.0	.04	5000	T-1¾	1.37	1.17	.96
25F856	CM7-7371	12.0	.04	10000	T-1¾	1.24	1.09	.93
25F858	CM7-7373	14.0	.10	10000	T-1¾	1.50	1.32	1.13
25F859	CM7-7376	28.0	.065	5000	T-1¾	.74	.65	.56
27F1030	CM7-7377	6.3	.075	500	T-1¾	.74	.65	.56
25F852	CM7-7380	6.3	.04	50000	T-1¾	.99	.84	.69
25F857	CM7-7382	14.0	.08	50000	T-1¾	.99	.84	.69
25F825	CM7-7515	5.0	.115	40000	T-1¼	2.59	2.27	1.95
25F824	CM7-7583	5.0	.06	100000	T-1¼	2.59	2.27	1.95
25F828	CM7-7628	6.0	.20	1000	T-1¼	2.59	2.27	1.95
25F850	CM7-7632	28.0	.04	1000	T-1¼	2.59	2.27	1.95
25F829	CM7-7646	14.0	.08	1000	T-1¼	2.59	2.27	1.95
25F826	CM7-7660	6.0	.04	1000	T-1¼	3.01	2.63	2.26
27F271	CM7-7838	2.7	.06	6000	T-1¾	.88	.77	.66
25F851	CM7-7945	6.0	.04	10000	T-1¾	1.00	.88	.75

CM8-SERIES MINIATURE & SUB-MINIATURE LAMPS

Stock No.	Type	Design V.	Design Amps	Life Hours	Base	Bulb	Each 10-90	Each 100-490	Each 500-Up
27F282	CM8-363	28.0	.04	1000	W	T-1½	1.23	1.08	.92
27F283	CM8-373	2.5	.35	10000	2	T-1¾	2.39	2.09	1.80
27F286	CM8-374	2.5	.35	10000	W	T-1¾	2.14	1.88	1.61
27F288	CM8-503	6.3	.35	250	9	T-2¾	6.88	6.02	5.16
27F099	CM8-967	120	.02	5000	6	T-2	1.88	1.65	1.41

W: wire terminals

TELEPHONE SLIDE BASE LAMPS

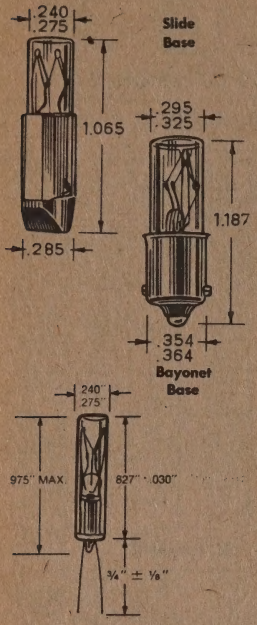
Incandescent lamps specifically designed for use in telephone switchboards. 5000 hour life. ¼" diameter. **PKG. of 10 ONLY.**

Stock No.	Type	Volts	Amps	End. Foot Candles	Each 10-90	Each 100-990	Each 1000-Up
27F084	24C	24	.06 -.085	875	.89	.78	.67
27F085	24E	24	.032-.038	600	.91	.80	.68
27F087	24X	24	.032-.038	600	.86	.76	.65
27F088	30B	30	.09 -.11	1050	1.00	.87	.75
27F090	48D	48	.017-.025	100	.96	.84	.72
27F091	55C	55	.045-.06	1025	.96	.84	.72

GTE SYLVANIA Pilot Lamps, Sockets and Lenses

SLIDE BASE/BAYONET BASE/WIRE TERMINAL/UNBASED T-2 PILOT LAMPS

6-120V. Min. life: 5,000 hrs. Offered with slide (PSB), and miniature bayonet (MB) bases: T-2 lamps are light source for Annunciator lamps with integral reflectors, Pilot Bi-Pin, and Pilot Cartridge lamps. Wt., 2 oz.



SLIDE BASE PILOT LAMPS

†Digits indicate voltage.

Stock No.	Lamp† Number	Type Number	Avg. Watts	Avg. Amps	Filament	Avg. MSCP	Life (Hrs.)	M.O.L. Inches	Primary Service	*Sockets Avail.	1-9	10-99	100-499
35F2800	6PSB	30672	.8	.140	C2F	.12	20,000	1.115	Pilot,	*Panel			
35F2801	12PSB	31272	2.0	.170	C2F	.35	12,000	1.115	Pilot,	*Panel			
35F2802	24PSB	32472	1.7	.073	C2F	.50	10,000	1.115	Pilot,	*Panel	1.33	.77	.65
35F2803	28PSB	32972	1.1	.040	C2F	.29	5,000	1.115	Pilot,	*Panel			
35F2804	48PSB	34872	2.5	.053	C7A	.70	10,000	1.115	Pilot,	*Panel			
35F2805	60PSB	36072	3.0	.050	C7A	.73	7,500	1.115	Pilot,	*Panel	1.53	.89	.76
35F2806	120PSB	32072	3.0	.025	CC7A	.36	10,000	1.115	Pilot,	*Panel	1.43	.83	.69

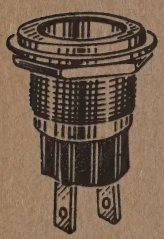
MINIATURE BAYONET BASE PILOT LAMPS

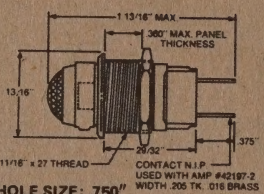
35F2807	6MB	35100	.8	.140	C2F	.12	20,000	1.187	Pilot,	Panel	1.64	.95	.79
35F2808	12MB	35101	2.0	.170	C2F	.35	12,000	1.187	Pilot,	Panel	1.64	.95	.79
35F2809	24MB	35103	1.7	.073	C2F	.50	10,000	1.187	Pilot,	Panel	1.49	.86	.72
35F2810	28MB	35104	1.1	.040	C2F	.29	5,000	1.187	Pilot,	Panel	1.64	.95	.79
35F2811	48MB	35106	2.5	.053	C7A	.70	10,000	1.187	Pilot,	Panel	1.64	.95	.79
35F2812	60MB	35107	3.0	.050	C7A	.73	7,500	1.187	Pilot,	Panel	1.64	.95	.79
35F2813	120MB	35108	3.0	.025	CC7A	.32	10,000	1.187	Pilot,	Panel	1.37	.80	.69
35F2814	120MB/6	35109	6.0	.052	CC7A	1.43	3,000	1.187	Pilot,	Panel	1.50	.86	.73

WIRE TERMINAL PILOT LAMPS

35F2781	6PS	30673	.8	.140	C2F	.12	20,000	.975	Pilot	Panel	.99	.58	.48
35F2782	12PS	31273	2.0	.170	C2F	.35	12,000	.975	Pilot	Panel	.99	.58	.48
35F2783	24PS	32473	1.7	.073	C2F	.50	10,000	.975	Pilot	Panel	.99	.58	.48
35F2784	28PS	32973	1.1	.040	C2F	.29	5,000	.975	Pilot	Panel	.99	.58	.48
35F2785	48PS	34873	2.5	.053	C7A	.70	10,000	.975	Pilot	Panel	.99	.58	.48
35F2786	60PS	36073	3.0	.050	C7A	.73	7,500	.975	Pilot	Panel	1.22	.71	.59
35F2787	120PS	32073	3.0	.025	C7A	.36	10,000	.975	Pilot,	Panel	1.06	.62	.52

UNIVERSAL PILOT LIGHT HOUSING





HOLE SIZE: .750"

Flat Top Translucent

Transparent Translucent

Jeweled

Fluted

PILOT SOCKETS

Nickel plating on bezel, threaded sleeve, and lamp contacts. Mounts in panel up to .360" thick. Solder directly to lugs or use AMP connector 42197-2. Uses PSB lamps. UL listed.

SOCKET PRICES

Stk. No.	Type	1-9	10-99	100-499
35F2829	30099	1.44	.87	.80

LENS PRICES

Prices	1-9	10-99	100-499
Jeweled	.80	.48	.40
Transpar.	.45	.27	.23
Transiu.	.36	.22	.18
Flat Top	.84	.50	.42
Fluted	.36	.22	.18

LENSES

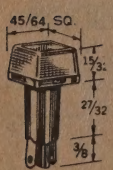
Made of Lexan, a high temperature plastic that performs well up to 290°F. Lexan provides wider visability than glass.

Jeweled		Transparent		Translucent		Flat Top Translucent		Fluted		
Stk. No.	Type	Stk. No.	Type	St. No.	Type	Stk. No.	Type	Stk. No.	Type	Color
35F2831	30100	35F2835	30110	35F2841	30130	35F2788	30200	35F2792	30120	Red
35F2832	30106	35F2836	30111	....	....	35F2788	....	35F2793	30126	Amber
35F2833	30102	35F2837	30112	35F2842	30132	35F2789	30212	35F2794	30122	Green
35F2834	30103	35F2838	30113	....	....	35F2790	30213	35F2795	30124	Blue
....	....	35F2839	30114	35F2843	30131	35F2791	30214	....	....	Yellow
....	....	35F2840	30116	....	....	....	....	35F2796	30125	White
....	....	....	....	35F2844	30133-					

Long Life annunciator lamps designed for use in elevator panels, call boards, etc. Lamps are 5-7⁄64"Wx1-1⁄16"L for bayonet base and 5-7⁄64"Wx1-7⁄16"L for candelabra base. Each lamp operates a minimum of 5,000 hours. Their unique light control is made possible by a self-contained reflector.
SOLD IN PACKAGES OF 10 ONLY.

Candelabra		Bayonet			Each	
Stk. No.	Type	Stk. No.	Type	V.	10-90	100-490
35F2845	12RC	35F2848	12RB	12	1.30	1.09
35F2846	60RC	35F2849	60RB	60	1.30	1.09
35F2847	120RC	35F2850	120RB	120	1.19	1.00

PANEL LIGHT SOCKETS AND LENSES



Made of phenolic for use with pilot lamps (PSB Series). For use with slide base indicator lamps 75 watts, 125 volts. Contacts nickel plated, matching lamp base, to prevent freezing in socket. Quick mounting with a Tinnerman speed clip. Lenses are made of a high-temperature polycarbon material which eliminates lens warping and signal distortion due to heat. Unique internal design of lens allows for a wider viewing range. 2 oz. U.L. listed

Stk. No.	Type	Desc.	1-9	10-99	100-499
35F2815	30152	Socket	.73	.43	.36

LENSES

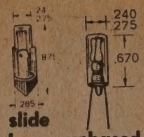
Round Lens		Square Lens		
Stk. No.	Type	Stk. No.	Type	Color
35F2817	30160	35F2823	30170	Red
35F2819	30162	35F2825	30172	Amber
35F2821	30164	35F2827	30174	Green
35F2818	30161	35F2824	30171	Clear
35F2820	30163	35F2826	30173	White
35F2822	30165	35F2828	30175	Blue

	1-9	10-99	100-499
PRICES	.33	.20	.17

Indicator Lamps, Sockets — GTE SYLVANIA

INDICATOR LAMPS

ndicator lamps which offer 5,000 hours of use minimum, are ¼" in diameter. A slide type base has two metal contacts embedded in molded nylon insulator. All unbased lamps have ⅛" lead length. Life ratings range from 5,000 o 15,000 hours. Shpg. wt., 2 oz.



SLIDE BASE

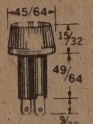
Stk. No.	Type	V	Watts	Amps	1-9	10-99	100-499
35F2851	4ESB	4	.16	.040	1.30	.75	.63
35F2852	5ESB	5	.20	.040	1.30	.75	.63
35F2853	6ESB	6	.24	.040	1.30	.75	.63
35F2854	10ASB	10	.10	.010	1.45	.84	.70
35F2855	10CSB	10	.18	.017	1.45	.84	.70
35F2856	10ESB	10	.40	.040	1.31	.76	.63
35F2857	12ESB	12	.48	.040	1.31	.76	.63
35F2858	16CSB	16	.28	.017	1.31	.76	.63
35F2859	16ESB	16	.64	.040	1.31	.76	.63
35F2860	18ESB	18	.72	.040	1.31	.76	.63
35F2861	24CSB	24	.42	.017	1.31	.76	.63
35F2862	24ESB	24	.96	.040	1.33	.77	.65
35F2863	28ESB	28	1.12	.040	1.33	.77	.65
35F2864	48ESB	48	1.92	.040	1.53	.89	.74

UNBASED

35F2865	4ES	4	16	.040	.99	.58	.48
35F2866	5ES	5	.20	.040	.99	.58	.48
35F2867	6ES	6	.24	.040	.99	.58	.48
35F2871	10AS	10	.10	.010	1.10	.64	.54
35F2872	10CS	10	18	.017	1.10	.64	.54
35F2875	10ES	10	.40	.040	.99	.58	.48
35F2876	10E	10	.40	.040	.88	.51	.43
35F2877	12ES	12	.48	.040	.99	.58	.48
35F2878	16CS	16	.28	.017	.99	.58	.48
35F2879	16ES	16	.64	.040	.99	.58	.48
35F2880	18ES	18	.72	.040	.99	.58	.48
35F2881	24CS	24	.42	.017	.99	.58	.48
35F2882	24ES	24	.96	.040	.99	.58	.48
35F2886	28ES	28	1.12	.040	.99	.58	.48
35F2892	48ES	48	1.92	.040	1.30	.75	.63

PANEL LIGHT SOCKET AND LENSES

ylon, to be used with indicator lamps (ESB Se- es). Sockets are designed for use with slide base ndicator lamps and are rated for 75 watts, 125 olts. Contacts nickel plated, matching lamps base o prevent freezing in socket. Quick mounting with Tinnerman speed clip. Lenses are made of a igh-temperature polycarbon material which elimi- ates lens warping and signal distortion due to eat. Unique internal design of lens allows for a ider viewing range. 2 oz.



SOCKET

Stk. No.	Type	1-9	10-99	100-499
35F2816	30153	.54	.34	.31

Round Lens		Square Lens		
Stk. No.	Type	Stk. No.	Type	Color
35F2817	30160	35F2823	30170	Red
35F2818	30161	35F2824	30171	Clear
35F2819	30162	35F2825	30172	Amber
35F2820	30163	35F2826	30173	White
35F2821	30164	35F2827	30174	Green
35F2822	30165	35F2828	30175	Blue

LENS PRICES	1-9	10-99	100-499
	.33	.20	.17

SINGLE INDICATOR SOCKETS

quare type socket is made of nylon, the round socket f phenolic. Tinnerman clips for front of panel mount- g.

Stk. No.	Type	Description	1-9	10-99	100-499
35F2897	30150	Round socket	.38	.24	.22
35F2898	30151	Rectangle	.38	.24	.22

END COLOR CAPS

yrex caps for lamps exceeding 1.2 watts; profax caps for lesser wattag- s. Use ESB lamps.

Profax		Pyrex					
Stk. No.	Type	Stk. No.	Type	Color	1-9	10-99	100-499
35F2899	38001	35F2904	38071	Red			
35F2900	38002	35F2905	38072	Yellow	.22	.13	.11
35F2901	38003	35F2906	38073	White			
35F2902	38004	35F2907	38074	Green			
35F2903	3805	.....	.....	Blue	.41	.24	.20
.....	.....	35F2908	3875	Blue	.22	.13	.11

STRIP SOCKETS - U.L. APPROVED

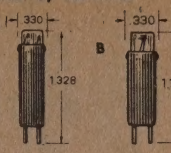
or ESB lamps. 12 sockets. Use in line or separately.

Stk. No.	Type	Distance Between Centers	1-9	10-99	100-499
35F2895	31250	½"	4.87	2.95	2.71
35F2896	31275	¾"	4.87	2.95	2.71

CARTRIDGE LAMPS, SOCKETS, LENSES

FIG. A.—PILOT CARTRIDGE LAMPS

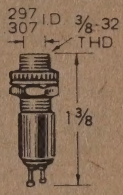
Provide a far sharper signal in all lens colors than neon lights. Black anodized metal sleeves. All cartridge lamps have clear ends. Fig. A.—Pilot. Fig. B.—Indicator.



Stock No.	Type	Volts	Watts	Amps	1-9	10-99	100-499
35F2912	21	6	.8	.140			
35F2913	31	12	2.0	.170			
35F2914	41	24	1.7	.073	1.87	1.08	.90
35F2915	51	28	1.1	.040			
35F2916	61	48	2.5	.053			
35F2917	71	60	3.0	.050			
35F2918	81	120	3.0	.025			

PILOT CARTRIDGE SOCKETS

Cartridge light housing and facing nut are of black anodized aluminum as per MIL-A-8625. Base insulation is molded phenolic. Mounts in .375" hole. "A" designates solder lugs; other turret lugs.



Stk. No.	Type	1-9	10-99	100-499
35F2935	SM-2	2.30	1.35	1.13
35F2936	SM-2A			

FIG. B—INDICATOR CARTRIDGE LAMPS

Stock No.	Type	Volts	Watts	Min. Amps	1-9	10-99	100-499
35F2919	901	4	.16	.040			
35F2920	905	5	.20	.040	1.87	1.08	.90
35F2921	909	6	.24	.040			
35F2922	913	10	.10	.040			
35F2923	914	10	.18	.040			
35F2924	915	10	.40	.040			
35F2925	918	12	.40	.040	1.87	1.08	.90
35F2926	925	16	.28	.040			
35F2927	926	16	.64	.040			
35F2928	930	18	.72	.040			
35F2929	933	24	.42	.040			

INDICATOR CARTRIDGE SOCKETS

Cartridge light housing and facing nut are of black anodized aluminum as per MIL-A-8625. Base insulation is molded phenolic. Mount in .375" hole. "A" designates solder lugs; other turret lugs.

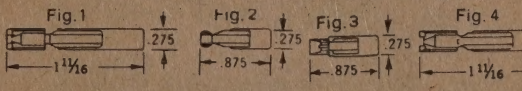
Stk. No.	Type	1-9	10-99	100-499
35F2933	SM-1	2.30	1.35	1.13
35F2934	SM-1A			

CARTRIDGE LENSES

Constructed of polycarbons with high working temperatures that eliminates signal distortion and lens melting. Black anodized aluminum bezels. For housings listed above. Dia., .505".

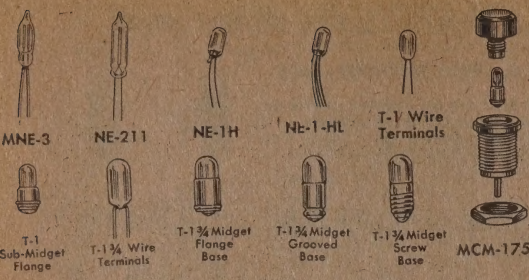
Transparent		Translucent					
Stk. No.	Type	Stk. No.	Type	Color	1-9	10-99	100-499
35F2937	30140	.....	.....	Amber			
35F2938	30141	.....	.....	Clear			
35F2939	30142	35F2942	30147	Red	.85	.50	.42
35F2941	30144	35F2944	30149	Green			
.....	.....	35F2945	30145	Yellow			
.....	.....	35F2946	30146	White			

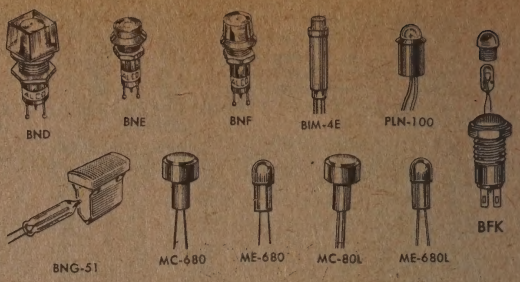
TELEPHONE AND SWITCHBOARD LAMPS-T2 BULBS



Stock No.	Lamp No.	Type	Volts	Amps	Fig. No.	Each 1-9	Each 10-99	Each 100-499
25F290	6C3	30630	6.0	.040	1	1.20	.70	.58
25F291	53B	35299	6.0	.240	2	1.19	.69	.58
35F2856	10ESB	31063	10.0	.040	2	1.31	.76	.63
25F294	24E3	32450	24.0	.035	1	1.20	.70	.58
25F295	24X2	32495	24.0	.035	4	1.20	.70	.58
25F296	48C3	34830	48.0	.035	1	1.34	.78	.65
25F297	55C3	35530	55.0	.050	1	1.34	.78	.65

ALCO Alcolite Lamps and Assemblies





BRITE GLO NEON LAMPS

(T-1⅛). MNE-3—ignition voltage 75 VAC or 95 VDC. Current should be limited to 800 uA. 150K resistor for 115V. Longer than conventional NE-2. Breakdown: 90 VDC; maintained V: 65 VDC; design current: 1.3 mA.

(T-1.) NE-1H. High intensity neon with lens end magnification. Ignition voltage 60 VAC or 67 VDC and a ballast resistor of 35K is recommended at 115 VAC. **NE-1-HL** is same with insul. leads. T-1 #680: 5 VDC 60 mA, 100,000 hrs. For ¼" hole, 10" leads.

Stock No.	Type	Description	1-24	25-99	100-499	500-Up
57F2233	MNE-3	Short Bare Leads	.59	.40	.35	.30
57F2235	NE-211	11 mm Glow, Bare Leads	.49	.33	.29	.25
57F2236	NE-214	14 mm Glow, Bare Leads	.69	.47	.41	.35
57F2237	NE-1H	Short Bare Leads	.69	.47	.41	.35
57F2238	NE-1-HL	10" Insulated Leads	.79	.54	.47	.40

INCANDESCENT T-1 AND T-1¾ LAMPS

Stock No.	Type		V	Amps	MSCP	1-9	10-99	100-499	500-Up
57F2239	680AS25		5.0	.060	.032	.78	.51	.39	.34
57F2240	683AS25	T-1	5.0	.060	.053	.78	.51	.39	.34
57F2241	713AS25	Wire	5.0	.075	.088	.78	.51	.39	.34
57F2242	715AS25	Terminals	5.0	.115	.147	.78	.51	.39	.34
57F2243	RM3-5V30		5.0	.030	.030	.56	.36	.28	.24
57F2244	685	T-1	5.0	.060	.050	1.28	.83	.64	.55
57F2245	718	Sub-Midget	5.0	.115	.147	1.28	.83	.64	.55
57F2246	856	Flange	28.0	.024	.150	2.65	1.72	1.33	1.14
57F2247	1112		14.0	.065	.150	1.28	.83	.64	.55
57F2248	2181	T-1¾ Wire	6.3	.200	.40	.49	.32	.25	.21
57F2249	2182	Terminals	14.0	.080	.30	.49	.32	.25	.21
57F2250	327		28.0	.040	.34	.78	.51	.40	.34
57F2251	330	T-1¾	14.0	.080	.50	.83	.54	.42	.36
57F2252	381	Midget	6.3	.200	.40	.86	.56	.43	.37
57F2253	382	Flange	14.0	.080	.30	.86	.56	.43	.37
57F2254	387	Base	28.0	.040	.30	.83	.54	.42	.36
57F2255	815		5.0	.115	.147	.86	.56	.43	.37
61F1226	379	T-1¾ Midget	6.3	.200	.40	.73	.47	.37	.31
61F1227	386	Grooved	14.0	.080	.30	.73	.47	.37	.31
61F1228	388	Base	28.0	.040	.30	.73	.47	.37	.31
57F2256	362	T-1¾	14.0	.080	.30	.95	.62	.48	.41
57F2257	378	Midget	6.3	.200	.40	.95	.62	.48	.41
57F2258	399	Screw Base	28.0	040	.30	.95	.62	.48	.41

LAMP HOLDERS

Relampable miniature holders have ⅜" diameter lens and small size. **MCM-100** has 0.7" length, mounts with 5/16-32 nut. **MCM-175** has 1" length, mounts with ⅜-32 nut.
BNG-51 is a low-cost, snap-type lamp holder for miniature lamps such as NE-2. Available in three colors.

Stock No.	Type	Color	Description	1-24	25-99	100-499	500-Up
57F2220	MCM-100T	Red	Holder, for T-1 Sub-Midget Flange Lamp	1.49	1.01	.89	.74
57F2221	MCM-100T	Green					
57F2222	MCM-100T	Blue					
57F2223	MCM-100T	Amber					
57F2224	MCM-100T	White					
57F2225	MCM-175T	Red	Holder, for T-1¾ Midget Flange Lamp	1.69	1.15	1.01	.85
57F2226	MCM-175T	Green					
57F2227	BNG-51	Red	Holder for Neon Lamp	.25	.17	.15	.13
57F2228	BNG-51	Amber					
57F2229	BNG-51	Clear					

NEON LAMPS ASSEMBLIES

BND Neon Asmbl., Sq. Lens—space saving. With or without built-in resistor. **BNE** Neon Asmbl., Compact Lens—protrudes slightly above panel. Oper. voltage: 75 VDC without resistor; for 115 VAC, use external resistors (150K, std. intensity; 33K, hi intensity). Temp.: −10° to 70°C. One 5/16-32 nut mt. BNE-4R has built-in 115 VAC resistor. **BNF** Neon Asmbl., Long Lens—like BNE, but extends greater distance beyond panel.

Stock No.	Type	Description	Color	1-24	25-99	100-499	500-Up
57F2160	BND-2	Lamp Assembly, Std. Intensity	Red	1.04	.71	.62	.52
57F2161	BND-2		Amber				
57F2162	BND-2R	Lamp Assembly with Resistor	Red	1.09	.74	.65	.55
57F2163	BND-2R		Amber				
57F2164	BND-2R		White				
57F2165	BND-2R		Clear				
57F2166	BND-3	High Intensity Lamp	Red	1.09	.74	.65	.55
57F2167	BND-3		Amber				
57F2168	BND-3R	High Intensity Lamp with Resistor	Red	1.19	.81	.71	.60
57F2169	BND-3R		Amber				
57F2170	BND-3R		White				
57F2171	BND-3R		Clear				
57F2172	BNE-2	Standard Intensity Lamp	Red	1.04	.71	.62	.52
57F2173	BNE-2		Amber				
57F2174	BNE-3	High Intensity Lamp	Red	1.09	.74	.65	.55
57F2175	BNE-3		Amber				
57F2176	BNE-3		White				
57F2177	BNE-3		Clear				
57F2178	BNE-4R	High Intensity Lamp with Internal Resistor	Red	1.19	.81	.71	.60
57F2179	BNE-4R		Amber				
57F2180	BNE-4R		White				
57F2181	BNE-4R		Clear				
57F2182	BNF-2	Standard Intensity Neon Lamp	Red	1.04	.71	.62	.52
57F2183	BNF-2		Amber				
57F2184	BNF-2		White				
57F2185	BNF-2		Clear				
57F2186	BNF-3	High Intensity Lamp	Red	1.09	.74	.65	.55
57F2187	BNF-3		Amber				
57F2188	BNF-3		White				
57F2189	BNF-3		Clear				
57F2190	BNF-4R	High Intensity Lamp with Internal Resistor	Red	1.19	.81	.71	.60
57F2191	BNF-4R		Amber				
57F2192	BNF-4R		White				
57F2193	BIM-4E	Chrome Bezel	Red	.84	.57	.50	.42
57F2194	BIM-4E		Amber				
57F2198	PLN-100A	Neon Pilot	Clear	.99	.67	.59	.50

INCANDESCENT LAMP ASSEMBLIES

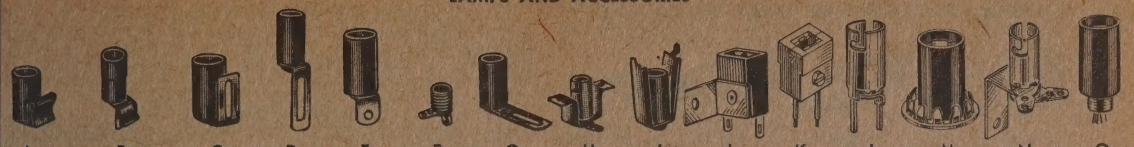
Ultraminiature series has cylindrical appearance and fits in 3/16" hole. Has 5 volt, 60 mA rating; life of 100,000 hours. Contains #683 T-1 lamp. Mounting ring supplied. Types ME-680L and MC-680L have solder tin dipped, high temperature leads. 24 AWG wire. Lens unscrews, T-1 lamp is exposed.

Stock No.	Type	Description	Color	1-24	25-99	100-499	500-Up
57F2199	MC-680	Assembly with Pin Contacts	Red	1.49	1.01	.89	.75
57F2200	MC-680		Green				
57F2201	MC-680		White				
57F2202	MC-680LT	Assembly with 6" Leads	Red	1.59	1.08	.95	.80
57F2203	MC-680LT		Green				
57F2204	MC-680LT		Amber				
57F2205	MC-680LT		White				
57F2206	ME-680	Assembly with Pin Contacts	Red	1.29	.88	.77	.65
57F2207	ME-680		Green				
57F2208	ME-680		White				
57F2209	ME-680LT	Assembly with 6" Leads	Red	1.39	.95	.83	.70
57F2210	ME-680LT		Green				
57F2211	ME-680LT		Yellow				
57F2212	ME-680LT		Blue				
57F2213	ME-680LT		White				
57F2214	PL-105	5V Lamp Assembly	Clear	.89	.61	.53	.45
57F2215	BFK-5	Pilot Assembly with 5V Lamp	Red	1.79	1.22	1.07	.90
57F2216	BFK-5		Green				
57F2217	BFK-5		Blue				
57F2218	BFK-5		Yellow				
57F2219	BFK-5		White				

Sockets, Bases and Indicator Lights

LEECRAFT

LAMPS AND ACCESSORIES



A B C D E F G H I J K L M N O

Series 200. Miniature bayonet sockets with insulating sleeves. Brackets made of .025/.032" steel cadmium plated. Wire leads, 22 gauge, 6" long.

Stk. No.	Type	Fig.	1-24	25-99	100-249	250-499
25F1300	02-01	A	.99	.74	.48	.36
25F1301	02-04	B				
25F1302	02-06	D				
25F1303	02-13	G				
25F1304	02-15	J				

Series 300. Miniature bayonet sockets of molded bakelite. 300 type housing provides insulation where low voltage lamps are to be used. UL listed and CSA approved. Wire leads, 22 gauge, 6" long.

25F1305	03-01	A	1.15	.86	.60	.47
25F1306	03-02	B				
25F1307	03-05	C				
25F1308	03-06	D				
25F1309	03-13	G				
25F1310	03-15	J				
25F1311	03-20	H				

Series 12-200. Double contact candelabra bayonet, with stranded, tinned copper leads. Contacts are mounted on insulating phenolic disc. Bracket is non-conducting.

Stk. No.	Type	Fig.	1-24	25-99	100-249	250-499
60F1298	12-245	A	1.11	.87	.77	.46
60F1299	12-202	B	1.11	.87	.77	.46
60F1300	12-271	C	1.11	.87	.77	.46
60F1301	12-272	E	1.11	.87	.77	.46
60F1302	12-230	O	1.48	1.25	.89	.55
25F1332	12-240	M	1.18	.92	.81	.48

Series 2500. Subminiature grooved sockets w/solder terminals. Terminals are tinned and brackets are cadmium plated. (*Wire Leads, Grounded Shell).

Stk. No.	Type	Fig.	1-24	25-99	100-249	250-499
60F1303	25-06	D	1.30	1.03	.80	.65
60F1304	25-08	E	1.30	1.03	.80	.65
60F1305	25-35	L	1.40	1.22	1.05	.90
60F1306	25-19	C	1.14	1.03	.80	.65
60F1307	25-230N-1	O*	1.57	1.42	1.12	.87

Series 400. Candelabra screw base in molded bakelite. #18 gauge wire leads in black and white, 6" long, ends stripped ½". UL listed. CSA approved.

Stk. No.	Type	Fig.	1-24	25-99	100-249	250-499
25F1312	04-01	A	1.30	.90	.70	.60
25F1314	04-05	C				
25F1315	04-06	D				
25F1316	04-08	E				
25F1317	04-15	J				
60F1296	04-40	M				

Series 500. Miniature screw sockets with soldering terminals. Terminals are tinned and brackets are cadmium plated.

25F452	05-01	A	.97	.79	.48	.27
25F453	05-04	B	.97	.79	.48	.27
25F450	05-05	C	.97	.79	.45	.25
25F454	05-06	D	.97	.79	.45	.25
25F451	05-07	F	.76	.65	.41	.21
25F447	05-08	E	.97	.79	.45	.25
25F1318	05-13	G	.97	.79	.45	.25
25F1319	05-15	J	.87	.79	.48	.27

Series 11-200. Single contact candelabra bayonet w/stranded tinned copper lead. Contact mounted on fibre insulator. Brackets are grounded electrically to socket shell.

Stk. No.	Type	Fig.	1-24	25-99	100-249	250-499
60F1308	11-271	C	1.05	.81	.58	.37
25F1328	11-272	E	1.05	.81	.58	.37
60F1309	11-275	G	.90	.81	.58	.37
60F1310	11-230BN	O	1.48	1.25	.89	.55

Series 16-00. Subminiature midget screw lampholder. Available w/variety of bracket styles. Solder lugs or wire lead. **For printed circuits.

Stk. No.	Type	Fig.	1-24	25-99	100-249	250-499
60F1311	16-08	E	1.08	.85	.59	.37
60F1312	16-35	**E	1.35	1.22	1.01	.85
60F1313	16-07	F	1.08	.77	.53	.34

Series 600. Candelabra screw sockets with solder terms. Brackets are .025/.032".

Stk. No.	Type	Fig.	1-24	25-99	100-249	250-499
25F463	06-01	A	1.19	.98	.59	.33
25F461	06-05	C	1.08	.88	.55	.31
25F446	06-06	D	1.08	.88	.55	.31
25F462	06-07	F	.85	.68	.43	.23
25F448	06-08	E	1.08	.88	.55	.31
25F1321	06-13	G	1.08	.88	.55	.31

Series 700. Miniature bayonet sockets with soldering terminals for low voltage incandescent lamps. *For printed circuits.

25F457	07-01	A	.85	.69	.43	.22
25F458	07-04	B	.85	.69	.43	.22
25F455	07-05	C	.85	.69	.41	.21
25F459	07-06	D	.85	.69	.41	.21
25F456	07-07	F	.80	.61	.36	.19
25F449	07-08	E	.85	.69	.41	.21
25F1323	07-11	H	.85	.69	.43	.22
25F1324	07-13	G	.85	.69	.41	.21
25F1325	07-15	J	.85	.69	.43	.22
25F460	07-20	N	.85	.69	.41	.21
25F1326	07-35	L*	1.02	.87	.64	.52

Series 23-00. Holder for wedge base T-3¼ lamps. Available in variety of brackets. UL approved for AC-DC receivers. Supplied with solder lugs or wire leads†.

Stk. No.	Type	Fig.	1-24	25-99	100-249	250-499
60F1314	23-23	J	.82	.74	.51	.33
60F1315	23-224	C†	.90	.81	.58	.40

Series 21-00. Designed for use with new QUARTZ HALOGEN T-2¼ Lamps. Particularly suited for emergency lighting or where high efficiency lamps are needed. Ceramic body construction w/stainless steel contacts for high temp. resistance. Available in variety of mounting brackets. Lug (21-07) or wire termination.

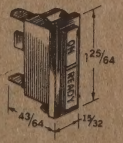
Stk. No.	Type	Fig.	1-24	25-99	100-249	250-499
60F1316	21-07	K	1.29	.92	.66	.42
60F1317	21-207		1.72	1.23	.88	.55

SPACE SAVER LAMPHOLDER

Series 53-00. For T-1¾ subminiature wedge base lamps. Solder lugs (53-07) and wire leads (53-207). Available with variety of bracket styles for Panel or PC board mounting.

Stk. No.	Type	Fig.	1-24	25-99	100-249	250-499
60F1318	53-07	K	.78	.54	.38	.21
60F1319	53-207		.94	.65	.40	.25

DUAL MESSAGE INDICATOR LIGHTS



Units incorporating two lamps within a standard housing for activating two legends separately or simultaneously. Has 3 terminals with the center term. common to both lamps. Units have internal barrier for light separation. Choice of 4 lens colors, operates on 125V.

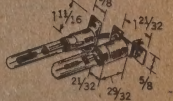
Stock No.	Type	Lens Color	1-24	25-99	100-249	250-499
60F3780	31D-2111T	Red	2.70	2.46	1.59	1.35
60F3781	31D-2113T	Amber				
60F3782	31D-2115T	White				
60F3783	31D-2117T	Clear				

SERIES 47 INDICATOR LIGHT

Fits into 3/16x5/8 panel opening. Built-in lamps, resistor and solder terms. 110-125 volts.

Lens	Stk. No.	Type	1-24	25-99	100-249	250-499
Red	60F1416	47-3	2.00	1.82	1.10	1.05

2200 SERIES SOCKETS



Double-contact base sockets offer operation convenience with single-ended Quartzline Lamps. Permit the lamp to be positioned more accurately, hold lamp more securely, minimize possibility of lamp shaking loose from vibration. Designed for swift installation, reduces extra bulb handling, necessary with screw-in sockets. Designed for General Electric lamps as well as other Quartz Iodine lamps.

TYPE 22-25—Straight bracket socket.

TYPE 22-27A—Step bracket socket.

Stk. No.	Type	1-24	25-99	100-249	250-499
60F3784	22-25	2.66	2.07	1.64	1.56
60F3785	22-27A	2.66	2.07	1.64	1.56

Indicator Lights

PRESS FIT MINIATURE NEON INDICATORS

Fig. A

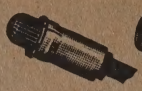


Fig. B

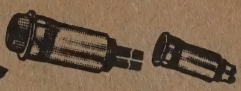


Fig. C

Fig D.

Fig. E

Fig. F

Long-life, high-brightness neon lamps. Press fits into 5/16" diameter hole. Bezel is aluminum anodized. Housing, white nylon. Has transparent plastic lens available in various colors. Wire leads are #18 gauge insulated plastic. Standard length: 6" ½" stripped. Speed nut furnished for maximum security.

Tineon 36EN Series. With built-in resistor for 110-125V.

Lens Color	Flush Lens—Fig. E Stock No.	Flush Lens—Fig. E Type	High-Hat Lens—Fig. F Stock No.	High-Hat Lens—Fig. F Type
Red	60F1254	36EN2311	60F1250	36EN2111
Amber	60F1255	36EN2313	60F1251	36EN2113
Clear	60F1256	36EN2317	60F1252	36EN2117
White	60F1257	36EN2315	60F1253	36EN2115

Tineon 41EN. Less resistor, external resistor req.

Red	60F1262	41EN2311	60F1258	41EN2111
Amber	60F1263	41EN2313	60F1259	41EN2113
Clear	60F1264	41EN2317	60F1260	41EN2117
White	60F1265	41EN2315	60F1261	41EN2115

Prices	Type	1-24	25-99	100-249	250-499
	36EN	2.27	1.51	.97	.83
	41EN	1.97	1.51	.93	.80

WITH BEZEL—INCANDESCENT LAMPS

Similar to 41EN units above, but with incandescent lamps: 14V. .08A. Plastic flush lens.

Lens Color	Stock No.	Type	1-24	25-99	100-249	250-499
Red	25F1405	41EN-G3-2311	2.73	1.85	1.11	1.06
Green	25F1406	41EN-G3-2312				
Amber	25F1407	4 EN-G3-2313				
Blue	25F1408	41EN-G3-2314				
White	25F1409	41EN-G3-2315				

FLUSH LENS CAP

36 Series. With built-in resistor for 110-125V.
41 Series. Less resistor; ext. resistance required for 250V. Both types are similar to Fig. E.

Lens Color	With Resistor Stock No.	With Resistor Type	Less Resistor Stock No.	Less Resistor Type
Red	60F1266	36N2311	60F1270	41N2311
Amber	60F1267	36N2313	60F1271	41N2313
Clear	60F1268	36N2317	60F1272	41N2317
White	60F1269	36N2315	60F1273	41N2315

Prices	Type	1-24	25-99	100-249	250-499
	36N	1.66	1.27	.79	.71
	41N	1.44	1.22	.79	.66

RECTANGULAR 3100 AND 3100T

Rectangular pilot light for maximum message display in compact areas. Have white housings and chrome plated bezels. No replacement of lamp needed. Includes proper dropping resistor for neon lamp. Lens is made of plastic. Mounting hole size, 1.281 x .395". Housing depth 21/32". Lens size: 1 15/32" Wt., 0.5 oz. 110-125 volts.

3100 SERIES—6" WIRE LEAD

Lens Color	Stock No.	Type	1-24	25-99	100-249	250-499
Red	25F1391	31-2111	1.97	1.44	.85	.74
Amber	25F1392	31-2113				
Clear	25F1393	31-2117				
White	25F1394	31-2115				

3100T SERIES—BRASS TAB TERMINALS

Red	25F1395	31-2111T	2.12	1.44	.85	.74
Amber	25F1396	31-2113T				
Clear	25F1397	31-2117T				
White	25F1398	31-2115T				

WITH INCANDESCENT LAMPS

6V—.2A and 14V—.08A With .250 tab terminals.

Lens Color	6-Volt Types Stock No.	6-Volt Types Type	14-Volt Types Stock No.	14-Volt Types Type
Red	25F1410	31-G1-2111T	25F1415	31-G3-2111T
Green	25F1411	31-G1-2112T	25F1416	31-G3-2112T
Amber	25F1412	31-G1-2113T	25F1417	31-G3-2113T
Blue	25F1413	31-G1-2114T	25F1418	31-G3-2114T
White	25F1414	31-G1-2115T	25F1419	31-G3-2115T

Prices	Type	1-24	25-99	100-249	250-499
	31-G1	2.43	1.87	1.12	1.04
	31-G3	2.58	1.96	1.14	1.07

SNAPLITE NEON PILOT LIGHTS

Long-life nonreplaceable lamp. One piece nylon housing snaps into standard ½" hole. Body size: 1 1/16" behind panel x .495" dia. Retainer: 1/16" thick x 5/8" O.D. Lens: 27/64" O.D. have #18 gauge. 6" wire leads, except "T" suffix indicates .187" tab terminals. All rated 110-125V except * 210-250V. UL and CSA Listed.

SQUARE LENS—FIG. A

Color	Stk. No.	Type	1-24	25-99	100-249	250-499
Red	60F1290	32R2911	1.97	1.44	.85	.76
Amber	60F1291	32R2913				
White	60F1292	32R2915				
Red	60F1293	32R2911T	2.05	1.48	.87	.78
Amber	60F1294	32R2913T				
White	60F1295	32R2915T				

STOVEPIPE—FIG. B

Red	60F1274	32-2211	1.66	1.34	.79	.71
Amber	60F1275	32-2213				
Clear	60F1276	32-2217				
White	60F1277	32-2215				
Red	60F1278	32-2211T	1.76	1.39	.83	.74
Amber	60F1279	32-2213T				
Clear	60F1280	32-2271T				
White	60F1281	32-2215T				
Red*	60F1426	32-2211				
Red*	60F1427	35-2211T				

FLAT CYLINDRICAL LENS—FIG. C

Red	25F1375	32-2111	1.66	1.34	.79	.71
Amber	25F1376	32-2113				
Clear	25F1377	32-2117				
White	25F1378	32-2115				
Red	25F1379	32-2111T	1.76	1.39	.83	.74
Amber	25F1380	32-2113T				
Clear	25F1381	32-2117T				
White	25F1382	32-2115T				
Red*	60F1428	35-2111				
Red*	60F1429	35-2111T				

FLUSH LENS—FIG. D

Red	60F1282	32-2311	1.66	1.34	.79	.71
Amber	60F1283	32-2313				
Clear	60F1284	32-2317				
White	60F1285	32-2315				
Red	60F1286	32-2311T	1.76	1.39	.83	.74
Amber	60F1287	32-2313T				
Clear	60F1288	32-2317T				
White	60F1289	32-2315T				
Red*	60F1424	35-2311				
Red*	60F1425	35-2311T				

INCANDESCENT SNAPLIGHTS 6V/.2A & 14V/.08A

All have chrome bezel to fit .500-513" hole. 18 AWG, 6" wire leads, except "T" suffix indicates .187 tab terminals.

SQUARE LENS CAP—FIG. A

Lens Color	6-Volt Types Stock No.	6-Volt Types Type	14-Volt Types Stock No.	14-Volt Types Type
Red	25F1362	32R-G1-2911	25F1367	32R-G3-2911
Green	25F1363	32R-G1-2912	25F1368	32R-G3-2912
Amber	25F1364	32R-G1-2913	25F1369	32R-G3-2913
Blue	25F1365	32R-G1-2914	25F1370	32R-G3-2914
White	25F1366	32R-G1-2915	25F1371	32R-G3-2915

Prices	Type	1-24	25-99	100-249	250-499
	32R-G1	2.51	1.87	1.10	1.03
	32R-G3	2.51	1.96	1.13	1.07

FLAT CYLINDRICAL LENS CAP—FIG. C

Red	60F1470	32R-31-2111	60F1480	32R-G3-2111
Green	60F1471	32R-G1-2112	60F1481	32R-G3-2112
Amber	60F1472	32R-G1-2113	60F1482	32R-G3-2113
Blue	.....	.....	60F1483	32R-G3-2114
White	60F1474	32R-G1-2115	60F1484	32R-G3-2115
Red	60F1475	32R-G1-2111T	60F1485	32R-G3-2111T
Green	60F1476	32R-G1-2112T	60F1486	32R-G3-2112T
Amber	.....	.....	60F1487	32R-G3-2113T
Blue	.....	.....	60F1488	32R-G3-2114T
White	.....	.....	60F1489	32R-G3-2115T

Prices	Type	1-24	25-99	100-249	250-499
	32R-G1	2.51	1.87	1.10	1.03
	32R-G3	2.51	1.96	1.13	1.07
	32R-G1-T	2.58	1.91	1.13	1.05
	32R-G3-T	2.73	1.99	1.15	1.09

FLUSH LENS CAP—FIG. D.

Lens Color	Stock No.	Type	1-24	25-99	100-249	250-499
Red	60F1430	32R-G1-2311	2.51	1.87	1.10	1.03
Green	60F1431	32R-G1-2312				
Amber	60F1432	32R-G1-2313				
Blue	60F1433	32R-G1-2314				
White	60F1434	32R-G1-2315				
Red	60F1435	32R-G1-2311T	2.58	1.91	1.13	1.05
Green	60F1436	32R-G1-2312T				
Amber	60F1437	32R-G1-2313T				
Blue	60F1438	32R-G1-2314T				
White	60F1439	32R-G1-2315T				

Indicator Lights and Switches

LEECRAFT

eries 45. Brass terminals. 1/8" wide, .020" hick. Has blade terminals. Mount. hole: 5/16" w/chrome ring, speed nut included.

110-125 VOLT NEON

Stk. No.	Type	Lens	1-24	25-99	100-249	250-499
60F3600	45RN2111	Red	2.51	1.90	1.21	1.01
60F3601	45RN2113	Amber				
60F3602	45RN2115	White				

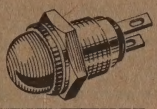
14 VOLT .08 AMP INCANDESCENT

60F3610	45RNG3-2111	Red	2.88	2.03	1.32	1.20
60F3611	45RNG3-2112	Green				
60F3612	45RNG3-2113	Amber				
60F3613	45RNG3-2114	Blue				
60F3614	45RNG3-2115	White				

28 VOLT .04 AMP INCANDESCENT

60F3616	45RNG5-2111	Red	2.73	1.98	1.27	1.14
60F3617	45RNG5-2112	Green				
60F3619	45RNG5-2114	Blue				
60F3620	45RNG5-2115	White				

9 Series. Operating voltage 12-14 volts. Mtg.: 16" dia. hole, 1/4" max. panel thickness. Min. enters $2\frac{3}{32}$". Incandescent lamp, replaced via ront panel insertion.



Stk. No.	Type	Color	1-24	25-99	100-249	250-499
60F1320	49-D-V2-51	Red	1.96	1.56	1.04	.93
60F1321	49-D-V2-52	Green				
60F1322	49-D-V2-53	Amber				
60F1323	49-D-V2-55	White				
60F1324	49-D-V2-56	Yellow				

.58 Series. DC voltages (max.): forward, 2.8V; everse, 5.0V. Fwd. curr. 50 mA. Power dissipa- ion 100mW. Oprtg. temp. −55 to +100°C. uminous intensity 3.0 MCD (typ.).

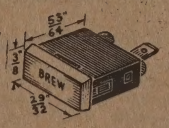
WIRE LEADS

Stk. No.	Type	Color	1-24	25-99	100-249	250-499
60F1325	L58-R2-W	Red	2.39	1.97	1.86	1.62
60F1326	L58-G2-W	Green	2.47	2.04	1.92	1.67
60F1327	L58-Y2-W	Yellow	2.39	1.97	1.86	1.62

BARE LEADS

60F1328	L58-R2-T	Red	1.78	1.47	1.38	1.20
60F1329	L58-G2-T	Green	1.84	1.52	1.43	1.25
60F1330	L58-Y2-T	Yellow	1.78	1.47	1.38	1.20

800 Series. Snaps into .325 x .860 panel open- ng, .031-.100 thick. 125-250V lamps are neon vith resistor, 6-28V lamps are subminiature in- cand. 3/16" Male tab terminals.



110-125 VOLTS

Stk. No.	Type	Current	Color	1-24	25-99	100-249	250-499
60F1331	48-3T	3.0 mA	Red	1.62	1.34	.80	.72
60F1332	48-9T	3.0 mA	Amber				

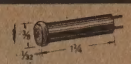
14 VOLTS

60F1333	48G3-3T	0.8 A	Red	2.19	1.79	1.06	1.03
60F1334	48G3-9T	0.8 A	Amber				

28 VOLTS

60F1335	48G5-2T	0.4 A	Red	2.08	1.72	1.02	.99
60F1336	48G5-9T	0.4 A	Amber				

Series 46. Has .040" diameter steel pins with 5/32" center to center spacing. Mounting hole: 5/16" w/chrome ring, speed nut included.



110-125 VOLT NEON

Stk. No.	Type	Lens	1-24	25-99	100-249	250-499
60F3622	46RN-2111	Red	3.12	1.86	1.18	.98
60F3623	46RN-2113	Amber				
60F3624	46RN-2115	White				
60F3625	46RN-2117	Clear				

14 VOLT .08 AMP INCANDESCENT

60F3632	46RNG3-2111	Red	2.88	2.03	1.32	1.20
60F3633	46RNG3-2112	Green				
60F3634	46RNG3-2113	Amber				
60F3635	46RNG3-2114	Blue				
60F3636	46RNG3-2115	White				

28 VOLT .04 AMP INCANDESCENT

60F3638	46RNG5-2111	Red	2.81	1.98	1.27	1.14
60F3639	46RNG5-2112	Green				
60F3640	46RNG5-2113	Amber				
60F3641	46RNG5-2114	Blue				
60F3642	46RNG5-2115	White				

44 Series. High brightness neon lamp with built-in resistor. 125 volts, current 1/3 watt. Friction fit mtg. in 5/16" hole w. speed nuts. Bare solid copper leads.

Stk. No.	Type	Color	1-24	25-99	100-249	250-499
67F3750	44N-0111	Red	1.24	1.12	.73	.64
67F3751	44N-0113	Amber				
67F3753	44N-0117	Clear				

L45 Series. Long life LED indicators. 12VDC. 5/16" mtg. hole. 3/16" male tab. White nylon housing. Plastic hi-hat lens.

Stk. No.	Type	Lens	1-24	25-99	100-249	250-499
60F1337	L45RN-R6-2111	Red	4.09	3.15	2.11	2.00
60F1338	L45RN-G6-2112	Green	4.10	3.15	2.11	2.00
60F1339	L45RN-Y6-2116	Yellow	3.81	2.93	1.95	1.78

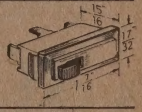
L46 Series. Long-life LED indicators. 12VDC. .040" male pins. White nylon housing. Plastic hi-hat lens. Chrome bezel.

60F1340	L46RN-R6-2111	Red	4.11	3.16	2.11	1.92
60F1341	L46RN-G6-2112	Green	4.15	3.19	2.14	1.94
60F1342	L46RN-Y6-2116	Yellow	4.17	3.21	2.16	1.97

Series 39. 115VAC. Mounting ears provide snap fit in 5/16" hole. High brightness neon lamp, internal resistor. Black, 18 gauge wire leads, rated at 105°C.

60F1343	39-0181	Red	1.83	1.40	.87	.76
60F1344	39-0182	Green				
60F1345	39-0183	Amber				
60F1346	39-0187	Clear				

Series 51 Light-Switch Combination. Switch rating 6 amp @ 125V 3 amps @ 250V. UL listed and CSA approved. 110-125 volts.



60F1400	51-2131T	Red	3.02	1.94	1.58	1.28

Series 56. One-piece housing and lens construction molded in heat resistant plastic. Six-inch wire leads. Light is compact, dome-shaped.

125-VOLT NEON

Stk. No.	Type	Color	1-24	25-99	100-249	250-499
60F1347	56N-0131	Red	1.89	1.46	.93	.82
60F1348	56N-0133	Amber				
60F1349	56N-0137	Clear				

14-VOLT INCANDESCENT

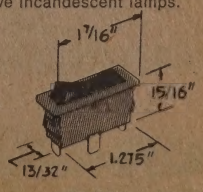
60F1350	56NG3-0131	Red	2.53	1.83	1.17	1.10
60F1351	56NG3-0133	Amber				
60F1352	56NG3-0137	Clear				

ROCK-A-LITE SWITCHES

Ultra-compact lighted rocker switches snap instantly and securely nto 1.281 x .395" panel opening. Designed to minimize arcing. SPST self-wiping contacts rated 10 amps at 125 VAC. White nylon ousing; $1\frac{7}{16}$ x $1\frac{13}{32}$ x $1\frac{5}{16}$".

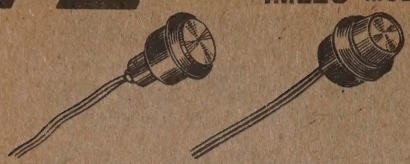
Hi-impact transparent plastic, faceted lens in choice of 4 colors. Male .250" tab terminals. 125 and 250 V types have neon lamps with 1/3-watt series resistors; other types have incandescent lamps.

Lamp Rating	Red Lens Stock No.	Red Lens Type 71-	Green Lens Stock No.	Green Lens Type 71-	Amber Lens Stock No.	Amber Lens Type 71-	White Lens Stock No.	White Lens Type 71-	1-24	25-99	100-249
125V, 1/3 W	25F2050	2131T	25F2051	2132T	25F2052	2133T	25F2054	2135T	5.54	1.90	1.62
250V, 1/3 W	25F2060	H-2131T	25F2061	H-2132T	25F2062	H-2133T	25F2064	H-2135T	5.54	1.90	1.62
6.3V, .20 Amp	25F2055	G1-2131T	25F2056	G1-2132T	25F2057	G1-2133T	35F2059	G1-2135T	2.66	2.12	1.87
14V, .08 Amp	25F2065	G3-2131T	25F2066	G3-2132T	25F2067	G3-2133T	25F2069	G3-2135T	2.66	2.12	1.82
28V, .04 Amp	25F2070	G5-2131T	25F2071	G5-2132T	25F2072	G5-2133T	25F2074	G5-2135T	2.66	2.12	1.78



Indicator Lights

IMLEC MODULAR INDICATOR LIGHT ASSEMBLIES



Series 100/101 assemblies are a modular concept that provide low cost, great versatility. These pilot lights mount with a rubber bushing snapped into a 9 mm dia. cutout—no nut or retainer required. A variety of light sources—incandescent, neon, green glow neon or LED's—fit into the bushing and colored lens assemblies are slipped in from the top. Lens assembly may be mounted independently from light source and mated in the final assembly. Lens colors/light sources are interchangeable.

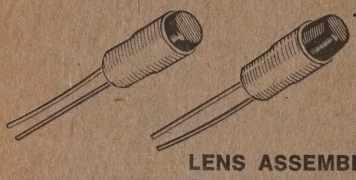
LAMP ASSEMBLY

Stock No.	Type	Light Source	Volts	mA	10-90	100-490	500-990	1000-Up
39F3525	F606	Incandescent	5-6.3	50	.22	.18	.16	.15
39F3526	F614	Incandescent	12-14	80	.25	.20	.19	.17
39F3527	F628	Incandescent	24-28	80	.31	.25	.23	.22
39F3528	N5115	Neon	110-120	1.5	.28	.22	.21	.19
39F3529	G5115	Green Glow	110-120	1.5	.43	.35	.32	.30
39F3530	L617R	Red LED	2.0 Typ	10	.80	.64	.60	.56
39F3543	L617G	Green LED	1.9 Typ	10	.95	.76	.71	.66
35F3759	L617Y	Yellow LED	1.9 Typ	10	1.00	.80	.75	.70

LENS BUSHING ASSEMBLY

Flush Style			Top Hat Style						
Stock No.	Type	Color	Stock No.	Type	Color	10-90	100-490	500-990	1000-Up
39F3531	100-R	Red	39F3537	101-R	Red				
39F3532	100-A	Amber	39F3538	101-A	Amber				
39F3533	100-G	Green	39F3539	101-G	Green	.25	.20	.19	.18
39F3534	100-B	Blue	39F3540	101-B	Blue				
39F3535	100-W	White	39F3541	101-W	White				
39F3536	100-C	Clear	39F3542	101-C	Clear				

105/106 SERIES MODULAR INDICATORS



Modular design concept from series 100/101, but smaller. Lens presses into 5 mm hole in the front panel, the rubber bushing with the lamp slips on from the rear to complete the assembly. No nut or retainer required. Lamps can be used with any lens allowing the light to meet design requirements while keeping the same styling.

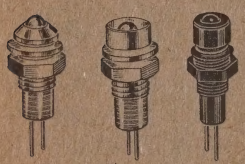
LENS ASSEMBLY

Flush Style			Top Hat Style						
Stock No.	Type	Color	Stock No.	Type	Color	10-90	100-490	500-990	1000-Up
35F3700	105-R	Red	35F3705	106-R	Red				
35F3701	105-A	Amber	35F3706	106-A	Amber				
35F3702	105-G	Green	35F3707	106-G	Green	.25	.20	.19	.18
35F3703	105-B	Blue	35F3708	106-B	Blue				
35F3704	105-W	White	35F3709	106-W	White				

LAMP ASSEMBLY

Stock No.	Type	Light Source	Volts	mA	10-90	100-490	500-990	1000-Up
35F3710	F305	Incandescent	4-6	60	.33	.26	.25	.23
35F3711	F314	Incandescent	12-14	40	.57	.46	.43	.40
35F3712	F328	Incandescent	24-48	24	.72	.58	.54	.50
35F3713	N3115	Neon	100-120	1.0	.55	.44	.41	.38
35F3714	L317R	Red LED	2.0 Typ	10	.93	.74	.70	.65
35F3715	L317G	Green LED	1.9 Typ	10	1.10	.88	.83	.77
35F3716	L317Y	Yellow LED	1.9 Typ	10	1.15	.92	.86	.80

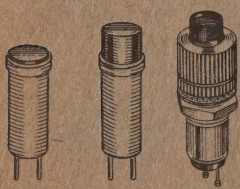
LED SERIES INDICATOR LIGHTS



Model 406 is made of chrome plated brass. The LED is installed such that the LED forms a macrodome lens.
Model 407 is also made from chrome plated brass. The LED is in a large dish shaped reflector to produce a much larger illuminated area.
Model 409 has a black anodized body with a small lens to provide an unobtrusive indicator.

Stock No.	Type	Color	Voltage	mA	10-90	100-490	500-990	1000-Up
35F3717	LED-406R	Red	2.0 Typ	10	1.30	1.04	.98	.91
35F3718	LED-407R	Red	2.0 Typ	10	1.35	1.08	1.02	.95
35F3719	LED-409R	Red	2.0 Typ	10	1.45	1.16	1.09	1.02
35F3720	LED-406G	Green	1.9 Typ	10	1.45	1.16	1.09	1.02
35F3721	LED-407G	Green	1.9 Typ	10	1.50	1.20	1.13	1.05
35F3722	LED-409G	Green	1.9 Typ	10	1.60	1.28	1.20	1.12
35F3723	LED-406Y	Yellow	1.9 Typ	10	1.50	1.20	1.19	1.05
35F3724	LED-407Y	Yellow	1.9 Typ	10	1.55	1.24	1.17	1.09
35F3725	LED-409Y	Yellow	1.9 Typ	10	1.65	1.32	1.24	1.16

190/191 SERIES CARTRIDGE LAMPS AND HOLDERS



- **Modular Design Concept**
- **All Lamps Fit Any Holder**
- **Six Different Lens Colors**
- **Two Different Holders**

Modular cartridge lamps are available in two lens sytles: **model 190**—flush lens, **model 191**—top hat lens. The modular concept allows different type lamps to be used as needed with the same holder design. Either lamp type will fit in both cartridge holders. Neon glow lamp has built in resistor for 110-120V use. Green glow lamp requires 33K external resistor. Holders are machined from aluminum and anodized.

INCANDESCENT CARTRIDGE 12-14V @ 80mA 30,000 HRS

Stock No.	Type	Stock No.	Type	Color	10-90	100-490	500-990
35F3726	CLF14-190R	35F3731	CLF14-191R	Red			
35F3727	CLF14-190Y	35F3732	CLF14-191Y	Yellow			
35F3728	CLF14-190G	35F3733	CLF14-191G	Green	.67	.54	.51
35F3729	CLF14-190B	35F3734	CLF14-191B	Blue			
35F3730	CLF14-190W	35F3735	CLF14-191W	White			

INCANDESCENT CARTRIDGE 24-28V @ 40mA 15,000 HRS

35F3736	CLF28-190R	35F3741	CLF28-191R	Red			
35F3737	CLF28-190Y	35F3742	CLF28-191Y	Yellow			
35F3738	CLF28-190G	35F3743	CLF28-191G	Green	.69	.56	.52
35F3739	CLF28-190B	35F3744	CLF28-191B	Blue			
35F3740	CLF28-190W	35F3745	CLF28-191W	White			

NEON CARTRIDGE 110-120V @ 1.5mA 10,000 HRS

Stock No.	Type	Stock No.	Type	Color	10-90	100-490	500-990
35F3746	CLN115-190R	35F3748	CLN115-191R	Red			
35F3747	CLN115-190C	35F3749	CLN115-191C	Clear	.89	.71	.67
		35F3750	CLG115-191C	GreenGlo			

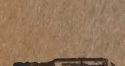
LED CARTRIDGE 1.9V TYP @ 10mA

35F3751	CLLR-190C	35F3754	CLLR-191C	Red			
35F3752	CLLG-190C	35F3755	CLLG-191C	Green	1.05	.84	.78
35F3753	CLLY-190C	35F3756	CLLY-191C	Yellow			

CARTRIDGE LAMP HOLDERS

Stock No.	Type	Body Color	10-90	100-490	500-990
35F3757	CLH-B	Black	.99	.79	.74
35F3758	CLH-S	Silver			

HERZOG



Stock No.	Color	10-90	100-Up
25F174	Clear	.75	.60

Type T-4½. Pilot lamp with clear bulb. Candelabra screw base. Rated at 4 watts at 120 volts. Dimensions: 9/16" dia. by 1-9/16" max. overall. Wt., 4 oz.

Soldering Equipment

KESTER SOLDERS

RESIN CORE SOLDER

ESTER SOLID WIRE SOLDERS-The equal of the flux core solders in urity, quality and fabrication, always uniform in diameter and alloy.

Alloy					1-10		11-24		25-Up	
Tin	Lead	Stk. No.	Dia	GA	1-lb	5-lb	1-lb	5-lb	1-lb	5-lb
40	60	33F1133	125	11	4.72	.....	4.49	.....	4.25	.....
40	60	33F1134	125	11	.....	23.20	.....	22.04	.....	20.88
40	60	33F1102	062	16	5.18	.....	4.93	.....	4.67	.....
40	60	33F1103	062	16	.....	25.60	.....	24.32	.....	21.24
50	50	33F1104	125	11	5.76	.....	5.48	.....	5.19	.....
50	50	33F1105	125	11	.....	28.40	.....	26.98	.....	25.56
50	50	33F1106	062	16	6.14	.....	5.84	.....	5.53	.....
50	50	33F1107	062	16	.....	30.40	.....	28.88	.....	27.36
60	40	33F1108	062	16	7.12	.....	6.77	.....	6.41	.....
60	40	33F1110	031	21	8.36	.....	7.95	.....	7.53	.....

ESTER BAR SOLDER - Uniform distribution of tin-lead alloy in bar proides for more efficient and easy application. Freedom from oxide is virally assured.

Alloy		Stk. No.	1-10	11-24	25-49
40% Tin	60% Lead	33F1100	4.58	4.36	4.13
50% Tin	50% Lead	33F598	5.54	5.27	4.99
60% Tin	40% Lead	33F599	6.52	6.20	5.87
63% Tin	37% Lead	33F1101	6.84	6.50	6.16

ESTER SOLDERING FLUXES - Use on all metals except aluminum. ester Soldering Fluxes remain stable even under extreme conditions.

Formula No.	Stk. No.	Pints.	Stk. No.	Qts.	Stk. No.	Gals.
1544	33F1135	3.50	33F1136	5.00	33F1137	15.28
1587	33F1141	3.50	33F1142	5.00	33F1143	15.28

PRINTED CIRCUIT TV-RADIO SOLDER.

tock No.	Alloy	Dia.	GA.	Each (1 oz. coil)
33F200	60/40	.050	18	.61

All Kester solder can be supplied in Fed. Spec. QQ-S571D.

- Instant Wetting Action
- Electrically Non-Conductive Residue
- Completely Non-Corrosive Residue

Featuring fast-acting, instant wetting, noncorrosive, non-conductive flux. Makes soldering faster than ever before and provides a stronger, longer lasting bond. Flux residue is immune to fungus growth, resistant to oxidation and organic decomposition, completely non-corrosive and electrically non-conductive. 3.85% flux core.

Alloy					1-10		11-24		25-Up	
Tin	Lead	Stk. No.	Dia	GA	1-lb	5-lb	1-lb	5-lb	1-lb	5-lb
40	60	33F205	093	13	4.80	...	4.56	...	4.32	...
40	60	33F219	093	13	...	23.70	...	22.52	...	21.33
50	50	33F207	093	13	5.84	...	5.55	...	5.26	...
50	50	33F220	093	13	...	28.90	...	27.46	...	26.01
60	40	33F221	093	13	7.00	...	6.65	...	6.30	...
60	40	33F222	093	13	...	34.70	...	32.97	...	31.23
40	60	33F213	062	16	5.24	...	4.98	...	4.72	...
40	60	33F214	062	16	...	25.90	...	24.61	...	23.31
50	50	33F215	062	16	6.22	...	5.91	...	5.60	...
50	50	33F216	062	16	...	30.80	...	29.26	...	27.72
60	40	33F217	062	16	7.22	...	6.86	...	6.50	...
60	40	33F218	062	16	...	35.80	...	34.01	...	32.22
63	37	33F1117	062	16	7.56	...	7.19	...	6.81	...
60	40	33F1119	050	18	7.64	...	7.26	...	6.88	...
60	40	33F1120	050	18	...	36.70	...	34.87	...	33.03
63	37	33F1121	050	18	7.96	...	7.56	...	7.16	...
60	40	33F1123	040	19	7.90	...	7.51	...	7.11	...
60	40	33F1124	040	19	...	37.50	...	35.63	...	33.75
63	37	33F1125	040	19	8.22	...	7.81	...	7.40	...
60	40	33F223	031	21	8.36	...	7.94	...	7.52	...
60	40	33F224	031	21	...	39.80	...	37.81	...	35.82
63	37	33F1127	031	21	8.62	...	8.19	...	7.76	...
63	37	33F1128	031	21	...	41.10	...	39.05	...	36.99
60	40	33F1129	.025	23	8.74	...	8.30	...	7.87	...
63	37	33F1131	025	23	9.02	...	8.57	...	8.12	...

pecial Alloy Industrial Solders. Lowmelting . type (L.M.P.) is 62% tin, 36% lead, 2% sil-r. High melting point (H.M.P.) type is 5% tin, 3.5% lead, 1.5% silver. Eutetic 63/37 alloy, elts at 361 F. Shpg. wt., 1-lb. spool, 1¾ lbs., 8-lb. carton, 32 lbs. SWG size 22 = .028".

tk. No.	Type	Ga.	1-10	11-24	25-Up
3F310	L.M.P.	16	12.38	11.77	11.15
3F311	L.M.P.	18	12.92	12.28	11.63
3F312	L.M.P.	22	15.88	15.09	14.30
3F313	H.M.P.	16	8.50	8.08	7.65
3F314	H.M.P.	18	8.84	8.40	7.96
3F1012	H.M.P.	22	10.34	9.83	9.31
3F315	Eutectic	16	7.34	6.98	6.61
3F316	Eutectic	18	7.72	7.34	6.95
3F317	Eutectic	20	8.26	7.85	7.44
5F1013	Eutectic	22	9.18	8.73	8.27

ALUMINUM SOLDERING ALLOY

Alu-Sol 229. Solders aluminum and aluminum alloys. Melting temp: 445° F. Soldering emp: 536 to 700° F. Use with aluminum, brass, copper, tin-plate, nickel, steel. ½ ound reels.

33F242. 14 Gauge. Net 8.44
33F243. 16 Gauge. Net 8.60
33F244. 18 Gauge. Net 8.98
33F245. 22 Gauge. Net 10.78

ERSIN MULTICORE SOLDER

SAVBIT COPPER-LOADED INDUSTRIAL SOLDER

Alloy that lengthens the life of copper tips. Melting pt., tensile; shear strength same as tin-lead alloys. Shpg. wt., 1¾ lbs.

1 POUND SPOOLS

Stk. No.	Ga.	1-10	11-24	25-Up
33F239	14 (.080")	6.52	6.20	5.87
33F240	16 (.064")	6.70	6.37	6.03
33F241	18 (.048")	7.08	6.73	6.38
33F238	20 (.036")	7.44	7.07	6.70
35F1014	22 (.026")	8.20	7.79	7.38

1 POUND REELS

Stk. No.	Alloy	Ga.	1-10	11-24	25-Up
33F226	40/60	16	5.30	5.04	4.77
33F229	50/50	16	6.46	6.14	5.82
33F228	60/40	16	7.00	6.65	6.30
33F230	60/40	18	7.34	6.98	6.61
33F231	60/40	20	7.92	7.53	7.13

Made with non-corrosive extra-active flux. 5-core design guarantees continuity of flux stream, faster melting, and same % of flux-to-solder as with single core types. SWG wire gauge. sizes: 16=.064", 18=.048", 20=.036" Shpg. wt., 1 lb carton 1¾ lbs.

ALLOY 60/40 ½ LB. REELS

Stk. No.	Gauge	Net
33F344	24(.022")	6.98
33F345	28(.014")	8.98
33F346	32(.0108")	11.90
33F347	34(.009")	14.12

ALLOY 63/37 ½ LB. REELS

33F339	22(.028")	5.30
33F340	24(.022")	7.32
33F341	28(.014")	9.32
33F342	32(.0108")	12.28

HIGH PURITY SOLID BAR SOLDER
1 Pound Reels

Stk. No.	Alloy	1-10	11-24	25-Up
35F1010	60/40	6.66	6.33	5.99
35F1011	63/37	6.82	6.48	6.14

DISPENSER AND SERVICEMAN'S PAKS

- **Flameproof.**
- **Easy to Handle**

Stk. No.	Type	Alloy	Gauge	Length	Net
33F246	EZ100	60/40	18	14'	1.32
33F247	PC115	60/40	22	21'	1.32
33F248	SR120	60/40	19	40'	2.29
33F249	SV130	SAVBIT	18	14'	1.32
33F250	AL150	Alu-Sol	18	7'	1.32

SOLDER SIPPER

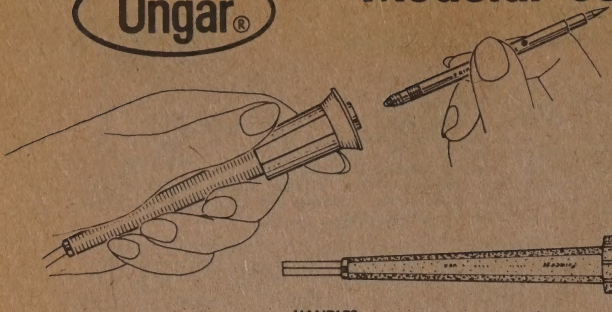
Removes molten solder from electrical connections or any place where solder is concentrated in a small mass. Teflon tubes gives long dependable life under normal use. Not recommended for use over 500°F Small, lightweight. Shpg. Weight, 5 oz.

33F487 NET. 1.50

NEWARK can supply all your Soldering Equipment needs

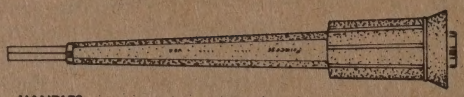
Modular Soldering Tools

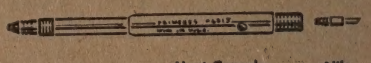
Ungar®



PRINCESS® MICRO LINE

Design enables pinpoint hand control, comfort and accuracy assuring hi-yield soldering of delicate circuitry and components in the tightest spaces. Ideal for micro-precision, micro-miniature soldering. Uses include flat and stack packs, hybrids and discrete devices.





Heat Capsule Nib

HANDLES

Model 6902. Polyvinyl chloride insulated cord. 120 V AC/DC. 5" L x ½" dia. Wt. 3 oz.
Model 6903. Same except cord is 22 gauge flexible stranded w/molded NEMA plug. Capsule grounded.

Stk. No.	Type	Handles	1-9	10-24	25-Up
32F899	6903	2-Wire	5.65	5.09	4.52
32F898		3-Wire	8.00	7.20	6.40

HEAT CAPSULES

For 120 Volts AC/DC operation. Heating section threaded to accept series of ⅛" "Princess" soldering nibs. Length: 3¾." Shipping weight: 2 oz.

Length: 3¾". Ship. wt. 2 oz.

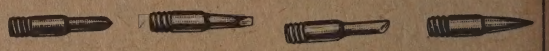
Stk. No.	Type	Watts	Temp.	1-9	10-49	50-Up
32F896	6910	10	575- 650°F	7.10	6.39	5.68
32F897	6915	15	700- 775°F			
32F894	6918	18	775- 850°F			

ASSEMBLED PRINCESS SOLDERING IRON

Includes: 6902 handle, 6910 10 watt heat capsules, 6950 pencil nib, 6951 screwdriver nib, 6952 spade nib. Shpg. wt. 14 oz.

Stk. No.	Type	Description	1-9	10-49	50-Up
32F885	6975	Assembled	13.98	12.58	11.18

SOLDERING NIBS



6950, 6960 6951, 6961 6952, 6962 6953, 6963

Made of copper alloy; also available in iron clad and gold plated (24K). Four types of soldering nibs threaded (⅛") to fit princess Heat Capsules.

Stk. No.	Type	Shape	Size	Plated	1-9	10-24	25-Up
32F893	6950	Pencil	.68x⅛"	Copper	.59	.53	.47
32F892	6951	Screw dr.	.68x⅛"	Copper	.59	.53	.47
32F891	6952	Spade	.61x⅛"	Copper	.59	.53	.47
32F890	6953	Point	.61x⅛"	Copper	1.10	.99	.88
32F889	6960	Pencil	.62x⅛"	Gold	1.08	.97	.86
32F888	6961	Screw dr.	.62x⅛"	Gold	1.08	.97	.86
32F887	6962	Spade	.62x⅛"	Gold	1.08	.97	.86
32F886	6963	Point	.61x⅛"	Gold	1.98	1.78	1.58

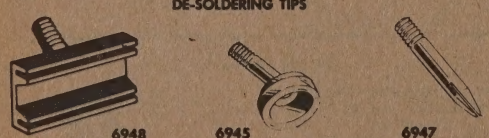
Also for use with Standard Line Tiplets: PL-331, PL-332, PL-333, PL-338, PL-340, 7154, 7155, and 7062.

PRINCESS® HEAT GUN

Feather light for greater accuracy and easier handling. Delivers 750°–800° F air flow temperature at nozzle in seconds. Air stream width ⅜" On/Off switch. Hot or cold air setting. Self-standing on work bench. Oil resistant Hypalon cord. Molded glass polyester housing. UL listed. 250 Watts, 120 Volts, AC only. Shipping weight: 18 oz.
Complete kit, in 2 or 3 wire model, includes 4 baffles, one reducing baffle to reduce air flow at nozzle to .200" and three reflectors for shrink tubing applications. Handles all polyvinyl, olefins, silicone rubber and TFE materials. One reflector ½"L x ¾" dia. for solder sleeves and small tubing. One reflector 1¼"L x ¾" dia. for larger shrinking applications. One solder sleeve adaptor to shrink most solder preforms materials, especially low temperature.

35F3072. Model 6955. Complete with 2 wire cord. **NET** 39.95
35F3074 Model 6966. Complete, 3 wire cord, NEMA plug. **NET** 42.00
35F3075 Model 6965. Heat Gun Holder. **NET** 3.00

DE-SOLDERING TIPS



6948 6945 6947

Fit Princess 6939 and Ungar 535, 1235, and 4035. May also be used with 3-wire models 127, 135 and 145.

Stk. No.	Type	Description	1-9	10-24	25-Up
35F3076	6948	Tip-in-line IC's	3.50	3.15	2.80
35F3055	6943	Tip- "To" .600" dia.	3.13	2.82	2.50
35F3056	6944	Tip- "To" .500" dia.	3.13	2.82	2.50
35F3057	6945	Tip- "To" .375" dia.	3.13	2.82	2.50
35F3058	6946	Tip- "To" .280" dia.	3.13	2.82	2.50
35F3059	6947	Lead straightener	2.49	2.24	1.99

PRINCESS® SOLDERING IRON

Includes: 6902 handle, 6910 10 watt heat capsule, 6951 screwdriver nib, 6990 "Princess" soldering iron holder equipped with 6991 re-fill sponge, 6950 pencil-nib, 6952 spade nib. Shpg. wt. 1 lb.

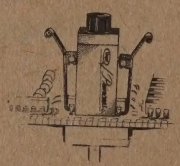
Stk. No.	Type	1-9	10-24	25-Up
32F884	6900	18.67	16.80	14.94

IRON HOLDER—SPONGE

"Princess" soldering iron holder has plastic case with metal cage and sponge. Shipping weight: 3 oz.

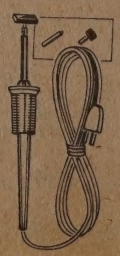
Stk. No.	Type	Description	1-9	10-24	25-Up
32F883	6990	Holder	5.52	4.97	4.42
32F882	6991	Sponge	.80	.72	.64

IC EXTRACTORS



Dual in-line IC and TO-5 extractors. Unique spring-loaded action locks immediately. Instantly releases TO-5 cans and up to 16-pin dual in-line IC's. Eliminates damaged leads, circuit destruction, burned fingers. For use w/Ungar's 6948 and cup desolder tips 6943, 6944, 6945, and 6946. Type 6983 is TO-5 extractor.

Stk. No.	Type	1-9	10-24	25-Up
35F3060	6982	2.95	2.66	2.36
35F3067	6983	3.42	3.08	2.74



DE-SOLDERING KIT

A complete de-soldering kit containing lightweight 3-wire grounded pencil handle with full length, extra flexible insulated cord; ideally suited for 1/32" or under. 18 watt heat capsule (UL listed). 3 tips: 6945 for most transistor pads, .375" diameter, iron clad, nickel plated; 6947 slotted lead straightener melts and straightens bent tabs and leads; 6948 tip in-line IC's.

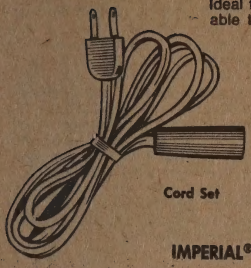
Stk. No.	Type	1-9	10-24	25-Up
35F3051	6939	23.10	20.79	18.48

Modular Soldering Tools

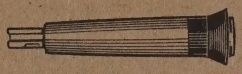
Ungar®

IMPERIAL HEAVY DUTY SERIES

Ideal for reliable, large connection soldering. This dependable tool features fast heat recovery plus patented, heat sink handle for operator comfort... even in high-rate, continuous production.



Cord Set



Handle

Heat Cartridges

IMPERIAL® CORD SETS

Pastel turquoise flexible vinyl w/molded connector plug. UL listed. 2-wire: wt. 2½ oz. 3-wire: wt. 4 oz., w. NEMA plug.

Stk. No.	Type	1-9	10-24	25-up
32F903	6102 2-wire	3.83	3.45	3.06
32F906	6103 3-wire/grnd.	5.69	5.12	4.55

IMPERIAL® HANDLE

Diameter at grip 0.8". Length 4.7" (including heat sink). Turquoise colored. Rated @ 115V AC/DC. Shipping wt. 1 ounce.

Stk. No.	Type	1-9	10-24	25-up
32F900	6100	2.65	2.39	2.12

IMPERIAL® CARTRIDGE

Made of a temperature resistance stainless steel body and copper alloy heat collector. Threaded end of the collector is designed and engineered to provide maximum heat transfer. All cartridges fit the IMPERIAL PERMA-COOL handle and can be changed at the bench with easy slip-in, twist-lock action. Use on tight, high-density circuitry requiring precision tip temperatures and extreme care in soldering. Ideal for heavy-duty plant service maintenance but light enough for fatigue-free production line use.

Stock No.	Type	Heat Range	Dia.	Watts	Weight	1-9	10-24	25-up
32F914	6202	600-800F	0.363"	25	1.1 oz.	6.80	6.12	5.44
32F913	6201	650-850F	0.363"	35	1.1 oz.	6.80	6.12	5.44
32F912	6200	750-950F	0.363"	45	1.1 oz.	6.80	6.12	5.44
32F966	6203	850-1150F	0.363"	55	1.1 oz.	8.00	7.20	6.40

45-WATT ALL-PURPOSE SOLDERING IRON

Model 6010. Features the most popular IMPERIAL components used in production, development and service. Consist of one type 6100 handle, one type 6102 two-wire cord, one type 6200 45-watt heat cartridge. Delivers 750°F. to 950°F tip temperature. Comes with three multi-purpose MINI-TIP thread-on soldering tips.

Stk. No.	Type	1-9	10-24	25-up
32F971	6010	15.65	14.09	12.52

MINI-TIPS FOR 25, 35, 45, 55 WATT CARTRIDGE

6304 6316 6318

Designed for multileads, joints and microminiature connections. Material: —Iron Clad, chrome plated pre-tinned;* Copper alloy. Av. shpg. wt., 3 oz.

Stock No.	Type	Shape	Size	1-9	10-24	25-up
32F915	6304	Mic-chisel	3/64×½"	1.70	1.53	1.36
32F916	6305	Micro spade	3/64×½"	1.70	1.53	1.36
32F917	6312*	Pencil	⅛×¾"	.82	.74	.66
32F918	6313	Pencil	⅛×¾"	1.70	1.53	1.36
32F920	6316	Pencil Offset	⅛×¾"	1.70	1.53	1.36
32F921	6318*	Long Taper Chisel	⅛×¾"	.82	.74	.66
32F923	6324*	Long Taper Pyr.	⅛×¾"	.82	.74	.66
32F924	6325	Long Taper Pyr.	⅛×¾"	1.70	1.53	1.36
32F926	6331	Screwdriver	⅛×¾"	1.70	1.53	1.36
32F927	6333	X-long Screwdriver	⅛×¾"	1.70	1.53	1.36
32F931	6366	Long Taper Chisel	3/16×¾"	2.00	1.80	1.60
32F959	6481	Tap. Screwdriver	¾×3/32"	1.70	1.53	1.36
32F960	6482	Micro-Spade Stepped	3/32×1 1/16"	1.70	1.53	1.36
33F042	6368*	Long Taper Pyr.	¾×.187	.97	.87	.78
33F044	6473*	Long Taper Chisel	¾×.375	.97	.87	.78

IMPERIAL® AND 3-WIRE IRON HOLDER

Type 6800. Avoids handle damage while protecting operators against hot tip burns. Attaches quickly to work bench. Black with special black cage guard.

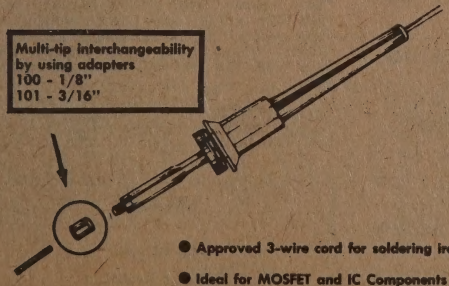
Stk. No.	Type	1-9	10-24	25-up
32F957	6800	3.27	2.94	2.62

KLEEN-TIP SPONGE, TRAY AND REFILL

Specially processed Kleen-Tip sponge for removing oxidation and excess solder from tips. Assures proper heat flow and solder wetting. Other materials used for this purpose cause contamination or destroy plating.

Stock No.	Type	Description	1-9	10-49	50-Up
33F683	400	Sponge and tray	1.83	1.65	1.46
33F684	455	Refill sponge	.72	.65	.58

3-WIRE SOLDERING IRONS



- Approved 3-wire cord for soldering irons
- Ideal for MOSFET and IC Components
- Burn-resistant cord

Designed to eliminate static induced currents. Useful for all general purpose and voltage sensitive components. Meets military, NASA, and other government contracter standards. Accepts more than 40 nibs, tips, tiplets, and de-soldering tips from Standard and Princess line. Ideal for MOSFET, IC components. UL listed heat cartridge available in 3 wattages. Protective coating on threads to reduce tip seizure. Lightweight handle. Octagonal grip. 3-wire cord approved for grounding soldering irons. 120V, 50-60Hz.

Stk. No.	Type	Watts	Tip Temp.	1-9	10-24	25-Up
35F3077	127	27	650°-750°F	8.95	8.06	7.16
35F3078	135	35	750°-850°F			
35F3079	145	45	900°-1000°F			

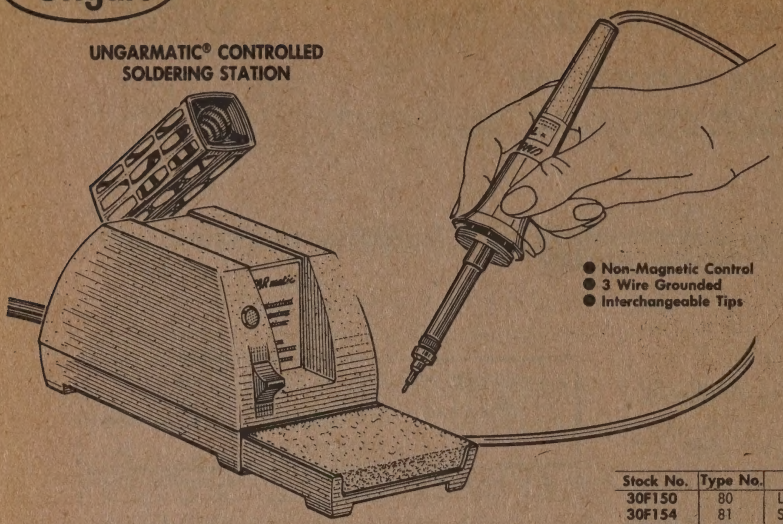
ADAPTERS

35F3080	100			.42	.38	.34
35F3081	101					

Soldering and Desoldering Equipment

Ungar®

UNGARMATIC® CONTROLLED SOLDERING STATION



- Non-Magnetic Control
- 3 Wire Grounded
- Interchangeable Tips

Thread-together modular design for quick, on-line heater or tip change. Available in 3 preset temperatures: 600°F, 700°F or 800°F. Non-magnetic control. Low voltage system: 3 wire grounded. Biomechanical designed handle with cool grip for operator comfort. Super flexible 3 wire grounded cord, burn resistant. Large capacity snap-on tray and sponge, removable for optional placement. Long life interchangeable tips, iron clad chrome plated, pre-tinned. Input: 60 watts, 120 volts, AC. Complete station with low voltage iron (24VAC) grounded includes: #70 power supply with on/off switch, indicator light and 3 wire power cord; #71 handle with 3 wire burn resistant secondary cord; #89 tray and sponge; #72 iron holder; controlled heater with #87 1/16" screwdriver tip.

COMPLETE STATIONS

Stock No.	Type No.	Temperature	1-9	10-24	25-up
33F050	50T6	600°F	37.50	33.75	30.00
33F051	50T7	700°F			
33F052	50T8	800°F			

INTERCHANGEABLE TIPS

Stock No.	Type No.	Description	Size (in.)	1-9	10-24	25-up
30F150	80	Long screwdriver	1/8"	1.67	1.50	1.34
30F154	81	Screwdriver	15/64"			
30F159	82	Spade	1/32"			
30F156	83	Screwdriver	3/32"			
30F152	84	Long Screwdriver	5/64"			
30F158	85	Stepped spade	3/64"			
30F155	86	Needle tip	3/64"			
30F153	87	Screwdriver	1/16"			
30F151	88	Long screwdriver	3/64"			

DI® SERIES DOUBLE INSULATED SOLDERING IRONS

Lightweight compact design with flexible cord set. Rugged stainless steel thread-in heaters. Double insulated. Meets OHSA requirements. UL listed. Durable plastic handle.

THREAD-IN HANDLE

Handle with two-conductor cord set and plug. Durable plastic with finger-ease grip. Double insulated. 120 volt.

Stock No.	Type No.	Description	1-9	10-24	25-up
33F1304	555	120V Thread-in handle	3.58	3.22	2.86

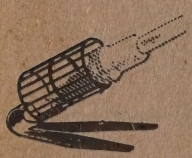
THREAD-IN HEAT CAPSULES

Stock No.	Type No.	Watts	Temperature	1-9	10-24	25-up
33F1300	360	27W	650-750°F	4.92	4.43	3.94
33F1301	361	35W	750-850°F	4.92	4.43	3.94
33F1302	362	45W	850-950°F	4.92	4.43	3.94
33F1303	363*	45W	850-950°F	6.10	5.49	4.88

*Integral Tip

DESOLDERING EQUIPMENT AND PRODUCTION AIDS

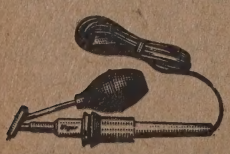
SOLDERING IRON HOLDER



Model 8000. Exclusive double safety guard design that (1) fully protects operator against accidental "hot tip" burns, and (2) protects iron against breakage. Keeps iron cradled safely, securely...ready for instant use. Heavy duty holder attaches quickly to top, side, or underside of bench. Built for day-in, day-out production line use. Shpg. wt. 1 lb.

33F687 NET 3.27

HOT-VAC® PC DESOLDERING/CLEANING TOOL



Stock No.	Type	1-9	10-24	25-up
32F974	7800	18.80	16.92	15.04

De-solder 50% faster...reduce PC repair and rework time. HOT-VAC melts and removes solder in one operation with one hand. Other hand is free to lift components. Solder reservoir is easily emptied. #7800 HOT-VAC comes complete with #777 Clean Room Handle, #4037 Heating Unit and non-clogging #7806 Tip.

REPLACEMENT TIPS

Copper Hot-Vac replacement tips with special liner, prevent sticking/clogging.

Stk. No.	Type	Hole Dia.	1-9	10-24	25-up
33F036	7806	.057"	1.18	1.06	.94
33F034	7812	.033"	1.63	1.47	1.30

ANTI-SEIZE LUBRICANT

Type 8001. Designed for use on metals operating at high temperatures. Helps reduce seizure and resultant tip and heating unit breakage. Wt. 4 ounces.

Stk. No.	Type	1-9	10-24	25-up
33F688	8001	1.20	1.08	.96

SOLDER-OFF BULB

7805. Vacuum action lifts solder from board. High heat resistant flourocarbon material used in tip will not scratch or damage delicate PC boards. Tip easily removed for cleaning solder from bulb. For use with all Ungar soldering irons.

Stock No.	Type	1-9	10-24	25-up
32F975	7805	2.02	1.82	1.62

NEWARK

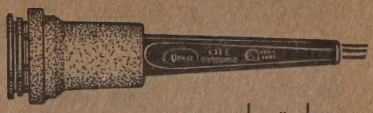
For All Your Soldering Equipment Needs

Modular Soldering Tools

Ungar®

STANDARD LINE SOLDERING SERIES

ll purpose, versatile tool for R&D, service, and the prod-ction line. Two handles to choose from plus a wide variety f Standard heating units and soldering tips offered in a va-ety of heat ranges to fit virtually every job need.



776 CORK GRIP HANDLE

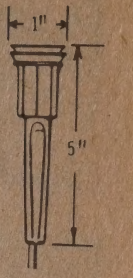
Popular red handle with comfortable cork grip and flexible UL listed 2-wire integral cord. Stainless steel heat deflector. Designed for all heating units, tips and tiplets. Grip dia. 1". Handle length: 5". For best results use with #8000 iron holder and #400 sponge and tray. Shpg. wt. 5 oz.

Stk. No.	Type	Watts	1-9	10-24	25 Up
33F071	776	47½	3.05	2.75	2.44

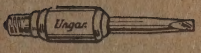
777 CLEAN ROOM SOLDERING HANDLE

Comfortable lightweight, fatigue free design of popular 776 handle. Features a heat stabilized polypropylene grip. Convection cooled, easy to the touch. Perfect balance, stainless steel heat deflector, extra flexible cord. Blue pastel handle. Soldering tips & heating units used with 776 fit this handle.

Stk. No.	Type	1-9	10-24	25-Up
33F030	777	3.05	2.75	2.44



INTERCHANGEABLE SOLDERING TIPS AND INTEGRAL HEATING UNITS



CHISEL TIP LONG TAPER

33 is rated 27 watts; 650-700°F. **1233** rated 2 watts; 750-800°F. **4033** rated 50W; 850-000°F. 120V AC-DC. Tellurium copper iron lad, silver plated.

Stk. No.	Model	1-9	10-24	25-Up
33F086	4033	5.13	4.62	4.10
33F646	1233	3.75	3.38	3.00
33F647	533	2.78	2.50	2.22

PYRAMID TIP

536 rated 27 watts; 650-700°F.; tellurium copper. **1236** is 42W; 750-800°F; silver pltd. Armco iron. **4036** is 50W; 850-1000°F; silver pltd. iron clad copper.

Stk. No.	Model	1-9	10-24	25-Up
33F087	4036	5.13	4.62	4.10
33F078	1236	3.75	3.38	3.00
33F072	536	2.78	2.50	2.22

CHISEL TIP SHORT TAPER

539 rated 27 watts with 650-700°F tip temperature; tellurium copper. **1239** rated 42 W; 750-800°F; solid Armco iron, silver plated. **4039** rated 50W; 850-1000°F; silver pltd., iron clad tellurium copper.

Stk. No.	Model	1-9	10-24	25-Up
33F088	4039	5.13	4.62	4.10
33F079	1239	3.75	3.38	3.00
33F076	539	2.78	2.50	2.22

INTERCHANGEABLE HEATING UNITS & TIPS

1/8" TAP THREAD-IN HEATING UNITS

Alum. silicon bronze body; ⅛" tap. For all series 300 thread-in tiplets. **535** rated 27W, 600-650°F. **1235** rated 42W, 700-750°F. **4035** rated 50W, 800-850°F. AC-DC.

Stk. No.	Model	1-9	10-24	25-Up
33F089	4035	5.13	4.62	4.10
33F085	1235	3.75	3.38	3.00
33F081	535	2.78	2.50	2.22

1/4" THREAD-ON HEATING UNITS

Alum. silicon bronze body; ⅛" tap. For all series 100 thread-on tips. **537** rated 27 W, 600-650°F. **1237** rated 42W, 700-750°F. **4037** rated 50W, 800-850°F. AC-DC.

Stk. No.	Model	1-9	10-24	25-Up
33F677	4037	5.13	4.62	4.10
33F678	1237	3.75	3.38	3.00
32F977	537	2.78	2.50	2.22

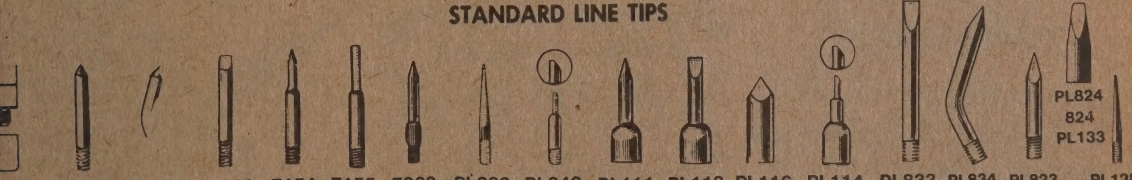
3/16" TAPPED HEATING UNIT

Alum. silicon bronze body, 3/16" tapped for all series 800 thread-in tiplets. Rated 50 watts, 800-850°F tip temperature.

Stk. No.	Model	1-9	10-24	25-Up
33F029	4045	5.13	4.62	4.10

This Heating Unit Also For Use With Ungar Standard Desoldering Tip.

STANDARD LINE TIPS



PTERS PL331 PL332 332 PL333 333 7154 7155 7062 PL338 PL340 PL111 111 PL113 113 PL116 116 PL114 PL833 PL834 PL823 823 PL138

"PL" tiplets are iron clad tellurium copper, and silver plated. No prefix ndicates unplated copper alloy.

Stk. No.	Type	Description	Lgth. x Dia. x Pt.	Size	1-9	10-24	25-Up
33F093	PL331	Pencil	.870x.135x.015	⅛"	1.03	.93	.82
33F094	PL332	Offset Pencil	.970x.135x.015	⅛"	1.03	.93	.82
33F095	PL333	Chisel	.870x.135x.135	⅛"	1.03	.93	.82
33F083	332	Offset Pencil	.970x.135x.005	⅛"	.43	.39	.34
33F084	333	Chisel	.870x.125x.125	⅛"	.43	.39	.34
33F689	7154	Pencil	.870x.135x.015	⅛"	1.03	.93	.82
33F690	7155	Chisel	.870x.135x.068	⅛"	1.03	.93	.82
33F038	7062	Precision Pt.	.770x.125x.005	⅛"	1.80	1.62	1.44

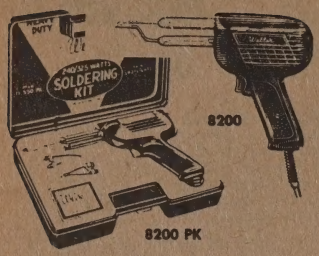
ADAPTERS

Stk. No.	Type	Size	Description	1-9	10-24	25-Up
35F3080	100	⅛"	Adapts to thread-on bodies.	.42	.38	.34
35F3081	101		For standard, 3-wire, and D1.	.42	.38	.34

Stk. No.	Type	Descrpition	Lgth. x Dia. x Pt.	1-9	10-24	25-Up
33F686	PL338	Tiplet	.930x.135x.050	1.03	.93	.82
33F685	PL340	Spade Tiplet	.562x.135x.054	1.03	.93	.82
33F679	PL111	Pencil	.750x.132x.015	1.28	1.15	1.02
33F680	111	Pencil	.750x.125x.005	.63	.57	.50
33F681	PL113	Chisel	.750x.135x.135	1.28	1.15	1.02
33F682	113	Chisel	.750x.125x.125	.63	.57	.50
33F693	PL116	Pyramid	1.060x.322x.015	1.28	1.15	1.02
33F691	116	Pyramid	1.060x.312x.005	.68	.61	.54
33F692	PL114	Micro Spade	.530x.135x.056	1.28	1.15	1.02
33F641	PL833	Long Chisel	1.750x.195x.195	1.58	1.42	1.26
33F099	PL834	Tip	1.750x.195x.199	1.58	1.42	1.26
33F642	PL823	Pyramid	1.000x.195x.017	1.18	1.06	.94
33F643	823	Pyramid	1.000x.187x.005	.55	.50	.44
33F644	PL824	Long Chisel	1.000x.195x.199	1.18	1.06	.94
33F645	824	Long Chisel	1.0000x.187x.187	.55	.50	.44
33F672	PL133	Long Chisel	.750x.312x.150	1.28	1.15	1.02
33F673	PL138	Tapered Needle	.750x.125	1.28	1.15	1.02

Weller

Soldering Tools



SOLDERING KIT

MODEL D-550PK. Heavy Duty, dual heat 240/325 watt gun. Soldering tip, smoothing tip, cutting tip, tip changing wrench. All purpose 60/40 Rosin Coresolder. UL Listed.

Stk. No.	Part No.	1-2	3-11	12-Up
33F132	D550PK	19.95	17.95	15.95

SOLDERING GUNS

Switch from high to low. Exclusive tip-grip. Eliminates resistance. Spotlight on both models. Replaceable tips. UL Listed. Shpg. Wt. 3¾ lbs.

HEAVY DUTY

AC only 240/325 watts. UL Listed. Shpg. Wt. 3½ lbs.

Stk.	Part No.	1-2	3-11	12-Up
33F129	D-550	16.60	14.95	13.30

MEDIUM DUTY SOLDERING KITS

MODEL 8200PK. Kit includes: Three copper long life soldering tips, tip changing wrench, flux brush, soldering aid, and all purpose solder. Contains 100/140 watt soldering gun. UL Listed. Shipping weight 3 lbs.

Stk. No.	Part No.	1-2	3-11	12-Up
33F158	8200PK	14.10	12.75	11.30

DUAL HEAT SOLDERING GUN

100/140 watt per tip. AC only. 2½ lbs.

Stk. No.	Part No.	1-2	3-11	12-Up
33F148	8200	12.20	10.90	9.70

CORDLESS SOLDERING IRON

Model WC100. Tip temp. of 700°F+.

33F107 NET **19.95**

CORDLESS SOLDERING KIT

Model WC 100K. 11 piece kit includes model WC 100, recharger.

33F108 NET **23.95**

REPLACEMENT TIPS FOR WC100

Stk. No.	Type	Tip Size	Description	Each 1-11	Each 12-23	Each 24-Up
33F109	WC111	⅛"	Diameter Tip	2.50	2.25	2.00
33F110	WC112	1/16"	Diameter Tip			
33F111	WC113	1/16"	Long Reach Tip			
33F112	WC114	1/32"	Conical Tip			

"MARKSMAN" SOLDERING IRON

Model SP-23K. Includes soldering iron, three different pretinned nickel-plated copper tips, soldering-aid tool, 5 ft. 60/40 rosin core solder, and instructions for soldering. Pencil type, feather weight, soldering iron with removable tip. Plastic handle remains cool. Develops up to 750°F. Long reach stainless steel barrel. U.L. Listed. Iron wt. ⅓ lbs. Kit. wt. ⅜ lbs.

Stock No.	Type	Description	1-11	12-47	48-Up
33F183	SP-23K	Kit	7.50	6.75	6.00
33F801	SP-23	Iron Only	4.95	4.50	4.00

TIPS FOR SP-23 SOLDERING IRON 2 PER CARD

Stock No.	Type	Description	1-11	12-49	50-Up
33F993	MT-1	Cone Shaped	1.00	.90	.80
33F994	MT-2	Screwdriver			
33F995	MT-3	Chisel			

SOLDERING IRONS PENCIL TYPE

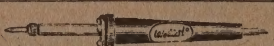
SP-40. 40 W. pencil type soldering iron. ¼" dia. plated copper tip. 2 per card. U.L. Listed.

Stock No.	Type	Description	1-11	12-47	48-Up
33F802	SP-40	40 Watt iron	6.70	6.00	5.35
33F997	MT-10	¼" Chisel Tip	1.70	1.50	1.35

HEAVY DUTY

SP-80. 80 W. heavy weight duty pencil type soldering iron. ⅜" dia. plated copper tip. U.L. Listed. Wt. 4 oz.

Stock No.	Type	Description	1-11	12-47	48-Up
33F803	SP-80	80 Watt iron	8.25	7.50	6.60
33F998	MT-20	⅜" Chisel Tip	1.70	1.50	1.35



PENCIL IRON

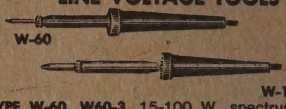
Model WP-25. Light weight soldering iron with 1/16" tip and cord set. 3 screwdriver-shape tip sizes with premium plating; plastic handle. 25 watts at 115v; 7⅞" long, 7/16" Dia. Max. temp. 860°F. U.L. Listed.

Stock No.	Part No.	1-11	12-49	50-Up
33F175	WP-25	8.25	7.50	6.60

ACCESSORIES FOR MODEL WP-25

Stock No.	Part No.	Description	1-14	15-49	50-Up
33F176	ST-1	1/16" tip only	1.30	1.20	1.05
33F177	ST-2	3/32" tip only	1.30	1.20	1.05
33F178	ST-3	⅛" tip only	1.30	1.20	1.05
33F180	CS-2	Cord set(2-wire)	1.95	....	....
33F181	KN-60	Knurled tip nut	.60	....	....

TEMPERATURE CONTROLLED LINE VOLTAGE TOOLS



TYPE W-60, W60-3. 15-100 W. spectrum. For high idle rate situations select lower temperature tips for optimum tip and tool life. Includes 700°F, ¼" screw driver tip, 60W, 120V. 7½" long. UL Listed. Weight: 2½ ounces. **W60-3** has 3 wire cord.

TYPE W-100, W100-3. For medium duty work. 50-159W spectrum. Used for direct line voltage operations. Includes 700°F screwdriver tip. 100W, 120V. 8¼" L. UL Wt. 3½ oz. **W100-3:** 3-wire cord.

HEAVY DUTY SOLDERING IRONS

120 V. U.L. listed. SP120 is 11⅜" long. SP175 is 12½" long.

Stock No.	Type	1-11	12-47	48-Up
33F348	W60	16.60	14.95	13.30
35F3320	W60-3	18.25	15.45	14.60
33F349	W100	20.75	18.75	16.65
35F3330	W100-3	22.50	20.25	17.95

Stk. No.	Type	Uses		Each
33F113	SP120	MT30	Tip	11.25
33F114	SP175	MT40	Tip	13.75

REPLACEMENT TIPS

Stk. No.	Type	Description	Each
33F115	MT30	⅛" chisel.	2.50
33F116	MT40	⅜" chisel.	3.35

W-60 Replacement Tips (Screwdriver type)

600°F Stk. No.	700°F Stk. No.	800°F Stk. No.	Type	Size	1-24	25-99	100-Up
35F2564	35F2565	35F2566	CT5A	1/16"	1.85	1.65	1.50
35F2567	35F2568	35F2569	CT5B	3/32"			
35F2570	35F2571	35F2572	CT5C	1/16"			
35F2573	35F2574	35F2575	CT5D	3/16"			
35F2576	35F2577	35F2578	CT5E	¼"			

W100 Replacement tips (screw driver type)

600°F Stk. No.	700°F Stk. No.	800°F Stk. No.	Type	Size	1-14	15-49	50-Up
35F2579	35F2580	35F2581	CT6C	⅛"	2.50	2.25	2.00
35F2582	35F2583	35F2584	CT6D	3/16"			
35F2585	35F2586	35F2587	CT6E	¼"			
35F2588	35F3331	35F3332	CT6F	3/8"			

SOLDERING TOOL

MODEL GT-7A. Fast heating. Trigger action. Exclusive temperature controlled powerhead. For light and heavy soldering. Long reach stainless steel barrel. Convenient ejector facilitates quick changing of powerheads. Includes 3/16" chisel point, 700°F, 150 watt. Ideal for service repairs, PC boards, models and hobbies. U.L. Listed. Weight 7 ounces.

Stock No.	Type	1-2	3-11	12-Up
35F2560	GT-7A	16.60	14.95	13.30

MODEL GT-6B. Controlled soldering tool with 6B, ⅛" conical point, 600°F. 150 watt.

Stock No.	Type	1-2	3-11	12-Up
35F2561	GT-6B	16.60	14.95	13.30

REPLACEMENT POWERHEADS

MODEL 7A 3/16" chisel point, 700° F

35F2562. NET **10.00**

MODEL 6B. ⅛" conical point, 600°F

35F2563. NET **10.00**

GUN REPLACEMENT TIPS AND PARTS

Stk. No.	Type	Description	Net
33F149	8125	Plated tip for 8200, 8100B	1.00
33F139	8125N	One 8125 tip and two tip nuts	
33F124	7135	2 Copper tips for D-440,8100,8100B, 8200, WS-100, WD-135, S-400	
33F140	7135N	One 7135 tip and 2 tip nuts	
33F125	7250	Copper tip for D-550, 825A, WS-200, WR-250, S-500	
33F141	7250N	One 7250 tip and 2 tip nuts	
33F135	6110	Cut tip D-440, 8100, 8200, 8100B, WS-100, WD-135, S-400, w/Tip nuts.	
33F136	6120	Smooth tip D-440, 8100, 8200, 8100B, WS-100, WD-135, S-400 w/tip nuts	
33F137	6130	Cutting tip for D-550, 8250A, WS-200, WD-250, S-500, w/Tip nuts.	
33F138	6140	Smoothing tips for D-550, 825A, WS-200, WD-250, S-500 w/Tip nuts.	
33F127	7300	2 copper tip for S-107, D-207	
33F162	7323	Switch for single-heat models	2.25
33F163	7324	Switch for all dual-heat models	2.25
33F392	7409	Cord set (all models)	1.95
33F170	8200RH	Replacement handle for 8200	2.95
33F160	D440RH	Replacement handle for D-440	2.95
33F161	D550RH	Replacement handle for D-550	2.95

Soldering Tools

Weller

PROFESSIONAL DESOLDERING/REPAIR TOOL

odel
40

r servicing modern printed circuit boards and lid state electronics. Complete tool includes ndle, vacuum bulb, desoldering assembly d tip with .063" opening. 40W, 120V, 2 wire rd.

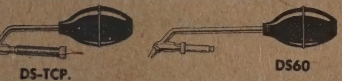
40. Desoldering tool with DST4 .063" de-ldering tiplet. Wt. ½ lb.

F1250 . . . . . EACH: 1-2 **16.60** 3-11 **14.95**

40-3 As above with three wire cord. Wt. ¾

F1251 . . . . . EACH: 1-2 **18.25** 3-11 **15.45**

INDUSTRIAL DESOLDERING ADAPTORS



DS-TCP. DS60

-TCP. For use w/WTCP and WTCPN.

F103. NET **9.00**

60. For use w/W60.

F104. NET **9.25**

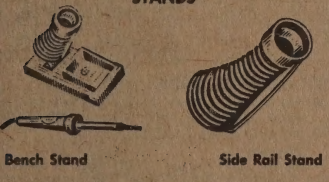
DE-SOLDERING BULB

F105. Model AC303P. NET **2.25**

DST SERIES TIPLETS For DS-40

Stock No.	Type	Size Hole Dia.	1-11	12-47	48 Up
3F1262	DST1	.038"			
3F1263	DST2	.046"			
3F1264	DST3	.059"	1.50	1.35	1.20
3F1265	DST4	.063"			
3F1267	DST6	.090"			

BENCH/SIDE RAIL SOLDERING TOOL STANDS



Bench Stand Side Rail Stand

nch stands have heavy non-sliding cast bas- with sponge receptacle and non-sinking ring stand funnel. Side rail stands comprised spring and funnel only. For irons with barrel ameters.

Bench Stand

tk. No.	Type	Description		1-11	12-47	48-Up
5F3347	PH60	W60	13/32	6.00	5.40	4.80
5F3345	PH100	W100	15/32	7.00	6.30	5.60
3F106	PH25	WP25, WP40		3.75	3.40	3.00

Side Rail Stand

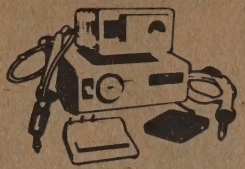
5F3348	SFA1	TCP	13/32	2.00	1.80	1.60
5F3349	SFA60	W60	15/32	2.00	1.80	1.60
5F3350	SFA100	W100	15/32	3.35	3.00	2.70

TEMPERATURE CONTROLLED SOLDERING PENCIL

ODEL—W-TCP2. For use ith solders with melting oints below 300°F. Conti-uously variable range of p temperatures, 200 50° F. Ship. wt. 4 lbs.

tk. No.	Type	1-11	12-23	24-Up
5F2523	W-TCP2	90.85	81.75	72.70

DS-100 POWER VACUUM DESOLDERING TOOL



Closed loop temperature control. See-thru solder collector. Non-burnable cord. Operates from factory air and line voltage. Complete with foot switch, indicating light/on-off switch, twin safety tool holder, vacuum adjustment and gauge, tip and sponge holder, five assorted tips.

Stk. No.	Type	Description	Each
33F1268	DS100	Complete Unit	360.00
33F1269	DS101	Soldering Iron	22.50
33F1270	DS102	Desoldering Iron	37.15
33F1271	DS103	Collector Tube	2.25
33F1272	DS104	Clean Out Tool	2.25
33F1273	DS105	Sponge Holder with Sponge and Tool	8.25
33F1274	DS106	Sponge	1.50
33F1275	DS107	Tool Holder	31.50
33F1276	DS108	Retainer Springs	1.50

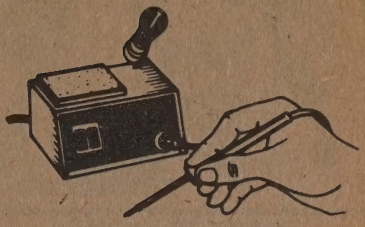
DS 100 REPLACEMENT TIPLETS

Stk. No.	Type	O.D.	I.D.	L.	Each
33F1278	DS110	.060	.025	.50	
33F1279	DS111	.090	.025	.50	
33F1280	DS112	.076	.036	.50	
33F1281	DS113	.094	.045	.50	3.75
33F1282	DS114	.125	.071	.50	
33F1283	DS115	.060	.025	.75	
33F1284	DS116	.098	.045	.75	

PARTS FOR DS100

Stk. No.	Type	Description	Each
33F1285	DS201	Fuses	.40
33F1286	DS202	Installation Kit	22.90
33F1287	SW60	Switch Assembly	6.00
33F1288	HE60	Heating Element	5.25
33F1289	BA60	Barrel Nut Assem.	1.90
33F1290	DS217	Desolder Head 700° with spring	18.75
33F102	DS218	Desolder Head 800° with spring	18.75

MP SERIES SOLDERING STATION WITH PLUG-IN PENCIL UNIT



Designed for printed circuits and fast, economical soldering. Closed loop temperature control. Non-burnable cord. Low voltage output to iron. Units can be changed in seconds. Operates from line voltage with built-in step down transformer. Housings are impact resistant. Complete with tip, three-wire power cord, power unit, sponge, soldering pencil and specification sheet. UL listed.

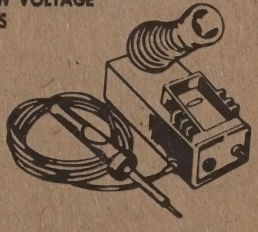
MP KITS & ACCESSORIES

Stk. No.	Type	Description	1-11	12-23
33F1650	MP156	650° Station	49.95	44.95
33F1651	MP157	750° Station	49.95	44.95
33F1652	MP126	650° Pencil	19.95	17.95
33F1653	MP127	750° Pencil	19.95	17.95
33F1293	MP101	Power Unit	31.75	28.50
33F1296	MP202	Sponge	.75	...
33F1654	MP213	Funnel	.75	...
33F1655	MP214	Holder Ass'y.	1.50	...

REPLACEMENT TIPS

Stk. No.	Type	Description	1-24	25-99
33F1656	MP131	1/64" conical		
33F1657	MP132	1/32" conical, Bent		
33F1658	MP133	1/32" single Flat 45°		
33F1659	MP134	3/64" conical, Bent	1.50	1.35
33F1660	MP135	3/64" single Flat 45°		
33F1661	MP136	1/16" screwdriver		
33F1662	MP137	5/64" screwdriver		
33F1663	MP138	1/4" chisel		

TEMPERATURE CONTROLLED "LOW VOLTAGE" SOLDERING STATIONS



15-100 watt spectrum eliminates need to stock many tools of various wattages. Interchangeable tips give you choice of 600°, 700°, 800°F tip idling temperature. Pencils weigh only ¾ oz. for ease of operation. Flexible, light weight, burn proof silicone rubber cord leads to pencil. Wide variety of tips available. 60W, 120 V, 50/60Hz.

Model WTCPN. Plug-in iron, non-burning silicon rubber power cord, heat shield, switch and indicator light. Wt: 3½ lbs.

TCP-1. Replacement Soldering Pencil.
Model PU-1A. Power Unit. 60W, 120 V, 50/60Hz. 3 wire power cord.
Model PU-2. Same as above but with indicator light and on/off switch.

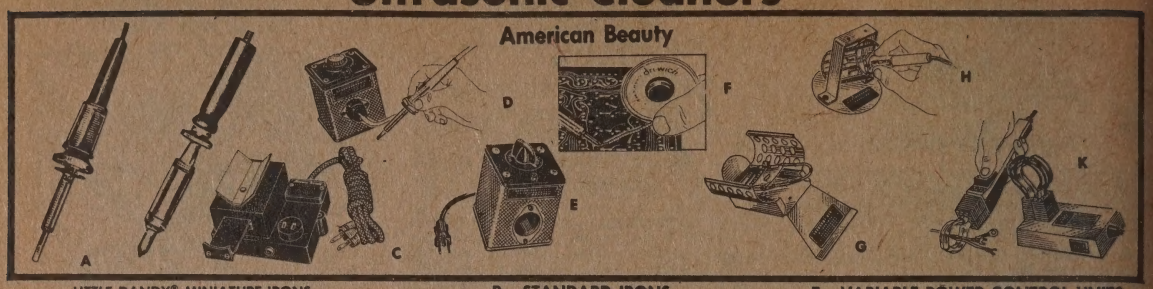
SP60. Sponge for PH60, PH100.
33F1319. 1-4 . . **.60** 5-99 . . **.55** 100-Up . **.50**

Stk. No.	Type	1-11	12-23	24-Up
33F3309	WTCPN	45.85	41.25	36.70
33F2522	TCP-1	20.75	18.75	16.65
33F3310	PU-1A	21.00	...	...
33F1261	PU-2	24.00	...	...

TEMPERATURE SENSING TIPS

Stock Numbers 600°F	700°F	800°F	Description	Style	1-24	25-99	100-Up
33F2525	33F2526	33F2527	1/16" Screwdriver	PTA			
33F2529	33F2530	33F2531	3/32" Screwdriver	PTB			
33F2533	33F2534	33F2535	1/8" Screwdriver	PTC			
33F2537	33F2538	33F2539	3/16" Screwdriver	PTD			
33F2541	33F2542	33F2543	1/32" Screwdriver	PTH			
33F2545	33F2546	33F2547	3/64" Screwdriver	PTK			
33F2549	33F2550	33F2551	1/64" Screwdriver	PTL			
33F2553	33F2554	33F2555	3/32" Spade	PTBB	1.70	1.50	1.35
33F2557	33F2558	33F2559	1/8" Spade	PTCC			
33F3311	33F3312	33F3357	1/16" Spade	PTAA			
33F3351	33F3352	33F3353	3/16" Spade	PTCC			
33F3354	33F3355	33F3356	1/32" Conical	PTP			
33F3358	33F3359	33F3360	1/32" Conical	PTF			
33F3361	33F3362	33F3363	13/64" Screwdriver	PTE			
33F3313	33F3314	33F3364	1/8" Screwdriver	PTM			

Soldering Equipment, Tubing Shrinkers, Ultrasonic Cleaners



LITTLE DANDY® MINIATURE IRONS

Type	Lgth.	Wt.	Tip		
			Type	Dia.	Lgth.
3108	6½"	3 oz.	#501	⅛"	2¼"
3110	6½"	3 oz.	#618	3/16"	2¼"
3112	7½"	4¼ oz.	#720	¼"	2¼"

Stk. No.	Type	Description	EACH
35F110	3108	20 watts/flat tip	13.25
32F987	3110	25 watts/flat tip	13.25
35F126	3112	40 watts/flat tip	16.00

PARAGON CLAD TIPS FOR 3108

Stk. No.	Type	Description	EACH
35F111	501	⅛" Chisel	2.30
35F115	505	⅛" Diamond	
35F117	509	⅛" Round, blunt	

PARAGON CLAD TIPS FOR 3110

32F990	604	1/16 Trnd. Chisel	2.55
32F991	605	⅛ Trnd. Long chis.	
32F992	607	⅛ Trnd. Screwdvr.	
32F995	613	3/32 Trnd. Screwdvr.	
32F996	615	1/16 Trnd. Screwdvr.	
32F997	617	3/32 Screwdriver	

PARAGON CLAD TIPS FOR 3112

35F127	704	¼" Chisel	2.80
35F131	701	⅛" Turned Screwdvr.	
35F132	710	⅛" Turned Diamond	
35F133	709	¼" Diamond	

LITTLE DANDY HEATING ELEMENTS

Stk. No.	Type	Watts	For Iron	EACH
32F1373	9014	20	3108	5.85
32F1374	9010	25	3110	5.85
32F1375	9012	40	3112	6.90

ESICO SOLDERING POTS

MODEL 12-200 WATTS
Ideal for small parts. Inside Dimensions: 1 9/16" dia., 1½" deep. Max. Temp. 750°. Solder cap. ¾ lb. Wt. 4 lbs.

MODEL 37-600 WATTS
Inside Dimensions: 3½" dia., 1¾" deep. Max. Temp: 800°. Solder Cap: 5 lbs. Wt. 7¼ lbs. **37T.** 659 Watts. 650° max. temp. With thermostat. Wt. 9⅛ lbs.

33F321 Model 12. NET **14.00**
33F325 Model 37. NET **22.00**
33F326 Model 37T. NET **39.00**

MODEL 36-250 WATTS
Inside Dim: 2½" dia., 1¾" deep. Max. Temp: 750°. Solder cap: 2¼ lbs. Wt. 4⅛ lbs. **36T.** With thermostat. 650° max. Wt. 6½ lbs.

MODEL 75T-650 WATTS
Large capacity pot. inside. Dim: 4¾" sq., 1¾" deep. Max. Temp: 650°. Solder Cap: 11¾ lbs. Wt. 9⅛ lbs.

33F323 Model 36. NET **16.00**
33F324 Model 36T. NET **33.00**
33F320 Model 75T. NET **41.00**

B—STANDARD IRONS

Feature long-life elements and plug-in tips. Order replacement tips below.

Stk. No.	Type	Watts	Tip Temp.	EACH
32F980	3125	60	850°F	17.25
33F001	3138	100	855°F	21.00
32F986	3138	150	1010°F	21.00
33F002	3158	200	1000°F	27.75
33F004	3178	300	1000°F	37.00

REPLACEMENT TIPS

Stk. No.	Type	Description	EACH
32F1387	43C	Chisel tip	3.25
32F1388	43D	Diamond tip	3.25

C—TEMPERATURE REGULATING STANDS

- PREVENTS TIPS FROM OVERHEATING
- ADJUSTABLE THERMOSTAT KEEPS IRON AT WORKING TEMPERATURE
- ADJUSTABLE HANDLE BRACKET

Stk. No.	Type	Max. Watts	Weight	EACH
33F014	475	660	3 lbs.	21.00
32F1380	476	85	3 lbs.	28.75

D—TEMPERATURE CONTROLLED IRONS

- TIP TEMPERATURES FROM 350°F TO 750°F.
- ELIMINATES TEMPERATURE OVERSHOOT

Stk. No.	Type	Description	Wt.	EACH
35F1290	V3000	40 watts max.	5 lbs.	68.95
35F1291	V3001	Replace. elem.	. . .	16.10

E—VARIABLE POWER CONTROL UNITS

Stk. No.	Watts	Wt.	EACH
32F1384	477	125	3¾	46.25

SAFETY SOLDERING IRON STANDS

Wt. ¾ lbs.

Stk. No.	Type	Fig.	Description	EACH
32F1376	575	G	Gravity contr.	5.95
32F1377	576	H	Molten solder	

F—DRI-WICK® DESOLDERING TOOL

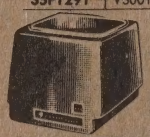
Dri-Wick is a specially woven, pure copper stranded desoldering tool. Non-corrosive, non-conductive rosin. **No danger of flux contamination.** 25-spool carton, wt. 1 lb.

Stk. No.	Type	Pad size	Width	EACH
35F1281	484-1	.060" max.	.025"	1.64
35F1282	484-2	.060-.125"	.050"	
35F1283	484-3	.125-.190"	.075"	
35F1284	484-4	.190" min.	.095"	1.86
32F1383	484-5	.....	.130"	1.86
35F154	484-6	.....	.200"	1.64

K—HOT HAND® TUBE SHRINKERS

Surrounds tubing with instant, concentrated heat. Features quartz-encapsulated elements, no R.F. interference, no noise. 350 watts. Weight: 7 ounces.

Stk. No.	Type	Description	EACH
32F1385	4100	Handheld	91.00
32F1386	4200	Bench Model	91.00

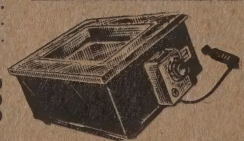


SOLID-STATE ULTRASONIC CLEANERS

Inexpensive, bench size ultrasonic cleaners are completely self-contained. Fast ultrasonic scrubbing action thoroughly cleans complete units down to the tiniest crevices. Units operate on 120 VAC, 60 Hz and utilize 3-wire line cord.

Stk. No.	Type	Dimen.	Tank Size	Cleaning Power	Input	Shpg. Wt. lbs.	NET
35F138	S-30	7¼x7¼x6"	5x5x3"	50W	75W	7	103.00
35F139	S-50	12x7½x9"	5x9x4"	100W	125W	14	175.00
35F140	S-70	14x8½x9"	6x11x6"	150W	185W	17	325.00
32F1381	S-80	20¼x6¼x10½"	19¾x5¾x6"	200W	250W	20	495.00
32F1382	S-90	12x10¼x9½"	11½x9½x6"	200W	250W	20	420.00

WAAGE SOLDERING POTS



RECTANGULAR SOLDER MELTING POTS

Wide open top area with shallow depth offers maximum dipping efficiency of flat or edge dipped circuit boards. Circuit boards can be dipped manually or the standard Waage Tanks can be easily integrated into a completely automatic assembly system. Automatic control.

550 DEGREES FAHRENHEIT

Stock No.	Type	Cap. Lbs.	Watts	Inner Dim.	Shpg. Wt.	Net Each
60F1508	RSP1-13-1	10	600	4x4"	15	74.00
60F1509	RSP2-13-1	20	1200	4x8"	23	100.00

700 DEGREES FAHRENHEIT

60F1511	RSP7-5-1	70	1600	9x12"	52	230.00

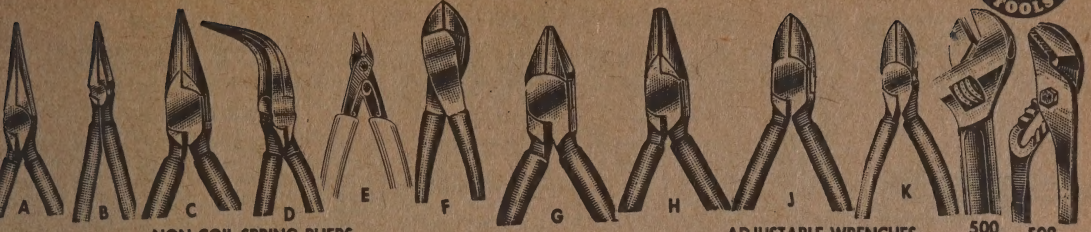
ROUND SOLDER MELTING POTS

Round solder melting pots for melting solder, tin, lead-type metal and babbitt with temperatures up to 1000°F. Melting crucible of heavy cast iron. Replaceable heating elements are clamped to bottom of crucibles for even heat distribution. Furnished with 6', 115 VAC 3-conductor, grounded cordset. Automatic control.

550 DEGREES FAHRENHEIT

Stock No.	Type	Cap. Lbs.	Watts	Inside Dia.	Inside Depth	NET EACH
60F1501	MP1A-12-1	1	200	1½	1½	49.00
60F1502	MP4A-12-1	4	300	3	1½	53.00
60F1503	MP10A-12-1	10	500	3½	2½	60.00

Tools & Accessories



NON-COIL SPRING PLIERS

Stk. No.	Type	Fig.	Handle Color	Description	1-11	12-Up
4F016	D302-6	D	Yellow	6¼" curved nose plier	4.80	4.32
4F114	D314-8	B	Yellow	8" long nose plier	4.48	4.04
4F225	D326-5	A	yellow	5⅜₁₆" spring adj. plier Inside jaws polished	4.97	4.48

COIL SPRING PLIERS

Stk. No.	Type	Fig.	Handle Color	Description	1-11	12-Up
4F008	D301-5C	A	Yellow	5⅜₁₆" long nose plier	3.91	3.52
4F009	D301-6C	A	Yellow	6⅜₁₆" long nose plier	3.96	3.57
4F010	D301-7C	A	Yellow	7⅛" long nose plier	4.16	3.75
4F025	D307-5½C	A	Yellow	5⅛₁₆" slim long nose plier	3.87	3.49
4F095	D321-4½C	C	Yellow	4¾" long nose plier	3.87	3.49
4F113	D322-4½C	C	Blue	4¾" long nose plier	4.25	3.83
4F226	D323-4½C	A	Yellow	4¾" flat nose plier. Jaws Polished	4.25	3.83
4F123	D318-5½C	...	Yellow	5⅛₃₂" long needle nose plier	4.87	4.39
4F228	D317-5C	C	Yellow	5¼" chain nose plier	4.00	3.60
4F229	D327-5½C	A	Blue	5⅛₁₆" slim nose plier	4.89	4.39
4F239	D221-5½C	A	Yellow	5⅛₁₆" long needle nose side cutting plier	4.40	3.96

TYPE 502 — PUMP PLIERS

aws are positioned and locked into place for desired size opening by ngaging a tongue in proper groove. With yellow plastic handles. Av. hpg. wt. 2 lbs.

Stk. No.	Type	Length	Max. Cap.	1-11	12-Up
34F235	D502-6	6 in.	1 in.	3.25	2.93
34F097	D502-10	10 in.	1¾ in.	4.40	3.96
34F098	D502-12	12 in.	2⅛ in.	5.20	4.68

ELECTRICIAN'S TOOL

Type 1000. Strips six wire sizes 10-22 gauge; rimps terminals; stripping holes provide wire auge. Wire cutter and stud gauge #4, stamped on face of tool. Lgth. 7½". Shpg. wt. oz.

0F998 NET 1-11 ..... **6.27**
2-Up **5.65**

Type 1002. Same as above with terminal locator hat insures proper location of crimp. Length ½". Shpg. wt. 8 oz.

4F244 NET 1-11 ..... **7.13**
2-Up **6.42**

ELECTRICIAN'S HAMMER

Type 807-18. Long neck; 1" dia. striking face. Straight claw pattern head of drop forged steel. Comfortable fiberglass cushion gripped handle. Head wt. 18 oz. 14" long. Shpg. wt. 2 lbs.

4F046 NET **8.61**

ELECTRICIAN'S WAIST BELT

Lightweight electrician belt, made of strap leather with tool loops and chain tape thong.

34F041 Type 5207M. 32-40" **4.44**
34F042. Type 5207L. 38-46" **4.64**

Type 2100-5. 5" Scissors designed for electrician and mechanic. Made of high-grade tempered steel to withstand continued hard work. Screw hinge allows adjustment. Nickel plated finish. Wt. 6 oz.

34F023 NET **5.15**

ELECTRICIAN'S KNIFE

Type 1550-2. Two-blade knife and screwdriver made of high-grade cutlery steel, with durable plastic handle. Locking feature on screwdriver. Shpg. wt. 5 oz. Nominal length of blade 2½"; ength of screwdriver 3".

34F022 NET 1-11 ..... **3.51**
12-Up **3.16**

ADJUSTABLE WRENCHES

500 502

Type 500. Adjustable wrenches. Drop forged, chrome plated with yellow plastic handle.

Stk. No.	Type	Description	1-11	12-Up
34F129	D500-4	½" capacity x 4"	4.24	3.82
34F037	D500-6	1¾" capacity x 6"	4.29	3.87
34F038	D500-8	1⅝₁₆" capacity x 8"	4.89	4.41
34F039	D500-10	1⅞" capacity x 10"	6.23	5.61
34F040	D500-12	1⅞₁₆" capacity x 12"	9.04	8.14

NON-COIL SPRING CUTTERS

Stk. No.	Type	Fig.	Handle Color	Description	1-11	12-Up
34F117	D228-8	F	Red	8" hi-lever oblique cutter	4.79	4.32

COIL SPRING CUTTERS

Stk. No.	Type	Fig.	Handle Color	Description	1-11	12-Up
34F011	D203-5C	—	Yellow	5⅜₁₆" long nose side cutters	4.48	4.04
34F012	D203-6C	—	Yellow	6⅜₁₆" long nose side cutters	4.55	4.10
34F018	D202-5C	K	Red	5⅛" narrow nose oblique cutter	4.47	4.03
34F019	D202-6C	K	Red	6⅛₁₆" narrow nose oblique cutter	4.60	4.14
34F020	D210-6C	K	Red	6⅛₁₆" flush oblique cutter	4.77	4.30
34F021	D210-5C	K	Red	5½" flush oblique cutter	4.71	4.24
34F027	D052-C	—	Red	5⅛" oblique cutter for printed circuits	6.19	5.58
34F231	D209-4C	G	Red	4⅜₁₆" ptd. nose, semi flush cutting, oblique cutter	4.12	3.71
34F091	D224-4½C	H	Red	4⅜" semi-flush transverse end cutter	5.41	4.87
34F093	D257-4C	J	Red	4⅜₁₆" semi-flush cutting oblique cutter	4.01	3.61
34F126	D229-5C	—	Red	5" flush cutng., wire gripping oblique cutter	6.60	5.94

LIGHTWEIGHT FLUSH CUTTER

Type D275-5. Shears wire up to No. 14 AWG. Figure E above. Minimizes fly-off. Has steel hold-open spring. 5" long.

34F045 NET **2.67**

4 PIECE PLIER KIT

Type No. 1305-4. All-purpose kit containing 4 top quality drop forged high grade alloy tool steel pliers. Each individually fitted, tempered, adjusted and tested for maximum performance. Kit Includes: 1 No. D257-4 Oblique Cutting Pliers, 1 No.D224-4½c End Cutting Pliers, 1 No. D321-4½ Long Nose Pliers, 1 No. D-323-4½ Duck Bill Pliers. Top grade leatherette case. Shpg. wt ¾ lb.

Stk. No.	Type	1-11	12-Up
34F127	1305-4	17.38	15.65

COMBINATION TOOL POUCH

Type 5127. Has gusseted utility pocket, three plier pockets, two screw driver pockets and knife snap. May be used with 5207 waist belt. 7"x10". Wt. 12 oz.

34F086 NET **6.81**

POCKET TOOL ROLL

Type 1305-33A. 1 pr. side cutting pliers, long nose and oblique cutting pliers, electrician's tweezers. Also file, screwdriver, electrician's knife. Size rolled: 8x2½".

Stk. No.	Type	1-11	12-Up
34F047	1305-33A	26.37	23.74

HACK SAW

Fingers protected by closed handle. Storage chamber provided for six extra blades inside of tube. Frame is die cast zinc. Saw provides front end grip for two hand operation. Length of blade is 12 in.

34F180 Type 701-12. Net 1-11 ..... **5.73**
12-Up **5.16**

HACK SAW BLADES-CARBON STEEL

Stk. No.	Type	Length	Teeth	1-11	12-Up
34F182	1224C	12 in	24T	.17	.16

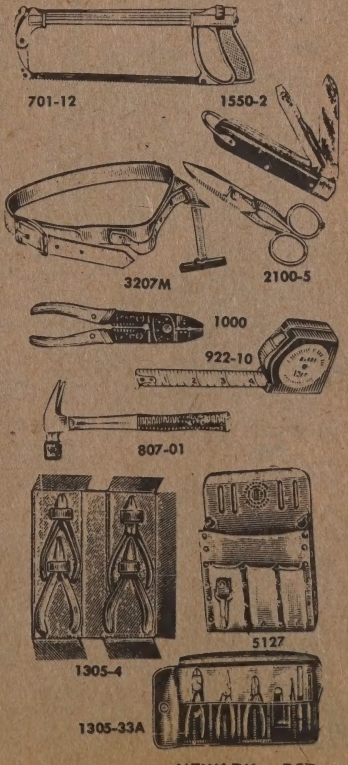
HIGH-SPEED STEEL

34F185	1224HS	12in	24T	.57	.52

TAPE RULE

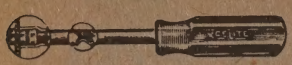
Tape rule is positive locking and smooth running. Control knob for easy operation. Rule has belt or pocket clip on back of case. Mylar clad, replaceable blade. Balck numerals on yellow blade.

Stk. No.	Type	Length	Width	1-11	12-Up
34F187	922-10	10ft.	¾in.	4.67	4.21
34F188	922-12	12ft.	¾in.	4.93	4.44

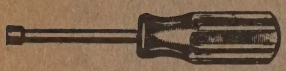


Top-Quality Drivers and Tools

XCELITE



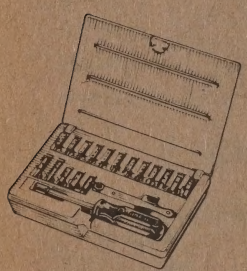
Hollow Shaft Nut Driver
HS Series



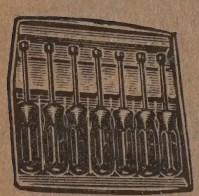
Solid Shaft Nut Driver

Phillips Screwdriver
X Series

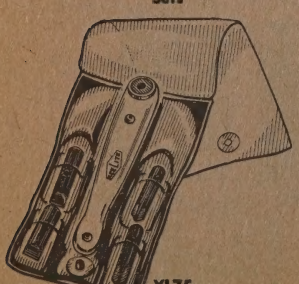
Shock Proof Screwdriver



XL-70 Sets



Tray Bien Nut Driver
Sets



XL75

HOLLOW SHAFT NUT-DRIVERS

Ideal for use where nuts must be installed or removed over protruding bolts. Finely-tempered and finished steel. (*) Volume control wrench. Shpg. wt. 6 oz.

Stk. No.	Type	Nut Size	Handle	1-11	12-47	48-Up
34F319	HS-8	¼"	red	1.57	1.41	1.25
34F320	HS-10	5/16"	amber			
34F321	HS-11	11/32"	green			
34F322	HS-12	3/8"	blue			
34F323	HS-14	7/16"	brown	1.83	1.65	1.47
34F324	HS-16	½"	red	1.83	1.65	1.47
34F325	HS-18*	9/16"	orange	1.87	1.68	1.49

SOLID SHAFT NUT-DRIVERS

Most popular sizes. 6" long over all. Made of hardened and polished tool steel. Color coded plastic handles. 4-oz.

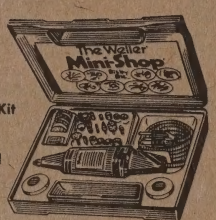
Stk. No.	Type	Nut Size	Handle	1-11	12.47	48-Up
34F300	6	3/16"	black	1.37	1.23	1.09
34F301	7	7/32"	brown			
34F302	8	¼"	red			
34F303	9	9/32"	orange			
34F304	10	5/16"	amber			
34F305	11	11/32"	green			
34F306	12	3/8"	blue			
34F307	14	7/16"	brown	1.75	1.58	1.40
34F308	16	½"	red			

10 PC. NUTDRIVER SET

Contains 4MM through 13MM all with 31.75 mm. depth shaft hole. Black handles in rolled kit.

Stk. No.	Type	1-11	12-47	48-Up
34F189	4-13mm	17.56	15.81	14.05

MODEL 601K



- Mini-shop Kit
- 46 Pieces
- U. L. Listed

46 piece mini-shop kit contains: 11 grinding/sharpening bits, 5 polishing wheels, 6 cleaning bits, 10 abrasive discs, 3 abrasive bands, expanding drum, drill bit, mandrel, chuck wrench, dressing stone plastic polish, jeweler's rouge. 28,000 RPM 120V, 60 Hz, U.L. listed. Wt. 3 lbs.

34F190 NET **39.95**

PHILLIPS SCREWDRIVERS

All. equipped with black plastic (UL) handles.

Stk. No.	Type No.	Point Size	Total Length	1-11	12-47	48-Up
35F1433	XST-100	0	4⅜"	1.05	.95	.84
35F1434	XST-101	1	6⅜"	1.47	1.32	1.17
35F1435	XST-102	2	8¼"	1.83	1.65	1.47

PHILLIPS SCREWDRIVERS

Special alloy steel. Av. wt., 5 oz. †Stubby types. *Pocket clip.

Stk. No.	Type	Point Size	Blade Size	1-11	12-47	48-Up
34F290	X-101	1	3"	1.25	1.13	1.00
34F291	X-102	2	4"	1.53	1.38	1.23
34F292	X-103	3	6"	2.25	2.03	1.80
34F293	X-104	4	8"	2.82	2.54	2.25
34F294	X-108	1	6"	1.47	1.32	1.17
34F295	X-1010	1	10"	1.87	1.68	1.49
34F296	X-1020	2	10"	2.12	1.91	1.69
34F287	SX-101 †	1	1 7/16"	1.17	1.05	.93
34F288	SX-102 †	2	1 5/16"	1.30	1.17	1.04
34F289	P-12S*	0	2"	.75	.68	.60

SCREWDRIVERS

Tips ground to rectangle shape. Handles are amber plastic. (*) Have ½" dia. handles. (†) Have 1⅜" dia. handles, stubby types. 8 oz.

SQUARE BLADES

Stk. No.	Type	Blade Size	1-11	12-47	48-Up
34F276	S-141†	¼x1¼"	1.02	.92	.81
34F275	S-3161†	3/16x1¼"	.93	.84	.75
34F203	S-3163	3/16x3"	1.17	1.05	.93
34F204	S-3164	3/16x4"	1.30	1.17	1.04
34F205	S-3166	3/16x6"	1.43	1.29	1.15
34F206	S-3168	3/16x8"	1.67	1.50	1.33
34F209	S-144	¼x4"	1.57	1.41	1.25
34F210	S-146	¼x6"	1.75	1.58	1.40
34F211	S-148	¼x8"	1.87	1.68	1.49
34F1426	S-5164	5/16x4"	1.75	1.58	1.40
34F213	S-5166	5/16x6"	1.95	1.76	1.56
34F214	S-5168	5/16x8"	2.22	2.00	1.77
34F217	S-388	3/8x8"	3.10	2.79	2.48
34F218	S-3812†	3/8x12"	4.23	3.81	3.39

ROUND BLADES

34F250	R-3322*	3/32x2"	.58	.53	.47
34F251	R-3323*	3/32x3"	.65	.59	.52
34F252	R-3324*	3/32x4"	.68	.62	.55
34F254	R-182†	1/8x2"	.68	.62	.55
34F253	R-183*	1/8x3"	.65	.59	.52
34F255	R-184†	1/8x4"	.75	.68	.60
34F256	R-186†	1/8x6"	.83	.75	.67
34F257	R-188†	1/8x8"	1.02	.92	.81
34F258	R-1810†	1/8x10"	1.12	1.01	.89
34F259	R-5323†	5/32x3"	.83	.75	.67
34F260	R-5324†	5/32x4"	.83	.75	.67
34F261	R-5325†	5/32x5"	.93	.84	.75
34F262	R-5328†	5/32x8"	1.12	1.01	.89
34F263	R-3163	3/16x3"	1.08	.98	.87
34F264	R-3164	3/16x4"	1.17	1.05	.93
34F265	R-3166	3/16x6"	1.30	1.17	1.04
34F266	R-3168	3/16x8"	1.47	1.32	1.17
34F267	R-31610	3/16x10"	1.75	1.58	1.40
34F269	R-144	¼x4"	1.53	1.38	1.23
34F270	R-146	¼x6"	1.67	1.50	1.33
34F271	R-148	¼x8"	1.80	1.62	1.44
34F272	R-1410	¼x10"	1.87	1.68	1.49
34F273	R-5166	5/16x6"	1.87	1.68	1.49
34F274	R-5168	5/16x8"	2.00	1.80	1.60
34F277	R-181*	1/8x2"	.58	.53	.47

DUAL PURPOSE SCREWDRIVERS

Handy Screwdrivers with reversible blades. Type CR1 is for 3/16" and No. 1 Phillips screws; Type CR2, ¼" and No. 2 Phillips screws; CR3 for 5/16" and No. 3 Phillips screws. Overall length 7¼".

Stk. No.	Type	Blade Size	1-11	12-47	48-Up
34F298	CR1	3/16"	2.48	2.24	1.99
34F299	CR2	¼"	2.48	2.24	1.99

"TRAY BIEN" NUTDRIVER SETS

Nutdrivers have carbon steel shafts. Case hardened sockets. Plastic (UL) handles color coded. Features lightweight plastic case. Wall mounting holes. Compact, easily stacked.

Model 127TB. Solid shaft nutdriver set. Hex openings range from 3/16" to ⅜" in 1/32" steps.
34F366 ..... **10.51**

Model 147TB. Hollow shft nutdriver set. Hex openings of ¼" to ½".
34F368 ..... **13.19**

OFFSET RATCHET SCREWDRIVER SETS

XL70 19 piece reversible screwdriver set. For all work involving Allen Hex type, Phillips, and slotted screws. All driver bits ¼" hex shank. With ordering card for free initials for personalizing the case.

35F200 ..... **18.63**

OFFSET RATCHET SCREWDRIVER SET

XL-75 3/16" and ¼" slotted screw bits. #1 and #2 phillips screw bits. 3-3¾" reversible ratchet. ¼" hex shank on all driver bits.

35F1436 NET **5.88**

Professional Hand Tools

METRIC HAND TOOLS & SETS. Manufactured precisely to metric dimensions. Useful in the assembly and service of foreign-designed equipment. Finished in nickel-chrome. Allen hex finished in black oxide. All dimensions given in millimeters.

No. 99PS-41MM METRIC HEX SOCKET SCREWDRIVER SET. Includes seven metric Allen Hex type blades (99-71 thru 99-77 in MM sizes 1.27, 1.5, 2, 2.5, 3,4), 99-X5 extension blade, 99-1 handle and see-thru case.
34F621 NET **11.66**

No. 99 PS-41MMBP METRIC BALLPOINT HEX SOCKET SCREWDRIVER SET. Includes 7 screwdriver blades (99-71MMBP thru 99-77 MMBP in MM sizes 1.27, 1.5, 2, 2.5, 3,4) 99-X5 extension blade 99-1 handle, and see-thru case.
34F622 NET **13.73**

No. PS-90MM METRIC HEX SOCKET SCREWDRIVER SET. Contains eight drivers (hex sizes .89MM, 1.27MM, 1.5MM, 2MM, 2.5MM, 3MM, 4MM, 5MM), torque handle and case.
34F623 NET **7.66**

No. PS-121MM METRIC NUTDRIVER SET. Contains ten drivers (hex sizes 3MM, 3.5MM, 4MM, 4.5MM, 5MM, 5.5MM, 6MM, 7MM, 8MM, 10MM) torque handle, and case.
34F624 NET **11.41**

NUTDRIVER SET

99PS51MM. Ten piece. 4MM-11MM hex opening. 2MM-7MM thread dia. Plastic case.
35F209. NET **14.88**

Kit 600. Combination Screw driver-Nutdriver Set. Two hex nut openings in handle, 1/4and 7/16" serve as nutdrivers. Includes RB1 blade. wt. 3 oz.
35F1421. NET 1-11 **2.70** 12-47 **2.43**

Kit CK-3 Three Blades, RB1, RB2, and RB3, with No. 25 plastic handle in a convenient roll-up pouch for storage.
34F394. NET **6.51**

CK-20. Number 25 handle with two sets of blades, RB1 and RB2. Packaged in clear plastic pouch with zip-top closure. Shpg. wt. 6½ oz.
35F1423. NET **4.65**

Kit CK23. Has plastic handle and three blades, choice of six tips: #1, 2 and 3 Phillips tips and 3/16", 1/4" and 5/16". slotted blades. In plastic zipper case.
35F1424. NET **6.08**

Kit HS6-18. Kit contains ten hollow shaft nut-drivers with hex openings 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2", and 9/16". Packaged in a sturdy, plastic case. Shpg. weight 2 lbs.
34F376 NET **18.13**

KIT HSC-1 Contains special thru-drilled handle and eight interchangeable hollow nutdriver shafts in 3/16", 1/4", 5/16", 11/32", 3/8", 7/16", 1/2", 9/16", hex sizes. Screwdriver blade may be run down through center of handle and hollow nutdriver shaft to make combination locknut/slotted screw adjustments.
35F1425 Net **14.43**

COMPACT NUTDRIVER SETS

Kit. 99 PS-50. Contains nutdrivers 99-6 to 99-12; Phillips screwdrivers 99-821 and 822; extension 99-X5; slotted blades 99-811 and 99-250; and handle 99-1. In plastic case. Shpg. wt. 1 lbs.
34F341. NET **14.26**

ALLEN HEX SET

Kit 99-PS-40. Includes 99-1 handle; Allen hex screwdriver blades 99-20 thru 99-26 and 99-764 and 99-964; four inch ext. blade 99-X5. Shpg. wt. 12½ oz.
34F339. NET **11.66**

Type PS-89. 8 midget Allen hex type screwdrivers, in sizes .028", .035", .050", 1/16", 5/64", 3/32", 7/64", 1/8",. "Piggyback" torque amplifier handle slips over top of midget tool handles.
35F1432. NET **6.86**

MINI — SCREWDRIVER SET

M-60. Six piece slotted and Phillips with case. 00 Phillips, .040, .055, .070, .080, .100 and torque amplifier handle.
35F206. NET **3.30**

BALLPOINT ALLEN HEX SET

99PS40BP. Nine drivers. .050; 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16. 99-X5 Extension. Regular 99-1 handle. Standup, see-thru plastic case.
35F208. NET **15.69**

SERIES 99 PART NUMBERS

HANDLES

Stk. No.	Type	Description	Lght.	1-11	12-47	48-Up
34F398	99-1	1 1/16" dia.	4½	1.12	1.01	.89
35F3111	99-3	1 1/16" dia.	2"	1.05	.95	.84
33F1150	99-1-R	Rev. Ratchet		7.65	6.89	6.12
33F1151	99-4-R	Handles, Black		7.65	6.89	6.12

NUT DRIVER

35F3112	99-6	3/16"	3⅜"	1.05	.95	.84
35F3113	99-7	7/32"	3⅜"	1.05	.95	.84
35F3114	99-8	1/4"	3⅜"	1.05	.95	.84
35F3115	99-S8	1/4"	1⅜"	.83	.75	.67
35F3116	99-9	9/32"	3⅜"	1.05	.95	.84
35F3117	99-10	5/16"	3⅜"	1.05	.95	.84
35F3118	99-S10	5/16"	1⅜"	.83	.75	.67
35F3119	99-11	11/32"	3⅜"	1.05	.95	.84
35F3120	99-12	3/8"	3⅜"	1.05	.95	.84
35F3122	99-14	7/16"	3⅜"	1.25	1.13	1.00
35F3123	99-16	1/2"	3⅜"	1.25	1.13	1.00

ALLEN HEX

35F3124	99-20	.050"	4"	.97	.87	.77
35F3125	99-21	1/16"	4"	.97	.87	.77
35F3126	99-22	5/64"	4"	.97	.87	.77
35F3127	99-23	3/32"	4"	.97	.87	.77
35F3128	99-764	7/64"	4"	.97	.87	.77
35F3129	99-24	1/8"	4"	.97	.87	.77
35F3130	99-964	9/64"	4"	.97	.87	.77
35F3131	99-25	5/32"	4"	.97	.87	.77
35F3132	99-26	3/16"	4"	.97	.87	.77

REAMER

35F3133	99-38	1/8"-3/16"	4½"	2.70	2.43	2.16

SLOTTED SCREWDRIVER

35F3135	99-250	1/4"	3⅜"	1.05	.95	.84
35F3136	99-811	3/16"	3⅜"	1.05	.95	.84

PHILLIPS SCREWDRIVER

35F3137	99-821	#1	3⅜"	1.05	.95	.84
35F3138	99-822	#2	3⅜"	1.05	.95	.84

EXTENSIONS

35F3139	99-X5	4"	4"	1.47	1.32	1.17
35F3140	99-X10	7"	7"	1.57	1.41	1.25

THE SERVICEMAN'S COMPLETE KIT. Kit 99SM. 6" longnose, 5" dia pliers, 6" adj wrench, handles 99-1,99-3, nutdrivers 99-6 thru 99-16 stubby models 99-S8, S10, S12, Phillips blades 99-821, extension. 99x10. slotted blades 99-811 99-250, reamers 99-38, Canvas pouch.
34F388. NET **44.93**

99 PR. Contains 99-1, nutdrivers 99-6 to 99-16, 99-811, 99-250, 99-281 and 99-822 in pouch, 24 oz.
34F395. NET **15.69**

99PS-60. Bristol Multiple Spline socket screwdrivers. Handle 99-1 blade 99-x5 and 9 bristol blades, two 4-flute and seven 6-flute type, .048" to 183" All 4" long. Shpg. wt. 1½ lbs.
34F340. NET **11.66**

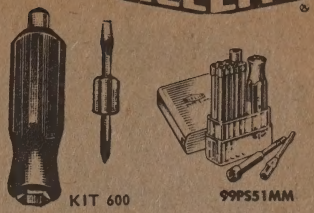
99MP 39 piece kit contains 99-1 (regular) and 99-4 (tee) handles, ten regular nut drivers (99-6 to 99-16), nine Allen Hex type screwdrivers (99-20 to 99-26), nine Bristol Multiple Spline screwdrivers (99-61 to 99-69), three slotted screwdrivers (99-811, 99-250, 99-312), two Phillips screwdrivers (99-821, 99-822), reamer (99-38,), and extension blade (99-X5)
34F223. NET **46.58**

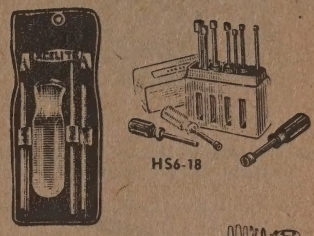
Kit PS-7. Two Hex nutdrivers of 1/4" and5/16"; two slotted screwdrivers with blades of 3/16" and 3/32"; and two Phillips screwdrivers, types #0 and #1. Torque amplifier and workbench carrying case. Wt. 6 oz.
34F335. NET **6.60**

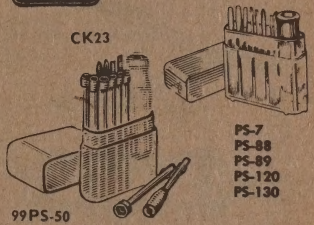
Kits PS-88. Slotted blade sizes are: 3/32" 1/8", 5/32", 3/16", and 1/4" Phillips Nos. 0, 1 and 2 points. Overall length 3½" Shpg. weight 6¾ oz.
34F375. NET **6.86**

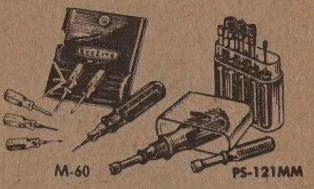
Kit PS-120 Ten nutdrivers Hex openings of 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", tool is 3½", Shipping wt. 9¾ oz.
34F336. NET **9.53**

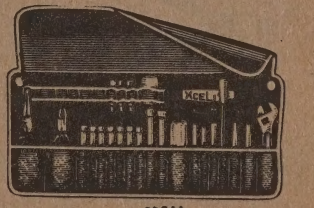
Kit PS-130 10 pieces. Screw/nut driver set. 1,2 Phillips. 1/8, 3/16, 1/4 Screws. 3/16,1/4, 5/16, 11/32, 3/8 nutdrivers.
35F207. NET **9.10**

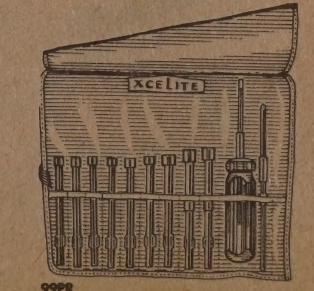






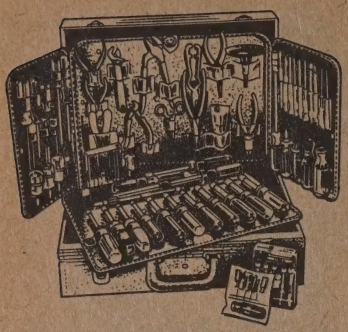






XCELITE

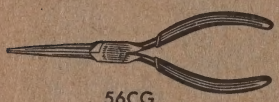
Tools



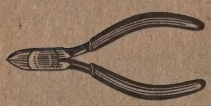
TECHNICIAN/SERVICEMAN'S AND FIELD ENGINEER'S TOOL KIT

79CG

86CG



56CG

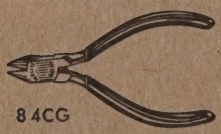


54CG

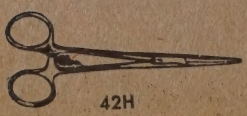
K22

46CG

101S



84CG



42H

MODEL TC-100/ST TOOL KIT

53 tools including pliers, wrenches, snips, screw and nut drivers, 31 Series 99 interchangable screw and nut drivers, reamers, handles, and 2 sets of specialized screw and nut drivers. Leather grain case with wood frame, brass hardware and padded handle. Includes case.

35FX215.....288.79
35F216. TC-100/MT. Case only. **NET..97.16**

MODEL TC-200/ST TOOL KIT

10 assorted snips, pliers, wire cutters, wrenches, etc. plus 27 interchangable Series 99 screw and nut drivers. Case also provides ample room for meters, parts, other tools etc. File pocket for literature. Durahyde case with wooden frame, brass finished hardware. Includes case.

35FX217. NET 155.97
35F218. TC-200/MT. Case only. **NET..62.39**

MODEL TC-150/ST TOOL KIT

13 Assorted tools. 24 Series 99 screw and nutdrivers, cordless soldering iron, recharger and solder, 2 measuring tapes.

34F581. NET.....225.91
34F582. TC-150/MT. Case Only.....75.15

STAINLESS STEEL "SEIZERS"

Stk. No.	Type	Description	1-11	12-4748-Up	
34F370	42H	6" straight nose	7.18	6.47	5.75
34F371	43H	6" curved nose	7.38	6.65	5.91
34F373	32H	5" straight nose	6.95	6.26	5.56

DIAGONAL PLIERS

54CG. Midget 4" for close work.
35F219. NET.....6.41

55CG. 5" plier for most cutting needs.
35F220. NET.....6.95

64CG. 4" long for fine wires in close.
35F238. NET.....8.55

66CG. 6" all purpose diagonal plier.
35F221. NET.....7.27

67CG. 7" pliers for heavy duty cutting.
35F222. NET.....7.14

LONG NOSE PLIERS

41CG. Midget 4" without side cutters.
35F223. NET.....6.09

51CG. 6" long nose with side cutters.
35F224. NET.....7.27

52CG. 6" long nose without side cutters.
35F225. NET.....5.88

81CG. 5½" long nose with side cutters.
34F583. NET.....8.05

82CG. 5½" long nose without side cutters.
34F584. NET.....6.95

SPECIAL PURPOSE PLIERS

58CG. 6" electronic plier. Cutting edge.
35F226. NET.....8.67

59CG. 8" long reach. Electrician's pliers.
35F227. NET.....8.36

NEEDLE NOSE PLIERS

56CG. 6" long, slim jaws for tight fit.
35F229. NET.....7.33

57CG. 5½". Fine serrated jaws. Spring.
35F230. NET.....7.47

UTILITY PLIERS

50CG. 5" midget slip joint. Open adj-½".
35F231. NET.....4.36

53CG. 7" all purpose. Max. opening 1 1/16".
35F232. NET.....5.03

63CG. 10". Rib lock. Max. opening 1½".
35F233. NET.....6.41

SIDE CUTTING PLIERS

60CG. 6". Serrated top and bottom jaws.
35F234. NET.....7.39

68CG. 8". Leverage for heavy wire cutting.
35F235. NET.....9.20

DIAGONAL CLOSE CUTTING PLIERS

74CG. 4". Fine tapered nose. Sharp edge.
35F236. NET.....8.88

84CG. 4". Full flush cutting plier.
35F237. NET.....9.20

95CG. 5". Thin pointed nose. Electronic.
35F239. NET.....9.96

FLAT NOSE PLIERS

70CG. 5". For gripping. No cutter.
35F240. NET.....6.84

ROUND NOSE PLIERS

71CG. 4½". Carefully rounded. Fine point.
35F241. NET.....7.06

CHAIN NOSE PLIERS

72CG. 5". Thin chain nose. Beveled jaws.
35F242. NET.....7.14

SPECIAL ELECTRONIC PLIERS

69CG. 5". Fine point. 5/16" edge.
35F243. NET.....9.55

73CG. 4½". Cutter at tip. Cuts 45°.
35F244. NET.....11.05

79CG. 5". Bent thin pliers. 60° angle.
35F245. NET.....9.81

WIRE STRIPPERS

100. Adj. screw stop for dif. wire sizes. Cushion grips. Handles solid and stranded wire. Hardened with ground blades.
35F246. NET.....1.92

101-S. Same as 100 exc. spring handles.
35F247. NET.....2.48

103-S. Cam stop adj. for dif. wire sizes. Cam won't move. Fine for industrial use.
35F248. NET.....3.10

SNIPS

96CG. Snips cut flush up to 14AWG.
34F585. NET.....4.00

97CG. Identical to 96CG but including special clip which holds cut-off wires.
34F586. NET.....5.58

86CG. 6½" Shears. Cut light sheet metal. Coil spring and latch. Cushion handle.
35F250. NET.....6.73

ELECTRICIAN'S KNIFE

K22. Knife and screwdriver. Utility tool.
35F251. NET.....6.46

SLIP JOINT PLIERS

75C. 5". Chrome plated plier in small size.
35F252. NET.....2.99

76C. 6". Chrome plated for general use.
35F253. NET.....3.10

78C. 8". Chrome plated for heavy use.
35F254. NET.....3.74

ADJUSTABLE WRENCHES

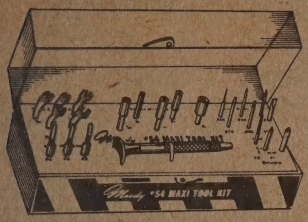
44CG. 4" length. ½" opening.
35F255. NET.....5.98

46CG. 6" length. ¾" opening.
35F256. NET.....6.06

48CG. 8" length. 15/16" opening.
35F257. NET.....6.47

Selected Top-Quality Tools

MOODY SUBMINIATURE TOOLS



BW-5

MAXI TOOL KIT

Model 54. Contains six screw driver blades sizes .025", .040", .055", .070", .080" and .100"; two cross-recessed drivers Nos. 0 and 1; five open-end wrenches sizes: 5/64", 3/32", 7/64", 1/8" and 5/32"; three Allen wrenches No. 4, 6 and 8; five socket wrenches sizes 5/64", 3/32", 7/64", 1/8", and 5/32" and an awl. In clear plastic box.
33F567. NET.....16.50. 12-Up.....14.85

JEWELER'S SCREWDRIVER SET

Model JS-6, meets Mil. Spec. GGG-S-121d. One set of six complete screwdrivers with properly heat-treated blades. Blades sizes .025", .040", .055", .070", .080" and .100".
33F479. NET.....8.00. Lots of 12-Up.....7.20

Model 52. Handle and six interchangeable blades. .025", .040", .055", .070", .080", .100". Meets GGG-S-121-D.
33F479. NET.....8.00. 12-Up.....7.20

POCKET AND MACHINIST SCRIBERS

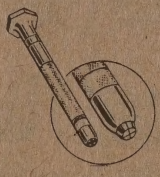
MS-2

#42

Model MS-2. Meets MIL-Spec. GGG-131. Approximately 8½" overall with a hook point and a straight point. Has knurled aluminum finger grip handle.
34F559. NET.....1.20. 12-Up.....1.08

Model 42. On one end, powerful magnet for prodding. Other end stores a scribing point. Pocket clip.
33F697. NET.....2.50. 12-Up.....2.25

SWIVEL TOP PIN VISES



Have knurled metal handles and solid locking chucks. The PV-1 will take drills sizes #80 to #68, (.0135" to .031"). The PV-2 will take drill sizes #67 to #52. (.032" to .0635").

Stk. No.	Type	1-11	12-Up
33F480	PV-1	2.00	1.80
33F481	PV-2	2.00	1.80

SUBMINIATURE TOOL SETS

Socket Wrench Set. 5 interchangeable tiny hex socket wrenches. All fit the same handle. Enables inserting or removing tiny nuts from hard-to-get-at places. Wrench sizes: 5/64", 3/32", 7/64", 1/8", and 5/32".

Type OE-5. Offset Open End Wrench Set. Tiny offset open end wrenches. Made of tough heat-treated steel. Wrenches are completely interchangeable in the chuck-type handle. Ideal for all types of tiny nuts found in electrical and other small devices. Wrench Sizes: 5/64", 3/32", 7/64", 1/8" and 5/32". Shpg. wt. 8 oz.

Type PA-5. Miniature Phillips and Allen 6 Piece Set. Contains two smallest-sizes Phillips screwdrivers, plus three tiny Allen-type wrenches . . . all interchangeable in swivel-top universal handle. You get: Phillips #0 and #1, plus Allen Nos. 4, 6, and 8. Shpg. wt., 7 oz.

Type SC-5. Jewelers' Screwdriver 6 Piece Set. Perfect for dismantling small assemblies. Five interchangeable rust-resistant blades fit universal swivel-top handle. Sizes include .055", .070", .080" and .100". Complete with awl and colorful plastic stand and cover. Wt.: 7 oz.

Stk. No.	Type	Description	1-11	12-Up
33F473	BW-5	Socket wrenches w/magnetic handle	6.50	5.85
33F472	SW-5	Socket wrenches/non-mag. handle	5.50	4.95
33F474	OE-5	Offset open end wrenches	3.75	3.38
33F476	PA-5	Mini Phillips & Allen 6 pc. set	4.25	3.83
33F475	SC-5	Jeweler's 6 pc. screwdriver set	2.95	2.66

TOOL SETS

Available in double-ended sets also.

Stk. No.	Type	Description	NET
34F767	1-SD-S	Screwdriver Set	6.50
34F768	1-CH-S	Phillips & Allen Set	7.50
34F772	1-HX-S	Allen Set	8.00
34F785	1-SW-S	Socket Set	8.50
34F786	1-OE-S	Open End Set	10.00

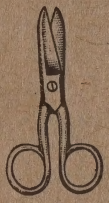
WD-40 SPRAY CLEANER

- **Penetrates**
- **Cleans**
- **Protects**
- **Lubricates**

WD-40 spray cleaner is perfect for cleaning contacts, cleaning sticky parts and lubricating all types of machine parts. As a fast-acting penetrant, WD-40 loosens rusty joints easily. WD-40 can be used to protect metal from moisture and corrosion. This silicone-free spray leaves no gummy residue and is a non-conductor of electricity. Quickly eliminates moisture-induced short circuits in electrical and electronic equipment. WD-40 is available in a 16 ounce aerosol spray.

Stk. No.	Type	Description	NET
34F787	40-16	16 oz. aerosol spray	2.35

CLAUSS TOOLS



925

76½

TC4½

384

SCISSORS AND SNIPS

Scissors have small hardened points for fine cutting. Snips have comfortable handles, high leverage.

Stk. No.	Type	Description	Size	Wt.	NET
34F780	925	Electricians' scissors	5"	3 oz.	6.50
34F781	76½	Filament snip	6½"	5 oz.	7.75
34F782	TC4½	Thread snip for light cutting	4½"	3 oz.	7.00
34F771	384	General cutting tool, slender blades	4"	⅔ oz.	7.25
34F789	33¼	Electricians' scissors	3¼"	4 oz.	8.25
34F790	43½	Electricians' scissors	3½"	4 oz.	7.00
34F791	564	Electricians' scissors	4"	4 oz.	7.25

7SS

5S

5

AA

AW

DOMESTIC TWEEZERS

Non-magnetic, exc. for AA. Satin-finish stainless steel. Delicate feel and balance. With smooth inside points except (*) serrated.

Stk. No.	Type	Description	Size	Wt.	NET
34F773	7SS	Curved tweezers	4½"	⅓ oz.	6.00
34F774	5S	Long, V-shaped	4¼"	⅓ oz.	3.35
34F775	5	Long, slender	4¼"	⅓ oz.	3.50
34F776	231*	Serrated inside points	4¾"	⅔ oz.	4.25
34F777	AA	Tapered points	4⅞"	⅓ oz.	3.60

ANTI-WICKING TOOLS

Stock No.	Type	Gauge	NET
34F796	AW22	22	13.65
34F797	AW24	24	

"T" HANDLE HEX DRIVERS

Cushion grip for max. torque. 6" Blades.

Stk. No.	Size	Type	Each
30F500	3/32	11322	1.07
30F506	7/64	11324	1.16
34F925	1/8	11326	1.16
30F518	9/64	11328	1.25
30F516	5/32	11330	1.25
30F512	3/16	11332	1.41
34F926	7/32	11334	1.41
34F927	1/4	11336	1.85
34F928	5/16	11338	1.97
34F929	3/8	11340	1.97

MASTER "T" WRENCH STAND

Metal stand plus 10 drivers listed above.

30F09. 11445. NET.....15.67

NUT DRIVERS

Hardened cold rolled steel.

Stk. No.	Type	Size	1-11
34F900	33001	5/32	1.36
34F901	33005	3/16	
30F501	33010	7/32	
34F903	33015	1/4	
30F507	33020	9/32	
34F930	33025	5/16	
34F931	33030	11/32	
34F932	33035	3/8	
30F513	33040	7/16	1.76
30F526	33045	1/2	
30F531	33055	9/16	

EXTRA LONG 9 5/8"

30F528	32202	1/4	1.92
30F533	32204	5/16	
30F520	32206	3/8	

Screwdrivers

Chrome vanadium blades w/ cross ground tips. Won't slip, slide or twist. Regular blades except (*) Phillips (#) Stubby.

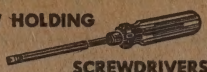
Stk. No.	Type	Size	1-11
34F902	30328	3/16x3	1.54
34F904	30330	3/16x4	1.60
34F908	30332	3/16x6	1.69
34F910	30304	1/4 x4	1.83
34F911	30306	1/4 x6	2.05
34F912	30344	5/16x6	2.23
34F913	30326	3/8x8	3.15
34F914	30402	1/4 x1 1/4 #	1.97
34F915	30510	3/16x3*	2.56
34F916	30512	1/4 x4*	1.87
34F918	30514	5/16x6*	2.59
34F923	30506	1/4 x1 1/4	2.10

63504 63506 63502

HEAT SINKS

63506 1 1/4"L. Tweezer nose. 63504 Med. duty. 63502 Heavy duty. Plastic handle.

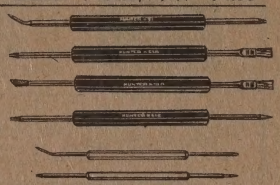
Stk. No.	Type	1-11	12-47
34F491	63502	1.63	1.50
34F492	63506	.83	.77
34F493	63504	1.18	1.09



SCREWDRIVERS

Drive or remove screws in inaccessible areas. Non-mag blds. Blade dia. 1/8" for 00-2 screws except (†) is 3/16" for 3-6 screws.

Stk. No.	Type	Length	1-11
34F760	30125	2 1/2"	3.98
34F458	30130	4"	4.16
34F459	30135	7"	4.49
30F522	30140†	3 1/2"	3.98
34F761	30145†	5 1/4"	4.34
34F460	30150†	8 1/4"	4.69
34F461	30155†	11 1/4"	4.98



SOLDERING AIDS

Non-mag steel blades. Blk. plastic handle. 8" long except (‡) 6". Wt. 10 oz.

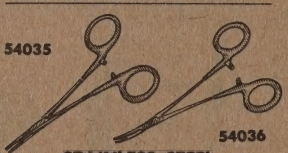
Type	Description
62002	Fork and Hook
62004	Fork and Brush
62006	Knife and Brush
62008	Fork and Reamer
62022‡	Fork and Hook
62024‡	Fork and Reamer

Stk. No.	Type	1-11	12-47
34F724	62002	1.39	1.29
34F725	62004		
34F726	62006		
34F727	62008		
34F728	62022	1.79	1.65
34F729	62024	1.79	1.65

MULTI-PURPOSE ELECTRICAL TOOL

5 in 1 tool. Pliers, crimper, wire cutter, screw cutter, stripper. 8 1/2"L.

Stk. No.	Type	1-11	12-47
30F502	25504	7.58	6.99

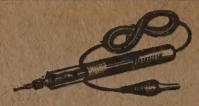


54035 54036

STAINLESS STEEL SCISSOR CLAMPS

Serrated jaws hold like vise. Absorbs, dissipates heat. Soft plastic grips. Curved blades except (**) straight.

Stk. No.	Type	Size	1-11	12-47
34F746	54035**	5"	6.52	6.02
34F747	54036	5"	6.52	6.02
30F503	54037**	6"	6.79	6.27
30F519	54038	6"	6.79	6.27



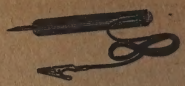
CIRCUIT TRACER SET

80102. Contains complete probe set, low voltage lamp neon light plus resistor. Up to 500 volts AC/DC. Shpg. wt. 2 lbs.

Stk. No.	Type	1-11	12-47
34F748	80102	9.86	9.10

TROUBLE SHOOTER TESTER

For wall plugs and lamp sockets. Neon light signal. 1/8" flat nose probes on 6" leads. AC/DC. 90-500V.

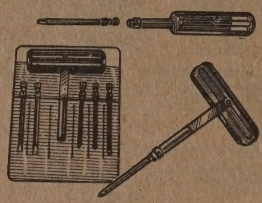


CONTINUITY TESTER

80106. For checking in powered circuits fuses, relays, etc. Batteries included. Alligator clip. Point on probe for tight spots. 1/2 lb.

Stk. No.	Type	1-11	12-47
34F721	80106	2.88	2.66

Stk. No.	Type	1-11	12-47
30F504	80104	.98	.90



SUPER TOR-KIT

Shock resistant alloy tool steel blade. Drives super hard screws, loosens frozen screws. Includes: handle, 3 Phillips—1x3, 2x3, 3x3; 2 regular—3/16x3, 1/4x3.

Stk. No.	Type	1-11	12-47
34F924	30705	9.03	8.33

"SMITTY" HEX WRENCHES

Fold-up, compact hex key set. **10181.** Sizes .050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32". **10191.** Sizes 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/8".

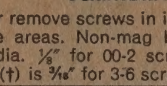
Stk. No.	Type	1-11	12-47
34F540	10181	1.76	1.62
34F763	10191	2.44	2.25

SWISS NEEDLE FILES

For 12 different functions—including electronics, instrument repairs, tool makers, pattern makers. **58310** Plastic roll-up kit. 12 files. **58315** Deluxe, 12 files in stand.

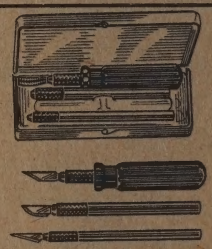
Stk. No.	Type	1-11	12-47
30F525	58310	17.99	16.62
30F529	58315	17.99	16.62

ELECTRONIC SHEAR

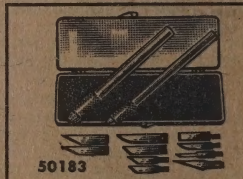


Sturdily built for cutting light wire. Forged steel, nickel pltd. 5" long, 2" blade.

Stk. No.	Type	1-11	12-47
30F523	53015	8.13	7.50



50182



50183

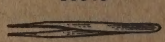
PRECISION KNIFE SETS

50182. 10 assorted blades and three handles in plastic case. Wt. 5 oz.

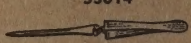
50183. 10 assorted blades and two handles in plastic case. Wt. 4 oz.

Stk. No.	Type	1-11	12-47
30F508	50182	4.94	4.56
37F723	50183	3.57	3.29

55010



55014



55012

TWEEZERS

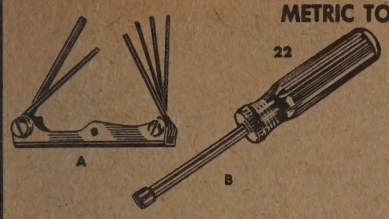
55012. Permanent tension for clamping/holding parts. Carbon steel, nickel plated. Serrated tip. 6" long.

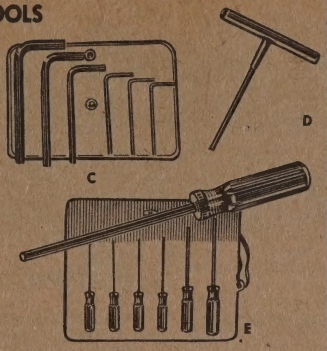
55014. General purpose. 6 1/4"L.

55010. Solder clamping. Carbon steel, nckl. pltd. 4 1/2"L.

Stk. No.	Type	1-11	12-47
30F505	55012	1.36	1.25
30F514	55014	2.44	2.25
30F511	55010	1.27	1.17

METRIC TOOLS





A. METRIC HEX WRENCHES

Highest quality 8650 alloy steel blades. Fold-up type key set. **10116.** 4" handle. 3" blades: 2mm, 2.5mm, 3mm, 4mm, 5mm, 6mm. **10118.** 6" handle. 5" blades: 2.5mm, 3mm, 4mm, 5mm, 6mm, 8mm.

Stock No.	Type	1-11	12-47	48-Up
34F130	10116	2.15	1.99	1.79
34F131	10118	3.60	3.32	2.99

B. METRIC NUT DRIVERS

Solid shaft. Regular hex opening. 1¼" depth of hole. 3" blade length except 10mm, 11mm-2½". 6⅛" overall length except 10mm, 11mm-6⅜". 1 x 3⅛" handle except 10mm, 11mm-1 1/16 x 3 ⅞".

Stock No.	Type	MM	Dec."	1-11	12-47	48-Up
34F132	32102	4	.1575			
34F133	32104	4.5	.1773			
34F134	32106	5	.1968			
34F135	32108	5.5	.2167	1.67	1.54	1.38
34F136	32110	6	.2362			
34F137	32112	7	.2756			
34F138	32114	8	.3150			
34F139	32116	9	.3543			
34F140	32118	10	.3937	2.03	1.87	1.68
34F141	32120	11	.4331			
34F142	32130	10 Pc. Kit		17.54	16.18	14.54

C. METRIC L-TYPE SET

13075. 6 sizes: 2mm, 2.5mm, 3mm, 4mm, 5mm, 6mm. **13070.** 10 sizes: 1.27mm, 1.5mm, 2mm, 2.5mm, 3mm, 4mm, 5mm, 6mm, 8mm, 10mm.

Stock No.	Type	1-11	12-47	48-Up
34F143	13075	1.79	1.65	1.49
34F144	13070	3.24	2.99	2.69

D. METRIC HEX DRIVERS

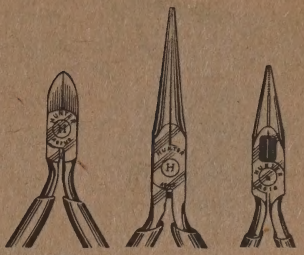
8650 alloy steel blade. Permanently fitted into plastic handle. Kit contains all six sizes.

Stock No.	Type	Size	Lgth	1-11	12-47	48-Up
34F159	12260	2mm	7½"	1.41	1.30	1.17
34F160	12265	2.5mm	7½	1.52	1.40	1.26
34F161	12270	3mm	7½	1.52	1.40	1.26
34F162	12275	4mm	8	1.52	1.40	1.26
34F163	12280	5mm	8	1.52	1.40	1.26
34F164	12285	6mm	8	1.86	1.72	1.55
34F165	12290	Kit		7.95	7.33	6.59

E. METRIC "T" HANDLE HEX DRIVERS

Alloy steel. Heat treated and hardened. Kit contains all 5 sizes. Blades won't bend, twist or break in normal use.

Stock No.	Type	Size	Lgth	1-11	12-47	48-Up
34F153	11202	2.5mm	6"	1.03	.95	.86
34F154	11204	3mm	6"	1.09	1.00	.90
34F155	11206	4mm	6"	1.14	1.05	.95
34F156	11208	5mm	6"	1.34	1.24	1.11
34F157	11210	6mm	6"	1.65	1.52	1.37
34F158	11225	Vinyl Kit		6.14	5.66	5.09



PLIERS AND CUTTERS

20105. Serrated tip. Long narrow needle nose. For high precision pulling and clamping. 5½". **35F3469 NET** **6.59**

20110. Serrated tip. Long narrow chain nose plier. 4¾". Similar to 20261. **34F166. NET** **6.14**

20261. Combination chain nose plier and side cutter. Serrated jaws. 6½". **34F167. NET** **6.91**

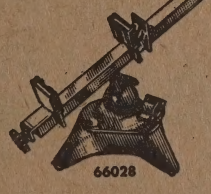
20186. Semi-flush cut, taper jaw diagonal. For #20 & #22 gauge wire. 4¾". Like 20197. **34F168. NET** **7.26**

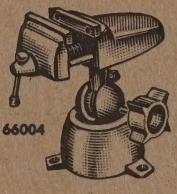
20114-15. Radius edge, extra long needle nose. For light work only. Like 20105. **34F755. 20114. 4½" NET** ..... **6.48** **34F756. 20115. 6" NET** **6.86**

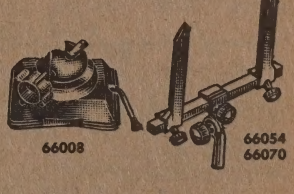
20197. Semi-flush cut, fine diagonal. Cuts at extreme tip. For fine wire work only. #20 soft copper wire and smaller. 4". **34F169. NET** **6.37**

20195. Full flush cut. Fine taper jaw diagonal. For #20 soft copper wire and smaller. Cuts at extreme tip, gives full flush cut. 4". Similar to 20197. **34F465 NET** **7.17**

PRINTED CIRCUIT BOARD HOLDERS AND VISES







CIRCUIT BOARD HOLDER

Type 66066. Spring load allows circuit board to be inserted or removed with one hand. Full 360 degree rotation for lead bend over. Friction bearing can be adjusted to desired tension for easy flip over or tightened so will not rotate. Holds boards up to 10" wide. **34F921 NET** **43.60**

WIDE OPENING VERTICAL VISE

Model 66040. Designed for positioning or holding electrical and electronic products in assembly and repair. Has replaceable neoprene jaws that open to a full 6 inches. Base is eight pound cast iron, has rubber feet. Permanently-locked in mounting pin with ⅜-24 threaded end. Spring loaded so that it may be adjusted to correct tension to hold weight. Vise is chrome plated heavy gauge steel wire. Crank handle allows quick change from one position to another. Shpg. Wt. 10 lb. **34F345 NET** **37.92**

PANA VISE-VERTICAL HEAD

Type 66002. Bench type vise on Pana Positioner. 2½" capacity, jaws 2½" wide. Shpg. wt. 3.5 lbs. **34F766 NET** **19.91**

PANA VISE-HORIZONTAL HEAD

Type 66012. Regular Pana-Positioner pivots 360°; holds work in any position, with horizontal head. 4" high, 10" long, 5" wide. **34F919. NET** **20.80**

PANA POSITIONER ONLY

Type 66004. Pivots 360° on any tangent to a hemishpere. Achieves any compound angle. For use with fixtures listed. 66054-66070. Wt. 3 lbs. **34F449. NET** **11.87**

NYLON JAWS

Type 66014. Special Nylon jaws to hold small circuits. For use with pana vise.

Stk. No.	Type	1-11	12-47	48-Up
34F344	66014	2.15	1.99	1.79

PANA POSITIONER—VACUUM BASE

Type 66008. Vacuum base with Pan-head positioner mounted on top. Complete versatility in making work set-ups. Accommodates vises & circuit board holders. **34F920. NET** **16.89**

QUICK ADJUST VISE

Type 66028. Features quick adjust design which allows one of the two neoprene jaws to be instantly changed from its widest opening position to various closed positions. Max. jaw opening 9". 8 lb. weighted base. Shpg. wt. 13 lbs. **34F917. NET** **47.06**

DELUXE CIRCUIT HOLDER

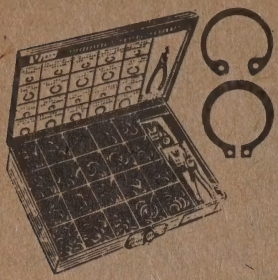
Type 66054. 10" wide. Printed circuit holder for use with Type 66004. Turns work 360° in any position. Circuit board easily inserted and removed. Shpg. wt. 1.8 lbs. **34F448. NET** **16.89**

CIRCUIT HOLDER

Type 66070. Spring loaded arm-snugs up boards, 7" capacity. For use with 66004. **34F922. NET** **16.69**

VACO® Tools and Fasteners

SNAP RING KITS

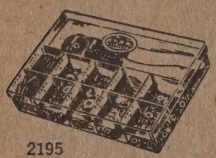


For use in lab, maintenance dept. or shop. Compartmented metal box with hinged cover.

TYPE 1550. Contains 109 internal snap rings up to 1" dia. in 10 most popular sizes, 112 external snap rings to ⅞" dia., plus internal and external ring pliers. Wt. 8 lbs.
35F1265. NET 18.46

TYPE 2100. 66 internal snap rings from 1 1/16" to 1⅝" dia., 60 external rings from 1 5/16" to 1 7/16" dia., internal and external pliers.
29F260. NET 23.96

SERVICEMAN'S SOLDERLESS TERMINAL KITS



2195

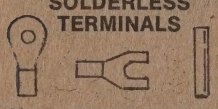
Type 2195. Kit consists of 11-bin plastic box with crimping tool and over 150 terminals in 10 sizes. Includes Model 1900 crimping tool which cuts bolt sizes 10-32, 10-24, 8-32, 6-32 and 4-40. Case: 8¾x6x 1¾". Shpg. wt. 2 lbs.
30F900. NET 10.75

4900-63
5000-63

Type 4900-63. Kit contains 500 insulated single-grip terminals in 20 different types and sizes, and includes Type 1963 crimping tool and bolt slicer for correct application of terminals. Terminals and tool are housed in sturdy metal box with hinged cover. Custom molded inserts hold contents in orderly fashion. Box has handy location and specification chart in cover.
35F1266. NET 41.14

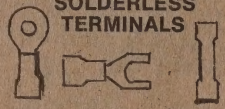
Type 5000-63. Similar to Type 4900-63 except contains 1000 non-insulated solderless single-grip terminals (50 each of 20 different types and sizes).
29F261. NET 41.14

NON-INSULATED SOLDERLESS TERMINALS



Ring Spade Butt Con.

INSULATED SOLDERLESS TERMINALS



Ring Spade Butt Con.

RING TONGUE

Stk. No.	Type	Stud Size	100 Pkg.	Stk. No.	Type	Stud Size	100 Pkg.
47F2097	C11205	5-6	4.84	47F2179	C61205	5-6	9.92
47F2169	C11208	8		47F2180	C61208	8	
47F2170	C11210	10		47F2181	C61210	10	
47F2171	C11305	5-6		47F2182	C61305	5-6	
47F2172	C11308	8		47F2183	C61308	8	
47F2173	C11310	10		47F2184	C61310	10	

SPADE TONGUE

47F2174	C13206	5-6	4.36	47F2185	C63206	5-6	9.92
47F2175	C13306	4-6	4.84	47F2186	C63306	4-6	
47F2176	C13308	8	4.84	47F2187	C63308	8	
47F2177	C13310	10	4.84	47F2188	C63310	10	
47F2178	C14206	4-6	4.84	47F2189	C64206	4-6	

BUTT CONNECTORS

Stk. No.	Type	Wire Size	100 Pkg.	Stk. No.	Type	Wire Size	100 Pkg.
47F2190	C17202	22-18	4.84	47F2195	C67202	22-18	9.92
47F2191	C17302	16-14	4.84	47F2196	C67302	16-14	9.92
47F2192	C17402	12-10	6.02	47F2197	C67402	12-10	11.46

(*)—MALE AND (†)—FEMALE TABS

Stk. No.	Type	Wire Size	100 Pkg.	Stk. No.	Type	Wire Size	100 Pkg.
47F2193	C18301*	22-18	4.84	47F2198	C68301*	18-14	9.92
47F2194	C18302†	18-14	4.84	47F2199	C68302†	18-14	9.92

SNAP RING PLIERS

Type 21. Internal type.
35F1263. NET.....3.00

Type 22. External type.
35F1264. NET.....3.00

Type 210. Int. type with spring.
47F2112. NET.....3.64

Type 220. Ext. type with spring.
47F2113. NET.....3.64

HEAT SINK FORCEPS

Self-clamping pincers. 6" tempered stainless steel. Finely serrated jaws. 3-position ratchet lock. Wt. 2.6 oz.

WIRE PLIER

Type 19730. Crimps insulated and non-insulated solderless terminals, 22 to 8 gauge wire. Crimps ferrule on coax cable. Also 7 and 8 mm ignition terminals. Cuts bolt sizes 4-40, 6-32, 8-32, 10-24, 10-32. Stripping dies handle 22 to 6 gauge cable. Measuring guides for strip length and bolt length. Cushion grip.
47F2095. Wt. 1.5 lbs. **NET** 8.00

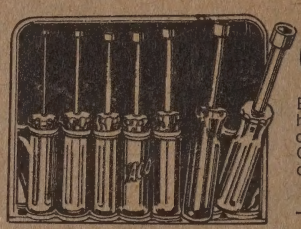
STRIPEX WIRE STRIPPER

Type 70285. Precision automatic wire tool strips and cuts wire with ease. Handles insulated wire from 38 to 10 gauge. Insulation thickness control, strip length guide for repeated equal strippings. Top-mounted wire cutter is protected with transparent finger guards.
4752096. NET 32.00

COMPOUND ACTION CRIMPING TOOL

Type T1710. Crimps insulated terminals to meet or exceed MIL-SPEC pull-out tests. Built-in terminal locator.
29F262. Shpg. Wt. 1½ lbs. **NET** 55.90

NUT DRIVER KIT



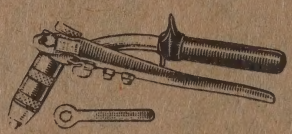
Type K-7. Stand-up, hang-up kit for workbench or tool box. Contains S6, S8, S10, S11, S12, S14, and S16 nut drivers.
47F2159. NET 12.66

HOLLOW SHAFT NUT DRIVERS

Extra hard tempered sockets, hollow shafts, polished nickel chrome finish. Color-coded Comfordome shockproof handles.

3" SHAFT LENGTH

Stk. No.	Type	Hex	Lgth.	NET
47F2141	S6	3/16"	6⅜"	1.44
47F2142	S7	7/32"	6⅜"	1.44
47F2143	S8	¼"	6⅜"	1.44
47F2144	S9	9/32"	6⅜"	1.44
47F2145	S10	5/16"	6⅜"	1.44
47F2146	S11	11/32"	6⅜"	1.44
47F2147	S12	⅜"	6⅜"	1.44
47F2148	S14	7/16"	7"	1.80
47F2149	S16	½"	7"	1.80



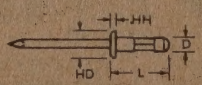
PROFESSIONAL POW'RIVETER

Model 175002. Streamlined head for tight areas. 2-pos. stroke adjustment. 3 nosepieces for ⅛", 5/32", 3/16" rivets.
35F1452. NET 34.48

SELF-ADJUSTING NUT DRIVER

Type SA-711. Does the work of four nut drivers. Adjusts itself automatically to ¼", 5/16", ⅜" or 7/16" hex size—just press and turn. Tempered steel sockets; breakproof, shockproof, Comfordome handle.
35F1274. NET.....4.76

POW-RIVETS



Superior clamp-up "bubble" action for positive fastening every time, Sealed stem for waterproof, dustproof applications. Low profile.

Type	D	L	Grip Range	HD	HH	Stk. No.	100/ Pkg.	Stk. No.	1000/Pkg. 1-9	1000/Pkg. 10-Up
425	⅛	.400	To .250	.215	.044	35F1454	2.33	35F1458	18.24	16.41
528	5/32	.470	To .280	.255	.057	35F1455	3.53	35F1459	28.89	25.99
631	3/16	.530	To .312	.349	.070	35F1456	3.99	35F1460	33.28	29.95
650	3/16	.720	To .500	.340	.070	35F1457	5.80	35F1461	46.59	41.93

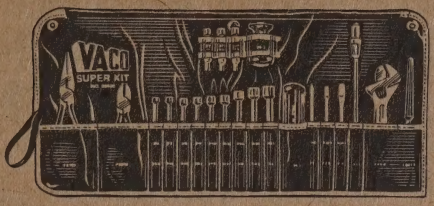
47F2115. D400 Assortment of 25 Pow'Rivets.....1.33

Stk. No.	Type	Shape of Tip	Each
47F2099	70296	Straight	6.02
47F2098	70297	Curved	6.28

Tools and Testers

VACO

VACOMBO SUPER KITS



VACOMBO KIT

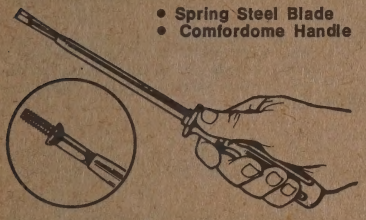
Type 99000. contains: Std. handle 3/16" and 1/4" reg. blade drivers, #1 and #2 Phillips driver. Nut drivers: 3/16", 7/32", 1/4", 5/32", 5/16", 11/32", 3/8", 7/16", 1/2". Pouch measures 12¾"L x 7"W.
34F354. 2 lbs. **NET**.....**14.26**

HEX KEY SET

Type 99900. Contains: hex blade sizes: .050", 1/16", 5/64", 3/32", 7/64", 1/8", 5/64", 5/32", 3/16". Full size handle. Pouch: 9"L. x 7"W. 1 lb.
34F348. NET **9.20**

SURE-GRIP SCREW-LAUNCHERS

- **Spring Steel Blade**
- **Comfordome Handle**



Holds, starts and drives screws with superb gripping power and non-slip action. Split-blade wedges into screw slot by simple manipulation of adjusting sleeve. *specially ground tip for miniature screws.

Stk. No.	Type	Blade	Lgth.	EACH
47F2161	K-21*	1/8 X3"	5¾"	1.94
35F1250	K-23	1/8 X3"	5¾"	1.71
35F1251	K-28	1/8 X8"	10¾"	2.05
35F1252	K-34	3/16X4"	7½"	2.49
35F1253	K-36	3/16X6"	9½"	2.53
35F1254	K-38	3/16X8"	11½"	2.57
35F1255	K-44	1/4 X4"	7⅝"	2.57
35F1256	K-46	1/4 X6"	9⅝"	2.71
35F1257	K-48	1/4 X8"	11⅝"	2.77

PHILLIPS SCREW LAUNCHERS

For holding, starting and retrieving cross slot screws. One tip size fits all sizes of screws. *has pocket clip.

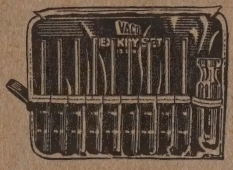
Stk. No.	Type	Length	1-5
35F1258	K-13	3"	2.26
47F2162	K-14*	5"	2.82
35F1259	K-15	5"	2.64
35F1260	K-16	7"	2.75
35F1261	K-19	9"	2.88

3-PIECE SCREW LAUNCHER KIT

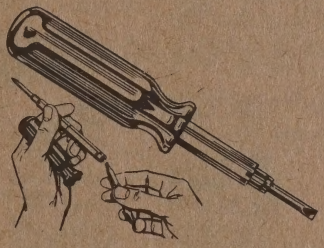
Type SK-234. Includes 1/8" x 3", 3/16" x 4" and 1/4" x 6" screw launchers in red and white self-closing pouch. Essential for the serviceman, mechanic or homeowner. 8 oz.
35F1262. NET.....**0.00**

SUPER KIT

Type 99500. Contains same tools as **Type 99000** (except #2 Phillips blade), plus 6" needle-nose pliers w/side cutter; 5" diagonal cutter, 6" adj. wrench; stubby handle; stubby nutdrivers: 1/4", 5/16", 3/8", 10" extension; and 5" tapered reamer.
35F1482. Shpg. wt. 2 lbs. **NET**.....**44.72**



4-IN-1 SCREWDRIVER



70341. Handy, versatile screwdriver w/ Interchangeable, snap-in blades. Supplied w/four different tips on two interchangeable reversible blades — #1 Phillips x 3/16" slotted and #2 Phillips x 1/4" slotted. Blades fit snugly into hex machined shaft; shaft snaps into full sized Comfordome® handle. Instructions incl.
34F353. Each **3.48**

PHILLIPS SCREWDRIVERS

Precision-milled, oil-tempered, Chrome-Vanadium steel blades for all Phillips cross-slot screws. Wt. 4 oz.

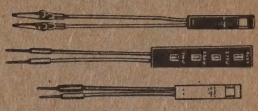
STANDARD TYPE

Stk. No.	Type	Point	Length	NET
34F355	P01	0	5¼"	1.04
34F356	P1	1	6½"	1.40
34F357	P2	2	7⅝"	1.74
34F358	P3	3	10"	2.38
34F359	P4	4	12½"	2.69

STUBBY TYPE

34F360	P5	2	3⅞"	1.54
34F361	P6	1	3"	1.40

TWIN LEAD TESTERS



Type 70306 LOW VOLTAGE. 5 to 50 volt range. Neon lamp live circuit indicator. 4½" leads w/alligator clips. Wt. 8 oz.
34F349. NET **2.56**

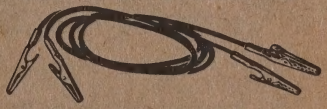
Type 70307 MULTI-VOLT. Combination of glow lamps show voltage tested: 110-220-277-460 volts. Wt. 12 oz.
34F350. NET **4.00**

Type 70308 GENERAL PURPOSE. Tests 90-250V. 5" leads w/probes. Wt. 8 oz.
34F351. NET **1.20**

SUPER CASE

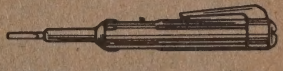
70260. Contains: Continuity Tester. 100-500V Circuit Tester. Twin Lead Tester. Neon Tester Screwdriver. Crimping Tool w/Bolt Slicer. Wire Stripper and Cutter. Measuring Tape. Hex Key Wrench Set. Phillips and Reg. Offset Drivers. 3-in-1 Tapping Tool. Spring Tool. Snap Ring Plier. One Phillips and 3 Reg. Screw Launchers. 6" Adj. Wrench. Ratchet Box Wrench. Two Rev. Screwdrivers. 12 Professional Screwdrivers. 7 Hollow Shaft Nut Drivers. 7 Professional Pliers.
3HF352. NET **211.20**

TEST LEAD POUCHED SET



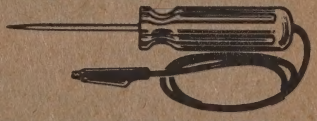
Type TK-600. Pair of test leads, 32" long, with alligator clips.
47F2165. NET **1.66**

CIRCUIT TESTER/DRIVER



Type TK-500. Precision screwdriver tests 100-500 volt circuits. 4½" long.
47F2163. NET **1.28**

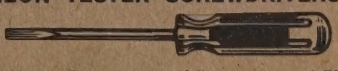
PROBE TYPE TESTERS



TYPE 70008 CONTINUITY TESTER. Tests circuit continuity. 7¾" long.
47F2166. NET **3.45**

TYPE TK-550 6-12 VOLT TESTER. Indicates presence of 6-12 V current. 7¾" long.
47F2164. NET **3.23**

NEON TESTER SCREWDRIVERS



47F2167. Type AN2. 5½" **1.52**
47F2168. Type AN44. 7⅝ **2.46**

Wire Strippers & Heat Shrink Tools

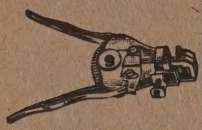
IDEAL

STRIPMASTER

Automatic single squeeze feature, holds jaws open for removing wire without crushing end. For stripping lighter gauge wires, 6 holes, except 14-22, with 4 holes. Shipping weight 14 oz.

Stock No.	Type	AWG Gauge	NET
58F553	45-093	No. 14 to 22 wire	8.95
58F554	45-097	No. 16 to 26 wire	
58F555	45-098	No. 20 to 30 wire	

CUSTOM STRIPMASTER®



Unique blade construction and extreme holding power of broad jaws permit fast accurate stripping. Designed to strip without nicking or scraping wire, without marking insulation to meet the most rigid inspection standards. One-squeeze operation. Just insert wire between blades to desired strip length, squeeze handle and release. Includes short stop latch and adjustable wire stop. Wt. 14 oz.

Stock No.	Type	AWG Gauge	Net
58F550	45-186	No. 10 to 14 Wire	31.20
58F551	45-187	No. 16 to 26 Wire	
58F552	45-188	No. 26 to 30 Wire	

T-TYPE WIRE STRIPPER

For clean stripping of wires used in electronic instruments and appliances. Sturdy, compact, constructed of hardened steel for rugged duty and long service. Comfortable plastic grips for sure handling and safety. Wt. 5 ozs.

Stk. No.	Type	AWG Gauge	NET
58F586	45-120	No. 10 to 18 Solid	3.15
58F587	45-121	No. 16 to 26 Standard	3.15
59F1103	45-125	No. 22 to 30 Solid	3.65

WIRE CUTTER

Has plastic grips on handles. Cuts copper or aluminum wire up to #10 AWG, stranded up to ½" O.D. Shear-type blades. Length: 6".

Stock No.	Type	Description	Each
58F885	45-123	Wire cutter	3.15

ALL-PLASTIC WIRE CONNECTORS

A-0

A-3

A low-cost screw-on connector for OEM production. U.L. and C.S.A. listed for 300V max. temp. rating 105°C max. Average shipping weight 1¾ lbs./1000.

Stk. No.	Model	Type	Min. & Max. Wire Combin.	Net Per 1000
35F2458	A0/A1	30-140	2#24, 2#18	6.90
59F1104	A-3	30-143	2#18, 3#16	9.40

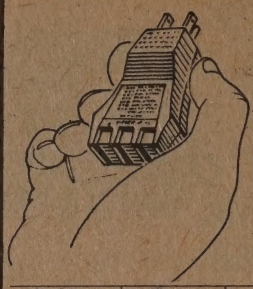
WIRE-NUT® WIRE CONNECTORS

71B 73B 76B

Screw-on connector for fast, economical production line use. Tapered spring insert. 71B, and 72B models are listed as 300V Fixture-Type splicing connectors. 73B is listed as 600V. Larger models 74B and 76B are listed as 600V Pressure-Type connector for Cu/Cu, Al/Al and Cu/Al wire connectors. Temp. rating: 71B and 72B 150°C.; 73B, 74B and 76B, 105°C.

Stk. No.	Model	Type	Min. & Max. Wire Combin.	Net per 100	Net per 1000
35F2450	71B	30-071	....	1.50	....
35F2451	71B	30-171	2#18, 2#16	....	11.95
59F1111	72B	30-072	2#18, 3#16	1.90	....
59F1112	72B	30-172	2#18, 3#16	....	15.05
35F2452	73B	30-073	2#18, 3#16	2.25	....
35F2453	73B	30-173	1#18	....	18.25
35F2454	74B	30-074	1#14 & 1#18	2.55	....
35F2455	74B	30-174	2#14 & 3#16	....	20.60
35F2456	76B	30-076	1#12 & 2#18	3.65	....
35F2457	76B	30-176	2#10 & 1#12	....	29.30

E-Z CHECK PLUG-IN RECEPTACLE CIRCUIT TESTER



- INSTANTLY IDENTIFIES WIRING FAULTS
- EASY-TO-READ INDICATOR LIGHTS UNIQUE PUSH-PULL SHAPE IN-
- CREASES SAFETY

Identifies faults in 3-wire, 125 VAC receptacles. Checks for open ground, reverse polarity, open hot, open neutral, hot and ground reversal, hot on neutral, hot open. Features superbright indicator lights and safer push-pull shape.

Stock No.	Type	Description	Each
35F2462	61-035	E-Z CHECK plug in receptacle circuit tester	9.95

PORTABLE ELECTRIC HEAT GUN

Choice of three heat range nozzles; gold for most standard shrinkables; green for Mylar and red for Teflon. Heating nozzles can be changed in seconds. Low air volume, low current consumption. For hand-held or bench-top use. Shpg. wt. 2 lbs.

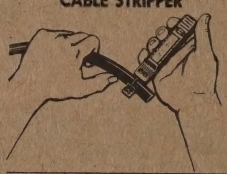
Stock No.	Type	Description	NET
59F1113	46-013	Heat gun w/gold nozzle only	39.95
59F1114	46-921	Green Nozzle	5.85
59F1115	46-922	Gold Nozzle	5.85
59F1116	46-923	Red Nozzle	5.85

ELECTRIC MARKER

Marks metal, glass, stone, ceramics, plastics, hard rubber, wood, etc. Vibrates at 7200 strokes per minute. Unique internal construction greatly reduces "bouncing" tendency.

Stock No.	Type	Description	NET
58F583	11-111	w/carbide tipped point	16.60

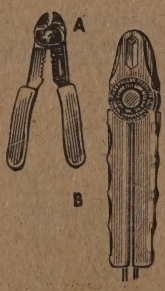
"SWIVEL-BLADE" CABLE STRIPPER



Strips most types of cable quickly, easily, accurately. Cuts outer sheathing without damaging inner conductors or insulation. Can be used on coaxial and power cables from 3/16" to 1½" O.D. Adjustable blade strips insulation, up to 5/32" thick. Easy to use by simply inserting cable in stripping guide, rotating tool for circular cut and then pulling along cable for axial cut. Unique "swivel blade" automatically turns to direction in which tool is moved. Shipping weight: 4 oz.

Stock No.	Type	Description	NET
35F2460	45-127	stripper w/utility knife for 3/16" to ¾" O.D.	7.95
35F2461	45-128	stripper for 3/16" to ¾" O.D.	7.95
59F1117	45-129	stripper for ¾ to 1½" O.D.	8.30

A COMBINATION CRIMP TOOL



Five tools in one! Crimps, strips, cuts wire, cuts screws and bolts and cleans and chases threads. Lightweight 8-inch hardened steel tool.

Stock No.	Type	Description	NET
59F1118	30-428	Combination Crimp Tool	5.95
59F1119	30-429	Multi-Crimp Tool	8.50

B FUSE PULLER AND TESTLITE

Pliers-type tool has sturdy dielectric plastic handles. One end serves as fuse-puller; test prods on opposite end fit parallel and tandem slot receptacles. For fuses up to 100 amps, 250 volts; 60 amps, 600 volts. Test voltage from 100 volts to 600 volts AC or DC.

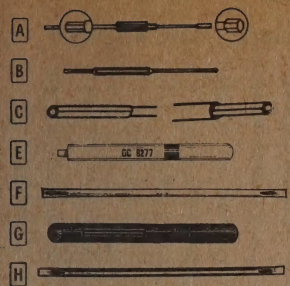
35F2464 Type 34-012 . . . . . Each 6.10

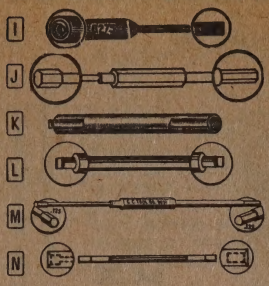
ELECTRICIANS' PLIERS WITH CRIMPING DIE

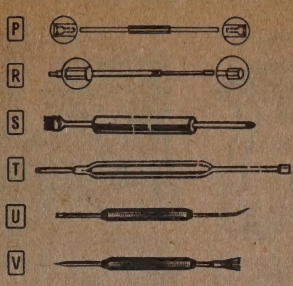
8½" Electricians' pliers with built-in crimping die. Can be used for twisting wires and deburring conduit. Has New England nose and special plastic grips. Shipping wt. 1 lb.

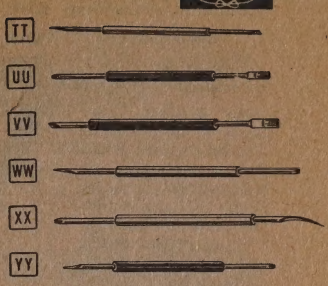
Stock No.	Type	Description	Each
35F2463	30-420	Electricians' Pliers	8.25

Tools for the Technician









(A) TYPE 9296 DELRIN HEX TOOL. 11″ x .075 hex.
35F1449. NET.....83

(B) TYPE 9304 DOUBLE END ALIGNMENT TOOL. One end .075 hex with undercut shaft.
35F1493. NET.....61

(C) TYPE 9300 DOUBLE END HEX TOOL. Both ends .075 hex.
35F3375. NET.....61

(E) TYPE 8277 ALIGNMENT TOOL. For trimmers, IF's in limited space. 2⅝″ long.
35F818. NET.....72

(F) TYPE 8728 ALIGNMENT TOOL. 12″ fibreglass double-bodied tool with ⅛″ shaft.
35F622. NET.....72

(G) TYPE 8196 ALIGNMENT TOOL. 7/32″ x 2½″.
35F605. NET.....61

(H) TYPE 8728AA ALIGNMENT TOOL. Low loss delrin. Narrow shaft. 7″ long, ⅛″ dia.
35F618. NET.....61

(I) TYPE 8275 ZENITH TV UNIVERSAL ALIGNER. Recessed thin spring steel tip. 3 oz.
35F821. NET.....72

(J) HEX END IRON CORE TOOL. All Delrin hex tools for cores with .125 hex opening.
35F625. Type 9091. 5″.....53
35F626. 9091L. 11″.....77

TYPE 9294 EASY REACH. ⅛″ fibreglass blade. For alignment where magnetic fields are important. 16″.
35F817. NET.....88

(K) TYPE 8276 TV DUPLEX ALIGNER. Plastic with extra-thin spring steel tips. 6″.
35F616. NET.....72

(L) TYPE 9087 SLUG TUNER ADJUSTING TOOL. For standard tuners. ¼″ shaft. 7½″.
35F813. NET.....83

(M) DELRIN HEX WRENCH. One end undercut.
35F623. Type 8606. 5″.....53
35F624. 8606L. 11″.....69

(N) TYPE 8271 TV CORE ALIGNER. For unslotted core. 6″.
35F1443. NET.....83

(P) 2-IN-1 LONG REACH DUPLEX ALIGNER. For thin or standard studs. 9″ long.
35F1444. Type 8721.....94
35F1445. 8722. 7″.....83

(R) TYPE 9295 DELRIN HEX TOOL. 11″ x .100″ hex.
35F1448. NET.....83

(S) TYPE 9088 SOLDERING AID. One end has stiff wire brush; other holds wire. 8″.
35F814. NET.....1.50

(T) TYPE 8282 IF ALIGNMENT TOOL. .100″ hex; .109″ blade. Delrin. 5⅞″ long.
35F812. NET.....50

(U) TYPE 9093 SOLDER AID PROBE. Fine point. 8″.
35F653. NET.....1.50

(V) TYPE 9094 BRUSH AND SCRAPER. 8″ size.
35F654. NET.....1.50

PC SOLDERING AIDS

(TT) TYPE 9069. REAMER AND SCRAPER TIP. Twist proof. Solder will not stick. 6½″.
34F282. NET.....1.25

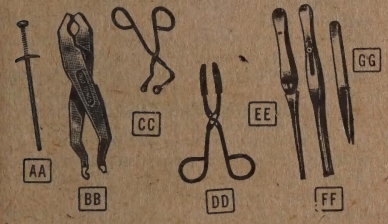
(UU) TYPE 9073. BRUSH AND FORKED TIP. Forked tip for twisting or holding wires. 6½″.
34F283. NET.....1.30

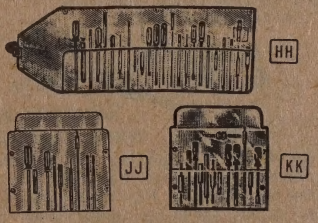
(VV) TYPE 9074. BRUSH AND SCRAPER TIP. Brushes and scrapes excess solder. 6½″.
34F286. NET.....1.25

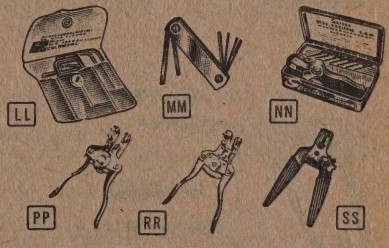
(WW) TYPE 9075. STRAIGHT REAMER AND FORKED TIP. Heat treated, solder will not stick. 6½″.
34F519. NET.....1.25

(XX) TYPE 9076. ANGLE REAMER AND FORKED TIP. Forked tip for twisting or holding wires. 6½″.
34F518. NET.....1.38

(YY) TYPE 9086. STRAIGHT REAMER AND FORKED TIP. Reamer cleans out lug holes. 8″.
34F517. NET.....1.50







(AA) TYPE 5089 PICK-UP TOOL. Picks up parts from inaccessible places. Holds screws for starting. Flexible. 24″ long.
35F3372. NET.....2.41

(BB) TYPE 9356 DUO TONGS. Nylon fuse puller takes screw-in or cartridge fuses up to ¾″ or 100-amp. Non-conductive.
35F3373. NET.....1.10

(CC) TYPE 5099 HOT TUBE PULLERS. Plastic-coated insulated handles and tips.
35F3374. NET.....2.20

(DD) TYPE 5092 TUBE EXTRACTOR. Molded neoprene cushion over claws.
34F752. NET.....2.25

(EE) TYPE 7946 SERVICE TWEEZERS. Self-closing, with crossover action. 6½″ long; serrated, blunt points.
34F521. NET.....1.59

(FF) TYPE 7947 HEAVY-DUTY TWEEZERS. Slide-lock. Serrated, blunt points. 6½″.
34F522. NET.....2.07

(GG) TYPE 7948 PRECISION TWEEZER. Narrow pointed ends. 4½″ long.
34F523. NET.....1.45
7950 Tweezer Kit. One each of above.
34F524. Leatherette case. 8 oz. **NET**...5.01
TYPE 5090 INSPECTION MIRROR. 7⅛″.
34F557. NET.....71

(HH) TYPE 8283 DELUXE TOOL KIT. Contains 25 tools: alignment screwdriver, TV alignment tool, K-Tran tool, channel tuning tool, many more. Wt. 1 lb.
35F650. NET.....17.41

(JJ) TYPE 8455 TV ALIGNMENT KIT. K-Tran tool, and others.
35F651. NET.....7.65

(KK) TYPE 8280 TV ALIGNMENT KIT. 16 tools in leatherette case. Wt. 8 oz.
35F801. NET.....11.33

(LL) TYPE 5028 HEX AND SPLINE WRENCH SET. 12 wrenches in leatherette case. Sizes to fit #2 to ⅜″ screws. Wt. 6 oz.
34F520. NET.....1.75

(MM) TYPE 9124 POCKET HEX KEY SET. Six popular sizes from 0.50 to 5/16″, in steel case; opens like pocket knife.
35F3370. NET.....2.15

(NN) WIRE STRIPPER KITS. Wire strippers and seven different size blades in metal box. Strips wire from #8 to #20.
Type 744-K Automatic Stripper Kit.
34F606. NET.....17.82
Type 766-K Speed-O-Matic Stripper Kit.
35F3377. NET.....18.45

(PP) TYPE 744 AUTOMATIC WIRE STRIPPER. "Trig-O-Matic" stay-open feature. Strips wires #10 to #22. Wt. 14 oz.
34F601. NET.....8.84

(RR) TYPE 766 SPEED-O-MATIC WIRE STRIPPER. Automatic delayed return action prevents crushing fine wires. Strips #10 to #20. Narrow easy-grip handles.
34F608. NET.....8.84

(SS) TYPE 760 STRIP-ER-CLIP. 8-stop gauge adjusts to wire size, #12 to #26.
33F583. NET.....1.84

DIAL CORD

The following 100-ft. spools cover 90% of replacement needs. Nylon cord with fiberglass core treated to prevent stretching and slipping. 100-ft. size.
Type 75-A. Extra-thin cord .028″ dia. 30-lb. bk. strength.
25F802, NET.....2.86

Type 75. Standard cord, .028″ diameter; 30 lbs. breaking strength.
25F805. NET.....2.86
Type 74. Medium cord, .040″ diameter; 35 lbs. breaking strength.
25F808. NET.....2.86

Jonard Industrial Tools

JONARD INDUSTRIES CORP.

MANUAL QUICK-WRAP GUN

Type WG-350. Connections are considerably stronger than solder connections. Lack of stress points results in less breakage. Hand-operated gun uses interchangeable bits and sleeves. Bits are selected to fit different sizes of terminal height, width and wire sizes combinations. Sleeves are selected to fit over the bit. Sleeves are insulated to help prevent shorting of adjacent connections. Terminal Dia. x Depth are all .075 x .750" except for wire gauge 22-24 which is .075 x .807".

35F3641. NET **53.80**

***Modified wrap includes additional 1½ turns with insulation on terminal.**

QUIK-WRAP BIT

Stock No.	Type	Wire Gauge	Regular or *Modified	Each
35F3642	BW-2426	24-26	Regular	13.50
35F3643	BW-2224	22-24	Regular	
35F3644	BWM-2426	24-26	*Modified	
35F3645	BWM-2200	22	*Modified	

QUIK-WRAP SLEEVE

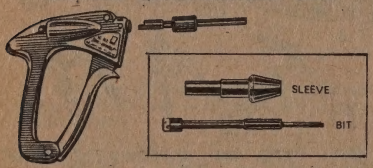
35F3646	SW-2426	24-26	Regular	6.20
35F3647	SW-2224	22-24	Regular	

WRAPPING TOOL KIT

KW-350. Handles most popular wire wrap connections. Fitted in durable leather finished case.

35F3636. NET **42.00**

MANUAL QUICK-UNWRAP GUN



UG-360. Portable tool unwraps connections easily. Only bits are required, no sleeves are necessary.

35F3638. NET **52.30**

QUIK-UNWRAP BITS

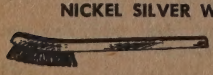
Stock No.	Wire Gauge	Type	Each
35F3639	20-26	BU-2026 Bit	7.15
35F3836	28-32	BU-2832 Bit	7.15
35F3837	20-32	SU-2032 Sleeve	4.50

UNWRAPPING TOOL KIT

KU-360. Unwraps most popular wire wrap connection sizes. Durable leather finished case.

35F3637. NET **48.00**

NICKEL SILVER WIRE BRUSH



Type WB-65. Cleans delicate components. Single row crimped wire, thick brush face 3", trim ¾".

35F1123. NET **3.80**

MASTER 15-PIECE SET

Type K-55. Precision chrome plated carbon steel tools for maintaining relays. Contains: two spring adjusters; tension and thickness gauges; duck bill plier; screwdriver tweezers; mirror, four-way tool; brush; armature; stop benders; contact spray and burnisher. Leather zippered case. 3½ lbs.

35F1127. NET **54.00**

MASTER 20-PIECE SET

Type K-600. Includes pliers, drivers, tweezers, burnisher, soldering iron and aids, files, magnifier, etc; all tools for service of electronic equipment. Zippered leather case.

35F1137. ... **45.00**

DIAMOND CLEANER BURNISHER

Consists of abrasive diamond particles for cleaning of relay contacts with minimum pressure. Nominal material removal will not alter normal contact gap.

35F1100. Type K-234. Kit of 3. **NET.** **19.20**
35F1101. Type D-200. Coarse, Green, 2 diamond faces. **NET** 6.70
35F1102. Type D-300. Medium, Red. 2 diamond faces. **NET** 6.70
35F1103. Type D-400. Fine, Blue, 1 diamond face. **NET** 6.70

INSERTING AND EXTRACTING TOOL

Type EI-419. For printed circuit boards, connector assemblies, flat-pack, IC's and other applications. Precision made, with leaf spring. Made of special alloy. Fully nickel-chrome plated. Overall length 6½".

35F3633. NET **13.70**

PENFILE POCKET CLEANER-BURNISHER

Non-residual, hardened steel. Plastic dielectric cap permits working on live and dangerous contacts. 5½" length x ⅜" diameter.

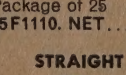
Type P-4 Penfile. ¼"W x 1¼"L x .007"T. 12 blades.
35F1107. NET **5.70**

Type P-6 Penfile. 3⁄16"W x 1¾" L x .007"T. 12 blades.
35F1108. NET **5.70**

Type RB-4. Replacement blades for P-4. Package of 25
35F1109. NET **6.25**

Type RB-6. Replacement blades for P-6. Package of 25
35F1110. NET **6.25**

STRAIGHT THICKNESS GAUGE



Type T-720N. Contains 26 interchangeable blades.

35F1125. NET **6.70**

PRECISION SPRING ADJUSTERS

Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ Ⓗ Ⓚ Ⓛ Ⓜ

Ⓐ **SA-2.** Chisel edge. Curved both ends. Adj. horiz. relays. .023" slots, 7" L.
35F1114. NET **5.40**

Ⓑ **SA-6A.** For vertical and horizontal relays. .029" slots, 5½" length.
35F1115. NET **5.30**

Ⓒ **SA-16.** Double-ended lengthwise slots, .031" slots, 8" length.
35F1117. NET **5.80**

Ⓓ **SA-17.** Offset flat type. For relay contact springs. .023" slots, 8" L.
35F1118. NET **6.90**

Ⓔ **SA-20.** Upward and downward slots for closely set springs. .024" slots, 7" L.
35F1119. NET **6.90**

Ⓕ **SA-7.** Straight type for rotary switches and flat-type relays. .015" slot, 4½" L.
35F3838. NET **2.90**

Ⓖ **AB-21.** Arm bender wrench with oblique slot. .120" wide x .045" deep slot, 4" L.
35F3839. NET **2.90**

Ⓗ **SB-22.** For adjusting armature back stops. Curved one end. .033" slots, 5" L.
35F1122. NET **2.45**

Ⓚ **S-448.** Offset screwdriver, both ends angled 28°. .028" tips, 6" length.
35F3840. NET **2.20**

Ⓛ **S-451.** Offset screwdriver, one end hor. one end vert. .028" tip, 5" length.
35F3841. NET **2.20**

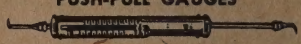
Ⓜ **J-23.** Screwdriver guide pin. For screws with hole in head. 4½" length.
35F3842. NET **5.75**

SOCKET WRENCH-SCREWDRIVER

M-216B. For simultaneous residual nut and screw adjustments. ⅜" and 7⁄16" sockets. 6½" overall length, retracts to 5⅜".

35F3843. NET **10.80**

PUSH-PULL GAUGES



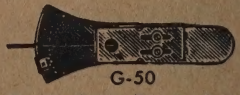
For measuring tension and compression of spring loaded equipment.

GPP-1. (Illus.) 0-1000 grams, 50 gram steps. ⅝" dia. x 9¼".
35F1142. NET **39.60**

GPP-2. 0-110 grams, 5 gram steps. ⅜" x 11".
35F1143. NET **18.80**

GPP-5. Two scales: 0-500 grams, 50 gram steps; 0-16 oz.-in., 1 oz.-in. steps. ½" x 15".
35F1188. NET **22.00**

GPP-25. Two scales: 0-2500 grams, 100 g. steps; 0-80 oz.-in., 4 oz.-in. steps. ⅝" x 9¼".
35F1189. NET **43.00**



SPRING TENSION GAUGES

Model G-50. Engraved scale front and back for horiz. and vert. reading. Scale is 0-50 gm., at 5 gm. intervals. 5" length.
35F1111. NET **11.40**
35F1134. G-10. 0 to 10 gm. **NET** **11.40**
35F1135. G-30. 0 to 30 gm. **NET** **11.40**
35F1136. G-150. 0 to 150 gm. **NET** **11.40**
35F3634. G-300. 0-300 gm. **NET** **11.40**

JONARD INDUSTRIES CORP.

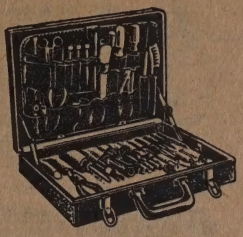
JONARD INDUSTRIAL TOOLS

SPECIAL PURPOSE TOOL KITS

TK-200 Business Office Machine Tool Kit. 42-piece basic service kit. Repair or service typewriters, calculators, Telex, checkwriters, copy-machines, and duplicators.
35F1105. NET **212.20**

TK-300 Instrumentation and Computer Tool Kit. 50-piece kit. Contains basic tools used for adjusting, maintaining and servicing all types of computers and elect. instruments.
35F1113. NET **280.70**

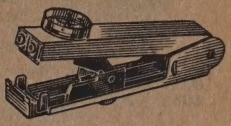
TK-500 General Repair Tool Kit. 78-piece assortment. Maintain central office systems, telecommunications, switchboards, R & D and production systems.
35F1116. NET **335.00**



T-271 WIRE THICKNESS GAUGE SET

Use in restricted places. Gauges can be used in or out of case. Supplied with 9 round blades and 1 flat, marked in metric scale.

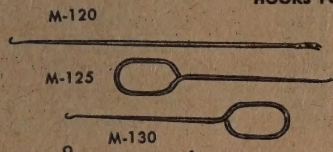
WSC SERIES CUTTER AND STRIPPER



Allows cutting and stripping with the same tool. Adjustable scale strips wire ends from ¾ to 1⅞ inches long.

Stk. No.	Type	For Wire Gauge	Pushbutton Color	Each
35F1120	WSC-22	22-23	Blue	12.60
35F1121	WSC-24	24	Red	
35F1124	WSC-28	28	Yellow	

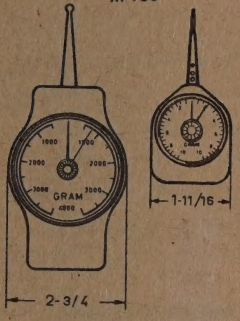
HOOKS FOR FINE SPRINGS



Use for inserting, removing, and adjusting fine springs in hard-to-reach areas. Tapered to fine point, highly polished.

Stock No.	Type	Each
35F1126	M-120	2.20
35F1129	M-125	2.20
35F1131	M-130	2.75

PRECISION DYNAMOMETER TENSION GAUGES



Point of gauge arm is placed perpendicular to force to measure. Reading can be taken in both directions, clockwise and counterclockwise. Maximum reading pointer moves with indicator when testing; remains at maximum force measured, enabling reading to be taken after measuring. Measuring springs made of hard-tempered annealed beryllium copper. Dial protected by unbreakable glass. GD-50, -100, -200, and -400 are large gauges; rest are small.

Stk. No.	Type	Range (grams)	Conversion (ounces)	Net Each
35F1185	GD-1	0-10	⅜	21.51
35F1132	GD-2	2-20	¾	
35F1133	GD-3	4-35	1 5/16	
35F1139	GD-5	6-50	1¾	
35F1138	GD-10	10-100	3½	
35F1140	GD-15	15-150	5¼	
35F1144	GD-20	20-200	7	
35F1186	GD-25	30-250	9	
35F1145	GD-30	40-350	12	
35F1187	GD-50	60-500	18	48.07
35F1141	GD-100	100-1000	32	
35F1147	GD-200	200-2000	70	
35F1149	GD-400	400-4000	140	

CONNECTOR TOOL

KA-260 3-Piece Contact Insertion Kit.
35F1148. NET **39.00**

KR-260 3-Piece Contact Removal Kit.
35F1149. NET **49.50**

KW-350 3 Hand wire-wrap and unwrap tools.
35F3636. NET **42.00**

KU-360 3 wire unwrapping tools.
35F3637. NET **48.00**

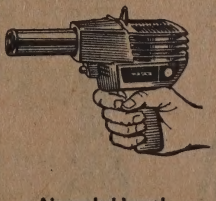
MASTER APPLIANCE

- **Adjustable Air Intake**
- **Double-Jacketed heater housing**

AIR HEAT GUN

Sturdy die-cast aluminum housing. 8 ft. neoprene-jacketed 3-wire cord and plug that is oil and grease resistant. Turbo type fan blade is efficient and quiet in operation. All models for 115V A.C. or D.C. operation. Equipped with adaptor for 2 prong receptacle. Shipping wt. 5 lbs.

Stk. No.	Model	Amp.	Temp. F	Net Each
37F1442	HG201	5	200/300	49.90
37F1437	HG301	12	300/500	49.90
37F415	HG501	14	500/750	54.90
37F422	HG751	20	750/1000	64.90



- **Air-cooled barrel**
- **High-impact housing**
- **Shaded pole motor**

MITE™ HEAT GUN

Model 10008 Air velocity 700 feet/minute, volume 3.8 CFM. Nozzle length 3⅞", nozzle opening 1" diameter. Motor 3300 RPM. 4.5 amps maximum power consumption. High-impact Noryl® housing. Brushless-type shaded pole motor for whisper-quiet operation. Air-cooled barrel, three-conductor grounded cord. Has color-coded anodized barrel, safety light and three-way trigger switch. Size 8⅞ inches long, 7 inches high. Cord length 7 feet. Wt. 1¾ pounds.
37F1450. NET **37.95**

ACCESSORIES

A-100-HG. Air Flow Adaptor. Placed in nozzle to adapt for easy insertion of baffle plate below.
37F1197. NET **3.15**

A-145-HG. Baffle Plate. Used with heat guns listed above to aid in concentration of heat flow. for tubing up to ¾" O.D.
37F1199. NET **2.95**

A-150-HG. Baffle Plate for shrink tubing up to 1¼" O.D.
37F424. NET **3.15**

ELEMENT KITS

Incl. 1 element, 1 mica insulation, 2 element lead nuts, 1 element anchoring screw, 1 mounting washer, 1 nozzle screen, 1 screen retaining ring.

HAS-017K. For HG201.
37F1767. NET **4.95**

HAS-018K. For HG301.
37F1769. NET **4.95**

HAS-011K. For HG501.
35F1772. NET **6.95**

HAS-015K. For HG751.
37F1774. NET **6.95**

ACCESSORIES

Type 40060 Deflector Adapter for heat gun. Slip-on deflector completely surrounds shrinkables with heat.
37F1445. NET **1.95**

Type 40061 Pinpoint Adapter. Directs pin-point heat without affecting adjacent areas.
37F1446. NET **2.95**

HEATING ELEMENTS

Type 20012. Blue Nozzle. Temperature ½" from nozzle 500°F, power 340 watts.
37F1447. NET **5.00**

Type 20013. Silver Nozzle. 475°F, 475 W.
37F1448. NET **5.00**

Type 20014. Black Nozzle. 800°F, 525 W.
37F1449. NET **5.00**

Chassis Punches and Tools

GREENLEE TOOL CO.

P&B RELAY SOCKET PUNCH

Type 731R. Makes clean, accurate, finished holes for Potter and Brumfield KHP, KU, and KUP miniature relay sockets. Makes holes in up to 16 gauge metal. No sawing and filing methods. All holes are identical. Weight 10 oz.

For Type KU Relay Hole dimensions 1¼"x1⅜"
34F981 NET **34.85**

For Type KHP Relay Hole Dimensions 1.018x.861"
33F797 NET **23.20**

½" THRU 1¼ KNOCKOUT PUNCH SET

Type 735. Enlarges knockouts and punch holes for conduit in metal boxes, cabinets and panels. Punches cut up to 10 gauge metal. Metal is supported by die to prevent distortion. Die is recessed for slug clearance. Comes in leather case. Four punches in set, cut hole diameters of ⅞", 1 3/32", 1 11/32" and 1 1/16" for ½", ¾", 1", and 1¼" conduit. Wt. 2¾ lbs.

33F750 NET **18.30**

1½" AND 2" KNOCKOUT PUNCH SET

Type 737. Similar to No. 735. Consists of two punches for cutting hole diameters of 1 15/16" and 2 3/16" for 1½" and 2" conduit. Packed in leather case. Weight 3½ lbs.
33F753. NET **21.25**

SQUARE CHASSIS PUNCHES

Type 731. For cutting square and oblong holes in radio chassis. Turns with ordinary wrench. Punch has 4 cutting edges. Drive screw fits into ½" pilot hole. Av. wt., 10 oz.

33F779. For ½" holes. **NET** **10.90**
33F780. For ⅝" holes. **NET** **10.75**
33F781. For ¾" holes. **NET** **11.80**
33F788. For ⅞" holes. **NET** **13.80**
33F782. For 1" holes. **NET** **14.25**

BALL-BEARING DRIVES

For faster and better hand operation of knockout punches. For use with knockout and chassis punches having a ⅜" or larger drive screw. For knockout punches No. 737 for 1½" and two inch conduit, No. 730 for 1⅞", 2", 2¼", and 2½" No. 730M for 2 9/32" openings, and No. 730 Round Radio chassis punches 1 1/16" and larger.

Stk. No.	Type	Overall Size	Wt.	Ret.
33F725	AV-304BB	¾"x4"	11 oz.	4.75

For the following punches: No. 735 for ¾", 1" and 1¼" conduit. No. 730 Radio Chassis punches for 1⅝" and 1¾" opening, and Nos. 730S for 1 7/32" opening.

Stk. No.	Type	Overall Size	Wt.	Net
33F728	AV-249BB	¾"x3¾"	9 oz.	4.55

For Knockout Punch No. 735 for ½" conduit and No. 730 Radio Chassis punches for 1 1/16", ¾", 1 13/16", ⅞" and 1 5/16" openings.

Stk. No.	Type	Overall Sizes	Wt.	Net.
33F731	AV-322BB	⅜"x2½"	2 oz.	1.85

Same type drive as No. AV322BB above for 1" thru 1½" sizes No. 730 Radio Chassis punch.

Stk. No.	Type	Overall Size	Wt.	Net
33F734	AV-1128B	⅜"x2 13/16"	2½ oz.	2.05

CHASSIS "KEY" PUNCHES

Type 732 Punches for cutting holes for tube sockets and plugs with keys. Operates by wrench power. Keyed prong prevents rotation after mounting. No need for mounting plate. Available in sizes: 15/32", 19/16", 1 11/64", 1 17/64", and 1 21/64". Average shpg. wt., 10 oz.

33F789. For 15/32" holes. **NET** **10.25**
33F790. For 1 19/16" holes. **NET** **11.30**
33F791. For 1 11/64" holes. **NET** **12.60**
33F792. For 1 17/64" holes. **NET** **15.00**
33F793. For 1 21/64" holes. **NET** **15.80**

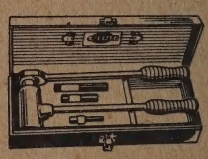
ROUND PUNCHES

Type 730 Makes round openings maximum ease in minimum time . . . Clean, Accurate holes for sockets, meters, etc. Use an ordinary wrench for drive power. Will cut metal, phenolics, or hard rubber. Shipping weight, ¾ lbs.

Stk. No.	Size	Net	Stk. No.	Size	Net
33F760	½"	4.20	33F769	1¼"	4.90
33F754	9/16"	4.20	33F755	1 5/16"	6.15
33F761	⅝"	4.20	33F770	1⅜"	6.15
33F775	11/16"	4.25	33F771	1½"	6.65
33F762	¾"	4.25	33F756	1⅝"	8.15
33F776	13/16"	4.25	33F757	1¾"	9.20
33F763	⅞"	4.25	33F758	1⅞"	11.40
33F736	15/16"	4.70	33F759	2"	11.95
33F764	1"	4.70	34F977	2⅛"	12.90
33F765	1 1/16"	4.90	33F772	2¼"	13.60
33F766	1⅛"	4.90	34F978	2⅜"	21.65
33F767	1 5/32"	4.90	34F979	2¾"	30.15
33F768	1 3/16"	4.90	34F980	3"	41.55

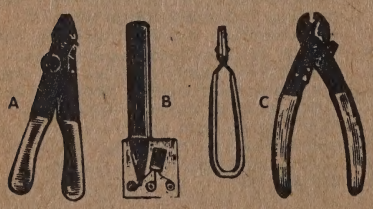
730M. Meter punch. Hole size; 2 25/32".
33F777. NET **21.7**
730-S. 1 7/32" punch for oil tight control units.
33F778. NET **8.3**
730-T. 3½ punch for instrument panels.
33F794. NET **43.1**
AV-1675. ¼ screw for ½-⅝ punches.
33F773. NET ..... **.4**
AV-322. ⅜x1½ screw for 1 1/16-⅞ punches.
33F787. NET ..... **.5**
AV-112. ⅜ screw for 1 to 1½ punches.
33F774. NET ..... **.5**

FAST RADIO CHASSIS PUNCH DRIVER



Type 1804 Ratchet punch driver, knockout driver assembly, an ratchet and le verage han dles. 3 adapte screws. Ca be used wit all standar Greenle Knockout Punches from ½" to 3" and all No 730 Round Chassis Punches 1 1/16" and large Without punches. Shpg. wt., 13 lb.
33F799. NET **96.5**

MADISON EQUIPMENT CO.



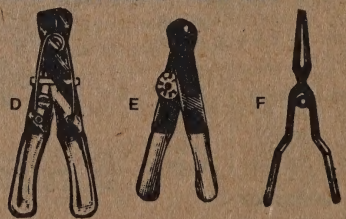
INDUSTRIAL WIRE STRIPPER & CUTTER

Model 102. Fig. A. Has needle nose with eccentric cam. Shpg. wt. 3 oz.
34F661 NET **2.78**
Lots of 12-up **NET** **2.51**

Model 103-S. Same as above with spring handles
34F662. NET **3.34**
12-Up **NET** **3.01**

HEAT SINK TOOL-HEAVY DUTY

Model 80. Fig. B. Copper jaws for greatest heat absorption. Shpg. wt. 1 oz.
34F664 NET **2.25**
Lots of 12 **NET** **2.03**



STRIPPER & CUTTER

Type 601-S. Fig. C. Heavy duty model for use on commonly used stranded wires. 6" long. Shpg. wt., 4 oz.
34F657. NET **4.05**
12-Up **NET** **3.65**

WIRE STRIPPERS

Model 101-S. Fig. D. 6" long.
34F656. NET **2.65**
Lots of 12-Up. **NET** **2.39**
Model 100. Same as above less spring return.
34F655. NET **2.05**
12-Up. **NET** **1.85**

CONTINUITY PROBE

Model V-12. 6-32V, AC/DC; Test automotive and marine wiring systems.
57F1725. NET **3.98**

"Dial-A-Strip" CUTTER

Model 106. Fig. E. 5" overall. 3 oz.
34F663. NET **2.2**
Lots of 12-Up **NET** **2.0**
Model 1075. Same as above with spring handles.
34F667. 1-11 Each **2.8**
12-Up **NET** **2.6**

LONG NOSE PLIER

Model No. 85. Fig. F. 5¾ inches long. Light weight: 2½ lbs., per dozen.
34F668. NET **2.5**
Lots of 12 **NET** **2.2**

TOOLS

GENERAL HARDWARE TOOLS

QUALITY CIRCLE CUTTERS

Fig. A. Cut round holes in metal, wood bakelite, etc. Used with drill press, hand drill or brace. Fully adjustable. Wt., 8 oz.

No.	Type	Shank	Size	NET
34F571	4	Comb. ¼"	⅜" to 4"	4.60
34F573	5-B	Round ⅜6"	1" to 5½"	5.10

Extra blade for Types 4, 5-A or 5-B circle cutters above. 4 oz.

34F574. NET 1.20

Fig. B. Type 55. Cuts holes from 1¾" to 8" dia. Made of tool steel with Jessup cutting bits. Has ½" shank to fit ½" chuck. Set screw wrench included. wt., 8 oz.

34F575. NET **8.66**

34F576. Extra blade for above. ..... NET 1.70

CHASSIS LAYOUT TOOLS

Fig. C. Model 83. Pocket Scribe. Hex head, steel case, locking chuck. 2¼" tapered point may be reversed. Size, 4¾".

34F560. NET 1.36

Fig. D. Model 15. Drill and Wire Gauge. Decimal equivalents for sizes 1 to 60. Lists taps and body drill sizes ¼-28 to 2-56.

34F561. NET **3.50**

Fig. E. Model 16. Multi-Use Rule & Gauge. A 4" rule in 32nds and 64ths, drill point gauge, sq., bevel protractor, center finder, circle divider, tap drill table. Wt. 4 oz.

34F562. NET **3.00**

INSPECTION MIRROR

Type 558. 2"x1" oval inspection mirror. Adjustable 6" knurled chrome plated handle.

34F443. NET **2.60**

Fig. F. Model 310. 6" Steel Rule and Wire Gauge. Gives 32nd and 64th graduations B and S wire gauge and decimal equiv.

34F563. NET ..... **.96**

Fig. G. Model 301. 6" Pocket Rule and Depth Gauge. Only ¼" wide. Gives readings in 64ths. With handy pocket clip.

34F564. NET ..... **.44**

ADJUSTABLE FILE AND TOOL HOLDER

Fig. H. Model 890. Holds files, blades, reamers, scriber points, etc., in a vise-like grip. Knurled knob assures easy and positive locking. Wt., 8 oz.

34F578. NET **1.80**

RATCHET TAP WRENCH

Fig. J. Model 160R. Made of hardened and tempered tool steel. Self-equalizing jaws positive ratchet, sliding-T-handle. Opening capacity: 3/32 to 7/32". Wt., 8 oz.

34F579. NET **8.20**

HAND DRILL AND PIN VISE

Fig. K. Model 92. A precision tool with two reversible collets for holding drills, taps, wire, etc. from the smallest size .0 to .125". Has large free-wheeling swivel head. Size: 4" long, 5/16" body dia., ¾" head. Wt. 5 oz.

34F580. NET **2.80**

INSPECTION MAGNIFIER

Fig. L. Model 549-4. 4" powerful ground and polished lens. 12" chrome plated adjustable Gooseneck Arm. Ball joint swivel permits easy adjusting. Sturdy cast-iron base for bench or table use. Wt., 4 lbs.

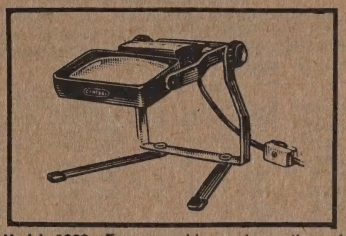
34F620. NET **17.90**

MACHINISTS HAND VISE

Model 815. Ideal for jobs where portability and flexibility are desired. Hard steel knurled jaw faces grip any object securely and safely. Has spring tension wing nut adjustment. Wt., 1 lb.

34F444. NET **5.20**

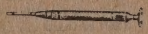
ADJUSTABLE ILLUMINATED MAGNIFIER STAND



Model 1050. For assembly or inspection of small parts, soldering and engraving. For laboratory, industry, schools, and hobby use. Both lens and light frame adjust separately to required height and visual range. Lens size 4"x2" adjusts from 1" to 6½" high. 7 watt 115 volt lamp, with 6 ft. U.L. approved cord. Sturdy extruded aluminum 5"x5" stand folds compactly for storage. Weight 1¼ lbs.

35F1182. NET **15.00**

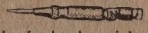
JEWELERS' SCREWDRIVER SET



Type S-600. Set of six. Sizes: 0, 1, 2, 3, 4, 5. Swivel head with removable blade. 3" long. ½ lb.

34F577. NET **6.30**

AUTOMATIC CENTER PUNCH TYPE 79



Constructed of shock-resistant alloy steel. Pressure adjustable. Ideal for rapid marking on steel. Tips replaceable. 5x½" dia. 5 oz.

34F565. NET **7.00**

34F566. Type 79P. Extra point. ..... NET 1.00

VACU-VISE

Fig. A

Fig. B

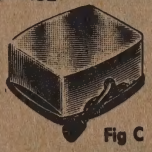


Fig C

Fig. D

SWIVEL VACU VISE— FIG. A

Model 1850. Used in laboratories, schools, and shops. Ideal for drilling, filling, soldering and assembling. Equipped with slide-on rubber jaws for fragile work. Swivels 360° to any position. Tilts 90° to desired angle 3" metal jaws that open to 2⅝ inches. Easy to attach. No screws. No clamps. Holds firmly in any position to any smooth non-porous surface including metal, glass and formica. To attach apply slight pressure to top of vise and push lever down. To release just lift lever. Hammertone finish, base size 6¼" triangular, height 6¼", weight 5 lbs.

35F1183 NET Fig. A **26.00**

Model 1800. Fig. B. Same as Model 1850 but non-swivel. Comes with rubber jaws RJ1816. Hammertone finish.

35F1295. NET **14.70**

MULTI-PURPOSE VACU BASE

Just flick the Vacu lever and base fastens securely to any smooth working surface by super strong vacuum power. Lift lever—and base is released. No clamps or screws necessary. Small, conveniently portable, always handy. Constructed of die cast Zamak 3 alloy with heavy, long lasting rubber holding pads. Gives complete portability to any fixture, instrument or appliance attached to it. Extra material provided for hole and threaded mounting on top and sides. Wt. 1 lb.

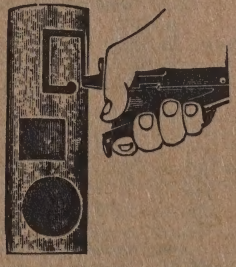
Model 1802 Vac Base Top. Fig. C. Size 2 7/16x 2 7/16x1 3/8" H.

35F1299. NET **5.00**

Model 1804 Large Vacu Base. Fig. D. Same as #1802 listed above but larger top. Size 3 5/16x2 3/4x1 5/16" H.

35F1298. NET **6.20**

ADEL



HAND NIBBLING TOOL

Makes any size or shape hole over 7/16" dia. Bites through 18-gauge steel or 1/16" aluminum, copper or plastic. Takes sharp angles and tight curves. Leaves smooth edges. Minimum hold size 7/16" diameter. Punch is replaceable. Shipping weight 8 oz.

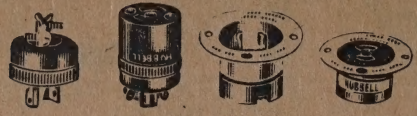
Stk. No.	1-3	4-11	12-71
33F670	5.95	5.65	5.45

Replacement punch for above.

33F671. NET 2.50

Electrical Wiring Devices

TWIST-LOCK CONNECTORS



H J K L

10 AMP 2-WIRE CONNECTORS MIDGET SIZE UNPOLARIZED

Cord-grip connectors accomodate .312" to .500" diameter cords. Brown bakelite, with metal casings plated to resist corrosion. Female receptacles will accept either polarized or non-polarized caps. 250 volts at 10 amps; 125 volts at 15 amps. U.L.

Stk. No.	Type	Fig.	Description	Each 1-9	10-24	25-49
38F500	7428	H	Male Plug	1.01	.90	.79
38F501	7427	J	Fem. Con.	1.53	1.36	1.19
38F521	7465	H	Male Cap	1.01	.90	.79
38F522	7464	J	Fem. Con.	1.52	1.35	1.18
38F502	7466	K	Male Base	1.82	1.62	1.42
38F503	7468	L	Fem. Base	2.21	1.96	1.72
38F518	7479*	H	Male Cap	1.05	.94	.82

*Has one wide and one narrow blade to fit all corresponding polarized slots of receptacles.

MIDGET TWIST LOCK

7593 7594

7500 series twist lock. 15 amp, 115 volt. Cylindrical hollow brass split ring for ground provision. Non-interchangeable unit with UL requirements.

Stk. No.	Type	Description	Each 1-9	10-24	25-49
32F742	7593	Conn. body w/cord grip	3.50	3.11	2.74
32F743	7594	Cap w/cord grip	2.61	2.32	2.03
38F523	7595	Inlet, exposed terminals	3.16	2.81	2.46
38F524	7596	Outlet, exposed terminals	3.73	3.32	2.90

MIDGET SIZED CONNECTORS

7432 7433

10 ampere, 3 wire connectors, midget size and polarized. Accomodate .281" to .421" cable. Rated 250 volts at 10 amps; 124 volts and at 15 amps.

Stk. No.	Type	Description	Each 1-9	10-24	25-49
32F747	7432	Male Plug	3.60	3.20	2.80
38F504	7485	Male Plug	1.99	1.77	1.55
38F505	7484	Fem. Con.	2.86	2.54	2.23
38F506	7486	Male Plug	2.54	2.26	1.98
38F507	7487	Fem. Con.	3.10	2.75	2.41
32F748	7433	Fem. Con.	4.60	4.20	3.80

STANDARD SIZE—POLARIZED

M N P

10 amp. 3 wire cable connectors accomodate .296" to .562" dia. cables. Type 7572 is armored cap. Rated: 250 volts at 10 amps; 125 volts at 15 amps.

Stk. No.	Type	Fig.	Description	Each 1-9	10-24	25-49
38F509	7572	M	Male Plug	2.50	2.22	1.95
38F510	7555	N	Fem. Con.	3.74	3.32	2.91
38F511	7556	P	Male Base	3.10	2.75	2.41
38F512	7557	...	Fem. Base	3.43	3.05	2.67

3-WIRE GROUNDING TYPE SINGLE OUTLETS

5280 5207

Polarized for grounding exposed metal parts of portable elctrical equipment. 5279 has flush housing with permanent type mounting plate (2.437 Dia.). Male recessed 5278 may be permanently attached. 5207 (Dia. 1.531) "Insulprene" connector body. 5280 (1.531 Dia.) grounding cap may be anchored permanently by thumb screw. All are 15A., 125V.

Stk. No.	Type	Description	Each 1-9	10-24	25-49
32F727	5278	Male Base	2.96	2.63	2.30
32F728	5279	Female Base	5.35	4.75	4.16
32F729	5280	Male Cap.	2.87	2.55	2.23
32F730	5207	Fem. Con.	2.97	2.64	2.31
38F526	5208	Male Cap.	2.10	1.87	1.64
38F527	5264	Male Cap.	1.60	1.42	1.24

SUPER "TWIST-LOCK" DEVICES

R T S

Rated: 600 volts at 10 amps; 250 volts at 20 amps. Take .437" to .750" cables. 20 amp. 3-wire connectors.

Stk. No.	Type	Fig.	Description	Each 1-9	10-24	25-49
38F515	7327	S	Male Base	4.44	3.95	3.46
38F516	7328	T	Fem. Base	6.15	5.47	4.79

Type 5266. 3-Wire grounding type caps and bodies, polarized. 15 amps, 125v. Fitted with "U" shaped bodies for grounding.

Stk. No.	Type	Fig.	Description	Each 1-9	10-24	25-99
32F707	5266	R	Rubber Caps	1.64	1.46	1.28

3-WIRE GROUNDING TYPE ADAPTER

Type 5273-L. For grounding exposed metal parts of portable electrical equipment. Designed to adapt standard 2-wire convenience outlets for use with new 3-wire grounding caps, 15 amps. 125 volts. Shpg. wt., 4 oz. Std. pkg.—50; Carton—10.

Stk. No.	Type	Each 1-9	10-24	25-49
38F517	5273-L	1.89	1.68	1.47

FEMALE GROUNDING-TYPE MOTOR BASE OUTLET

Type 5256. A good, standard grade outlet meeting FED. SPEC. W-C-596 (S). Parallel-blade with U-ground. Rated: 15 amps, 125 volts AC or DC. Nickel-plated brass construction. U.L. approved.

Stk. No.	Type	Each 1-9	10-24	25-49
32F746	5256	2.97	2.64	2.31

SAFETY GROUNDING RECEPTACLE 3-WIRE

Stk. No.	Type	Each 1-9	10-24	25-49
32F717	SG-62	4.90	4.35	3.81

CONVENIENCE OUTLET

Type 5242. 3-Wire grounding type convenience outlets. Polarized side wired only. Duplex flush mounting receptacle. For grounding exposed metal parts of portable electrical equipment. Unit is side wired with grounding terminal and with parallel slots.

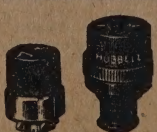
Stock No.	Type	Description	Each 1-9	10-24	25-49
32F701	5242	Brn. Bakelite	1.21	1.08	.94

RUBBER FINGER GRIP CAPS

Type 9972. 15 amps 125V. Parallel Blades. Without cord-grips. Cord hole dia. .312" to .437".

Stk. No.	Type	Description	Each 1-9	10-24	25-49
38F520	9972	Par. Blades	.82	.73	.64

CORD CONNECTORS



A B

Type 9952. Rubber cord connector bodies with double T-Slots. 15 amps, 125v. Cord diameter: .312" to .468". 2 wire type.
Type 5269. 3-Wire cord connectors grounding type 15 amps, 125v. With cord grip. Cord diameter: .296" to .625".

Stock No.	Type	Fig.	Description	Each 1-9	10-24	25-49
32F703	9952	B	Body	1.38	1.22	1.07
32F704	5269	A	Body	2.56	2.27	1.99

Connectors and Tape

HUBBEL CORD CONNECTORS-STRAIGHT MALE TYPE SHC

NPT HUB SIZE: ¼"
Sold in packages of 25 only.

Stk. No.	Type	Form Size	Diameter Range	Each
31F1300	SHC-1001	F-1	.062-.125	1.00
31F1301	SHC-1002	F-1	.125-.187	
31F1302	SHC-1003	F-1	.187-.250	
31F1303	SHC-1004	F-1	.250-.312	
31F1304	SHC-1005*	F-1	.312-.375	
31F1305	SHC-1006*	F-1	.375-.437	

NPT HUB SIZE: ⅜"

31F1306	SHC-1007	F-1	.062-.125	1.00
31F1307	SHC-1008	F-1	.125-.187	
31F1308	SHC-1009	F-1	.187-.250	
31F1309	SHC-1010	F-1	.250-.312	
31F1310	SHC-1011	F-1	.312-.375	
31F1311	SHC-1012	F-1	.375-.437	

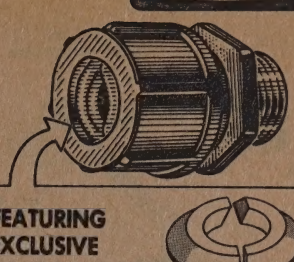
NPT HUB SIZE: ½"

1F1312	SHC-1013	F-1	.062-.125	1.00
1F1313	SHC-1014	F-1	.125-.187	
1F1314	SHC-1015	F-1	.187-.250	
1F1315	SHC-1016	F-1	.250-.312	
1F1316	SHC-1017	F-1	.312-.375	
1F1317	SHC-1018	F-1	.375-.437	
1F1318	SHC-1022	F-2	.250-.375	

CABLE JACKET MUST BE STRIPPED

- Features Exclusive "Gotcha" Ring
- Assures Against Cord Pullout
- Oil And Water Tight

Provides assurance against cord pullout because of patent pending "Gotcha" Ring. Neopreme bushing provides liquid tight seal. Cord grips up to 3" are available in straight male and female 45° and 90° angle configurations.



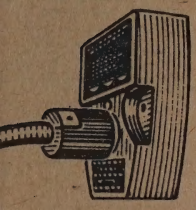
NPT HUB SIZE: ¾"
Sold in standard packages only.

Stk. No.	Type	Form Size	Diameter Range	Std. Pkg.	Each
31F1319	SHC-1209	F-2	.062-.125	25	1.09
31F1320	SHC-1030	F-2	.125-.187	25	
31F1321	SHC-1031	F-2	.187-.250	25	
31F1322	SHC-1032	F-2	.250-.275	25	
31F1323	SHC-1033	F-2	.375-.500	25	
31F1324	SHC-1034	F-2	.500-.625	25	
31F1325	SHC-1037	F-3	.625-.750	15	1.44
31F1326	SHC-1038	F-3	.750-.875	15	

NPT HUB SIZE: 1"

Stk. No.	Type	Form Size	Diameter Range	Std. Pkg.	Each
31F1327	SHC-1039	F-4	.375-.500	15	1.40
31F1328	SHC-1040	F-4	.500-.625	15	
31F1329	SHC-1041	F-4	.625-.750	15	
31F1330	SHC-1042	F-4	.750-.875	15	
31F1331	SHC-1043	F-4	.875-1.000	15	
31F1332	SHC-1044	F-4	1.000-1.125	15	

GROUND FAULT INTERRUPTER & POUCH

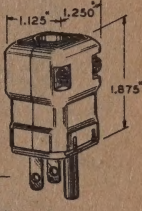


Plugs into any standard 15A., 120V. straight blade, U-ground receptacle. Cord connected equipment can then be plugged into the single 3-wire grounding outlet in face of unit for ground fault protection. Underwriters' Laboratories listed for indoor use. Conforms to applicable National Electrical Code requirements.

Stk. No.	Type	Description	
31F1333	GFP-115	15A, 125V, 5mA sensitivity	52.00
31F1334	GFP-P	pouch for above	7.00

VALISE PLUG

Special nylon webs join the three sections together for economy, speed, and long life. 15A/125V, 2 pole, 3-wire grounding. U.L. listed.



Stk. No.	Type	Description	1-9	10-49	50-Up
31F1335	5965-VY	15A/125V, 2 pole	1.64	1.46	1.28

HOSPITAL GRADE WIRING DEVICES

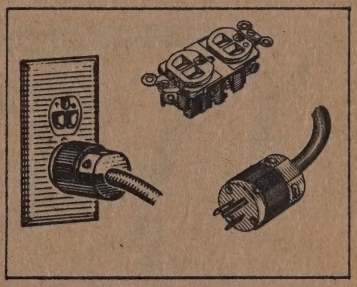
Designed to meet the specific performance demands required by hospitals. Gives the kind of performance demanded when safe, uninterrupted power is critical.

STRAIGHT BLADE 15A/125V, 2 POLE, 3-WIRE GROUNDING

Stk. No.	Type	Description	1-9	10-49	50-Up
31F1336	8200	Receptacle, brown	4.76	4.23	3.70
31F1337	8200-I	Receptacle, ivory	4.97	4.42	3.87
31F1338	8200-R	Receptacle, red	4.97	4.42	3.87
31F1339	8200-GY	Receptacle, gray	4.97	4.42	3.87
31F1340	8200-WHI	Receptacle, white	4.97	4.42	3.87
31F1341	8215-C	Plug, nylon	2.86	2.54	2.23
31F1342	8215-CT	Plug, clear	3.53	3.14	2.75
31F1343	8215-CAT	Plug, clear angle	3.34	2.97	2.60
31F1344	8219-C	Connector, nylon	4.83	4.29	3.76
31F1345	5262-ILH	Receptacle, ground lighted	5.70	5.06	4.43
31F1346	IG 5262-H	Receptable, ground orange isolated	5.15	4.58	4.01
31F1347	SG62-I	Receptacle, ground ivory	5.11	4.54	3.97

STRAIGHT BLADE 20A/125V, 2 POLE, 3-WIRE GROUNDING

Stk. No.	Type	Description	1-9	10-49	50-Up
31F1348	8300	Receptacle, duplex brown	5.43	4.83	4.23
31F1349	8300-I	Receptacle, duplex ivory	5.69	5.06	4.43
31F1350	8300-R	Receptacle, duplex, red	5.69	5.06	4.43
31F1351	8300-GY	Receptacle, duplex, gray	5.69	5.06	4.43
31F1352	8300-WHI	Receptacle, duplex, white	5.69	5.06	4.43
31F1353	8310	Receptacle, single, brown	4.04	3.59	3.14
31F1354	8310-I	Receptacle, single, ivory	4.24	3.77	3.30
31F1355	8310-R	Receptacle, single, red	4.24	3.77	3.30
31F1356	8310-GY	Receptacle, single gray	4.24	3.77	3.30
31F1357	8310-WHI	Receptacle, single, white	4.24	3.77	3.30
31F1358	8315-C	Plug, nylon	3.50	3.11	2.72
31F1359	8315-CT	Plug, clear	4.32	3.84	3.36
31F1360	8319-C	Connector, nylon	5.69	5.06	4.43



WALL PLATES

Impact resistant. Brown. Available in Ivory, Red, Grey and White on special order.

Stk. No.	Type	Description	1-9	10-49	50-Up
31F1361	8241	single gang switch	1.21	1.07	.94
31F1362	8248	single gang duplex receptacle	1.21	1.07	.94

3M COMPANY SCOTCH TAPE

ELECTRICAL TAPE

Type 33. General purpose insulation. Dielectric strength: 10,000 volts. .007" thick with black plastic backing.

Stk. No.	Type	Size	Color	1-9	10-99
36F898	33	¾"x66'	Blk.	1.66	1.37
36F899	33	¾"x20'	Blk.	.65	.54
36F907	35	¾"x66'	Gray	1.66	1.37

COLOR CODED TAPE

Type 35. Vinyl plastic electrical tape for color coding and general purpose insulation. Strong and conformable.

Stk. No.	Type	Size	Color	1-9	10-99
36F900	35	½"x20'	Red	.50	.41
36F901	35	½"x20'	Wh.		
36F902	35	½"x20'	Yel.		
36F903	35	½"x20'	Gray		

TINNED COPPER SHIELDING TAPE

Type 24. All metal 100% tinned copper shielding braid continues electrostatic shielding. Knitted from No. 36AWG wire. Highly conformable.

Stk. No.	Type	Size	Color	1-9	10-99
36F904	24	1"x15'	Tin	3.97	3.03

GLASS-CLOTH INSULATED TAPE

Type 27. For operating temperatures requiring high-heat insulated wires. Thermosetting pressure-sensitive adhesive assures a permanent bond at temperatures up to 300°F. High tensile strength.

Stk. No.	Type	Size	Color	1-9	10-99
36F905	27	½"x66'	Wh.	2.68	2.04

ALL-WEATHER TAPE

Type 88. A super-tough flame-retardant black plastic backing provides excellent resistance to abrasion, oil acids, etc. Extra pliability and conformability at temperatures down to 0°F. The thickness is .0085".

Stk. No.	Type	Size	Color	1-9	10-99
36F886	88	¾"x66'	Blk.	1.92	1.59
36F887	88	¾"x20'	Blk.	.72	.59

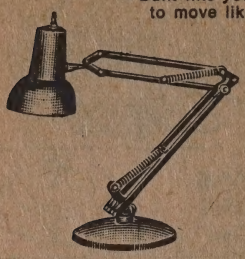
SILICON RUBBER TAPE

Type 70. High temperature splicing tape composed of fully cured inorganic silicone backing with a silicone pressure sensitive adhesive. Excellent conformability, high temperature characteristics, electric strength, and ozone resistance. Self cleaning rubber backing.

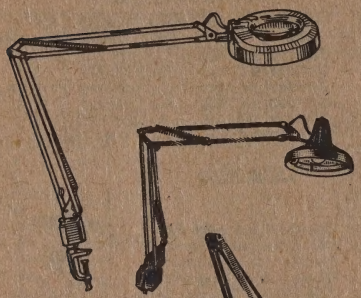
Stk. No.	Type	Size	Color	1-9	10-99
36F906	70	1"x30"	Blk.	9.10	6.93

Adjustable Lamps and Brackets

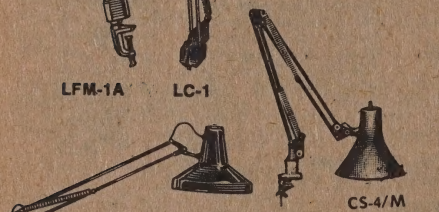
• Built like you . . . to move like you



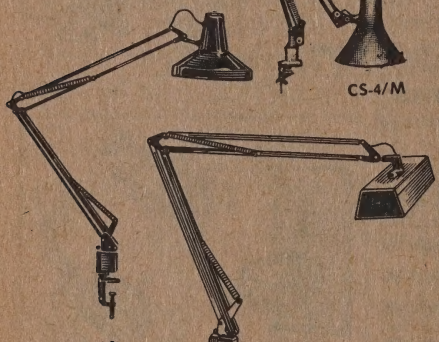
LIL-E



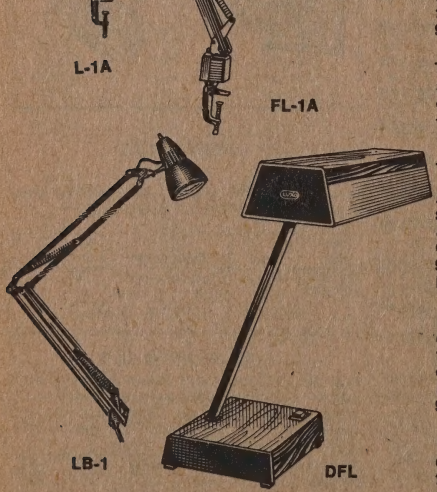
LFM-1A LC-1



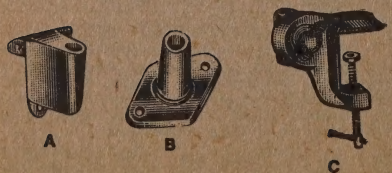
CS-4/M



L-1A FL-1A



LB-1 DFL



A B C

LUXO LIL-E

Mini-LUXO LIL Lamp is now built with all the ideal precision-engineered features for office, home or school. The New LUXO LIL sets perfectly on a desk and glides into position and holds it thanks to flexible spring-tension balancing. Scientifically balanced to give you perfectly even distribution of light exactly where it is needed. Lift LUXO LIL-E off its base and slip into clamp, peg board or wall mount brackets. Unit is then ready for use where space is not available. Colors; red, black, and white. Size: Fully extended, 24″; Base 7″. Individually Boxed. Comes with 40S11 bulb. Shpg. wt. 6 lbs.

Stk. No.	Type	Color	1-5	6-Up
99F1127	LIL—E	Black with Base	21.67	19.50
99F1129	LIL—E	White with Base		
99F1128	LIL—E	Red with Base		
99F1119	AL	Clamp Black	2.33	2.10
99F1120	AL	Clamp White		
99F1121	AL	Clamp Red		
99F1122	BL	Wall Bracket Black		
99F1123	BL	Wall Bracket White		
99F1124	BL	Wall Bracket Red		

Stk. No.	Type	Description	
25F088	40S11	Replacement Bulb	1.72

LUXO-O-LAMPS COMPLETE WITH BULBS AND TUBES
LFM-1A ILLUMINATED MAGNIFIERS

Large magnification, cool fluorescent light, and maneuverable. Lamps can be raised or lowered, tilted or turned to any direction. Sweep and movement same as All Angle Lamp L-1 listed below. 3 Diopter 5″ ground glass lens. Dove Gray finish. Grounded line cord. With fluorescent tube and brackets below. Shpg. wt. 8 lbs.

Stock No.	Type	Description	1-5	6-Up
99F1100	LFM-1A	Illuminated Magnifier w/Bracket	50.00	45.00

ACCESSORIES FOR LFM MAGNIFIERS

Stock No.	Description	1-5	6-Up
99F1102	Lens attachment #1 increase to 4 diopters	12.00	10.80
99F1103	Lens attachment #2 increase to 8 diopters	13.33	12.00

FC 8T 9CW. Replacement circline tube. 25F169. NET.....4.50

CS-4/M CROWNLITE 2

Versatile Crownlite can be used everywhere. All metal construction for years of rugged maintenance-free use. Steel tubing, tempered steel springs and machined hardware assure long life. Flexible arm movement twists, turns, stretches—up, down, around to the desired position. Supplied with a four-way bracket.

99F1130 Polar White. **NET.....15.00**
99F1131 Black. **NET.....15.00**
99F1132 Red. **NET.....15.00**

LC-1A COMBO LAMP

Combines 60 W incandescent with 22 W fluorescent for balance of light, close to daylight quality. 300 ft. candles at 12 in.; 2 arms make 45″ extension. Famous Luxo spring balance. Styled in dove gray. Complete with grounded line cord, 22WT-9 fluorescent tube and 60 watt bulb and bracket. Shpg. wt. 8 lbs.

99F1106. 1-5.....34.20 6-Up.....30.97

L-1A ALL ANGLE LAMP

Tubular steel fixture raises, lowers, tilts, traverses, and turns in 45″ radius, 360° sweep. 60 watt incandescent bulb, dual cool shade for greater light output and cool operation. With bulb, brackets and grounded cord. Shipping weight 5 lbs.

Stock No.	Type	Description	1-5	6-Up
99F1109	L-1A	All Angle Lamp	26.33	23.70

FL-1A FLUORESCENT LAMP

All angle/all purpose lamp with "feather touch" positioning. Unique spring extension arm and 360° sweep. 19″ x 4″ shade for excellent reflecting control. U.L. approved. With fluorescent tubes, bracket and grounded cord. Styled in dove grey. Complete with 2—F15T8 fluorescent tubes. Shipping weight 9 lbs.

99F1107. 1-5 .....45.67 6-Up.....41.10
F15T8/CW Type 25F 168/W Replacement Bulb. Net.....1.85

LB-1A MACHINE TOOL LAMP

Designed for use in shops where work area must be well lit to provide safe and efficient operation. The lamp arm will not change position due to machinery vibration because of spring-balanced construction. Inner reflector for cool shade. 4½″ dia.; 2 extension arms for 45″ reach. With bulb, bracket and grounded cord. Styled in dove grey. Shipping weight 5 lbs.

99F1111. 1-5.....25.33 6-Up.....22.80

DFL DESK LAMP

Pre-angled light shield and two 15 watt fluorescent tubes are incorporated into a contemporary lamp design. Long lasting black baked enamel and woodgrain vinyl finish add to the elegance of the design. Has weighted base for stability with separate instant on-off switch. Rubber pads for surface protection. Underwriter's Laboratory listed. Warranted against defective parts and workmanship. Size: 15.62″ high x 18.75″ wide.

99F1101. 1-5.....26.65 6-Up.....23.98

ACCESSORY BRACKETS

Type A. Screws to vertical surface. Shipping weight, ½ lb.
99F1113. 1-5.....2.33 6-Up.....2.10
Type B. Screw to level surface. Shipping weight, ½ lb.
99F1114. 1-5.....2.33 6-Up.....2.10
Type C. Clamps to level surface. 2¼″ maximum. Shipping weight, 1 lb.
99F1115. 1-5.....5.00 6-Up.....4.50

General Electric Silicones

TWO PART SYSTEMS

RTV-11. A low viscosity, white electrical potting compound which cures at room temperature to a resilient silicone rubber. Protects delicate electrical components from shock and vibration over temperatures from −75 to +500°F.

RTV-21. A pink, pourable electrical potting compound. Viscosity, poises: 250. Shelf life of six months.

RTV-41. White, medium viscosity silicone rubber base that cures readily in deep sections to high durometer, high strength rubber.

RTV-60. Red, medium viscosity silicone rubber base that cures readily in deep sections to a high durometer, high strength rubber. Has excellent high temperature resistance—usable for short periods up to 600°F.

RTV-77. An easy to spread potting paste which cures the same as the low viscosity compounds to form a tough, resilient silicone rubber.

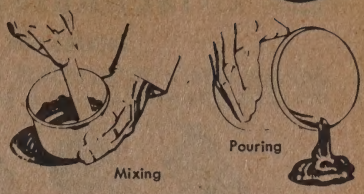
RTV-88. Red sealing and bonding compound. For use in high and extremely high temperature uses including aerospace.

RTV-90. Red sealing and bonding compound. Heat resistant up to 500°F.

RTV-615. Low viscosity, clear electrical potting compound. Used to protect circuits when a transparent encapsulant is required. Can be easily cut open to repair failures and patches with fresh material.

RTV-616. A black sealing and bonding compound. Used widely in aerospace applications. Short time, up to 500°F.

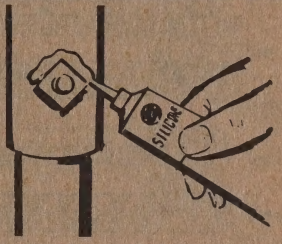
RTV-630. A blue, medium viscosity compound which cures to an extremely tough, durable rubber. Best for prototype molds or other applications where extreme strength is required.



Stk. No. 1 lb. Container	Type	Color	Each	2-11	12-47
57F053	RTV-11	White	12.00	10.00	8.48
57F054	RTV-21	Pink			
57F056	RTV-41	White	12.00	10.00	8.48
57F057	RTV-60	Red			
57F058	RTV-77	White			
57F059	RTV-88	Red			
57F060	RTV-90	Red			
57F049	RTV-615	Clear	16.50	14.50	12.76
57F204	RTV-616	Black	13.50	11.50	9.77
57F061	RTV-630	Blue	14.00	12.00	10.47

ONE PART SYSTEMS

One package silicone rubber adhesive/sealants for an unlimited number of industrial applications. Packaged in collapsible aluminum tubes and standard caulking cartridges. Cures to tough resilient rubber at room temperature. Will withstand temperatures of 400 to 500°F and remain flexible at −75°F. Resists moisture, aging, weathering. Will bond to most substrates without primer. Ideal for instant insulation, repairing low pressure leaks, gasketing, bonding, encapsulating, sealing, etc.



3 OZ. TUBE

Stk. No.	Type	Description	1-11	12-47	48-Up
57F039	RTV-102	White Paste	2.60	1.99	1.65
57F040	RTV-103	Black Paste	2.60	1.99	1.65
57F043	RTV-106	Red Paste	4.05	2.82	2.45
57F041	RTV-108	Clear Paste	2.60	1.99	1.65
57F042	RTV-109	Alum. Paste	2.60	1.99	1.65
57F044	RTV-112	White Liquid	4.05	2.82	2.45
57F029	RTV-116	Red Liquid	4.05	2.82	2.45
57F030	RTV-118	Clear Liquid	4.05	2.82	2.45
57F200	RTV-154	Grey Hi-Strength Paste	6.00	4.09	3.72
57F201	RTV-156	Red Hi-Strength Paste	6.00	4.09	3.72
57F065	RTV-162	White Paste	5.50	2.59	2.22

12 OZ. TUBES and (*Caulking Cartridges)

Stk. No.	Type	Description	1-11	12-47	48-Up
57F031	RTV-102	White Paste	10.45	6.34	6.05
57F032	RTV-103	Black Paste	10.45	6.34	6.05
57F035	RTV-106	Red Paste	12.75	8.25	7.95
57F033	RTV-108	Clear Paste	10.45	6.34	6.05
57F034	RTV-109	Alum. Paste	10.45	6.34	6.05
57F036	RTV-112	White Liquid	12.75	8.25	7.95
57F037	RTV-116	Red Liquid	12.75	8.25	7.95
57F038	RTV-118	Clear Liquid	12.75	8.25	7.95
			1-11	12-59	60-Up
57F045	RTV-102*	White Paste	4.15	3.35	3.05
57F046	RTV-108*	Clear Paste	4.15	3.35	3.05
57F202	RTV-103*	Black Paste	4.15	3.35	3.05
57F066	RTV-162*	White Paste	9.95	5.69	5.38

SILICONE GREASES AND COMPOUNDS

Fit a wide variety of industrial and maintenance applications. Offer superior lubrication, dielectric properties, heat transfer, water repellancy, corrosion protection. Withstand temperatures from −100 to 450°F.

WIDE TEMPERATURE METAL LUBRICANT

Type G-300. Offers excellent metal-metal lubrication over −100 to +450°F.

ALUMINUM/STEEL LUBRICANT

Type G-322L. One of the finest available lubricants for aluminum steel. Prevents galling and corrosion. Also excellent for plastic-metal. Available in 3 or 8 oz. tubes or 16 oz. aerosol (G-322S).

HEAT TRANSFER COMPOUND

Type G-642. Transfers heat from transistors, semi-conductors and ballasts. Prolongs component life and decreases service requirements.

GENERAL PURPOSE COMPOUND

Type G-623. An all-around dielectric grease which offers superior protection from shorts due to moisture. Ideal for cable connectors. Also excellent rubber lubricant for seals, gaskets, etc.

Stock No.	Type	Package Size	1-11
57F062	G-300	3 oz. Tube	2.57
57F206	G-300	8 oz. Tube	5.13
57F063	G-322L	3 oz. Tube	2.20
57F208	G-322L	8 oz. Tube	4.42
57F209	G-325S	16 oz. Aerosol	2.56
57F064	G-623	3 oz. Tube	1.88
57F212	G-623	8 oz. Tube	3.73

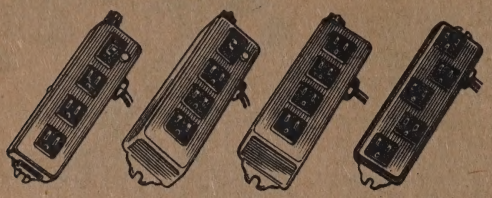
ATTENTION QUANTITY BUYERS

Newark Electronics also can supply these GE silicone products in package sizes up to five gallon pails. Write, phone or wire your nearest Newark Electronics office to discuss volume prices and delivery. Depend on Newark Electronics for the latest in silicone products at the lowest prices, fastest delivery. Stocking warehouses from coast-to-coast.

SPC technology Power Outlet Boxes and Strips

SERIES 800

Box size is 8⅝" x 2⅜" x 1½" high. Mounting centers are 8¼". Shipping wt. 6' cord — 2 lbs. 15' cord — 3 lbs.

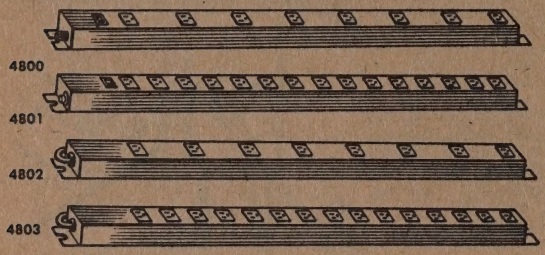


0800 0801 0802 0803

- ALL "U" GROUND OUTLETS HAVE ELECTRICAL WIRED GROUND
- FINEST QUALITY HEAVY DUTY CORD-SET
- GRAY FINISHED, STURDY STEEL CASES
- RATED 15 AMPERES, 130 VOLTS
- PRE-WIRED AND READY FOR USE

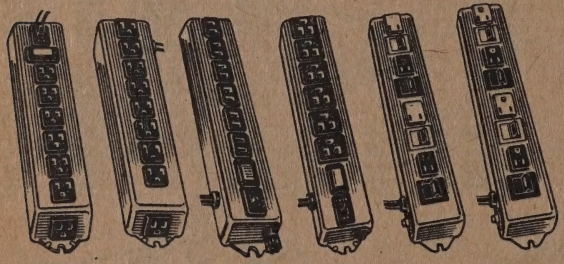
SERIES 4800

Box size is 49" x 2" x 2" x 1½" high. Mounting centers are 48¾". Shipping wt. 6' cord — 6 lbs.; 15' cord — 7 lbs.



SERIES 1300

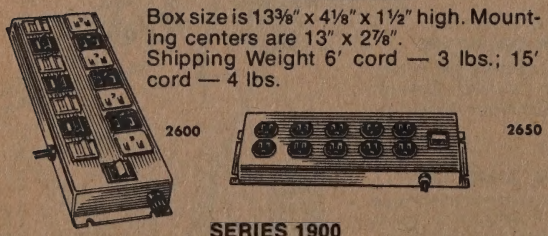
Box size is 13⅛" x 2⅜" x 1½" high. Mounting centers are 12¾". Shipping wt. 6' cord — 2 lbs.; 15' cord — 3 lbs.



1300 1301 1302 1303 1325 1340 1350

SERIES 2600

Box size is 13⅜" x 4⅛" x 1½" high. Mounting centers are 13" x 2⅞". Shipping Weight 6' cord — 3 lbs.; 15' cord — 4 lbs.

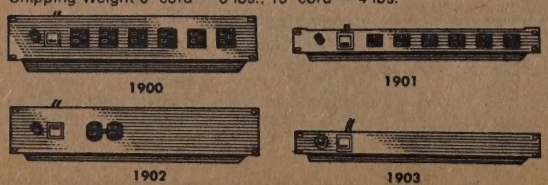


2600 2650

SERIES 1900

RACK MOUNTED OUTLET PANELS

6 "U" ground outlets with pilot light, on-off switch, and fuse or push-to-reset circuit breaker protection. Provides an easy power source for standard relay racks. Size is 19" x 1¾" or 19" x 3½". Mounting centers are 17¾". Shipping Weight 6' cord — 3 lbs.; 15' cord — 4 lbs.



1900 1901 1902 1903

Stk. No.	Type	Outlets No.	Outlets Style	Protection	Control	Cord Lgth.	Each 1-9	Each 10-Up
60N2420	0800-XS	5	U-GRD	—	—	6'	9.30	8.45
60N2421	0800-XF	5	U-GRD	—	—	15'	11.61	10.55
60N2422	0801-FS	4	U-GRD	Fuse	—	6'	10.40	9.45
60N2443	0801-FF	4	U-GRD	Fuse	—	15'	12.71	11.55
60N2444	0801-BS	4	U-GRD	C.B.	—	6'	12.71	11.55
60N2445	0801-BF	4	U-GRD	C.B.	—	15'	15.02	13.65
60N2446	0802-FS	3	U-GRD	Fuse	LR	6'	11.61	10.55
60N2447	0802-FF	3	U-GRD	Fuse	LR	15'	13.92	12.65
60N2448	0802-BS	3	U-GRD	C.B.	LR	6'	13.92	12.65
60N2449	0802-BF	3	U-GRD	C.B.	LR	15'	16.17	14.70
60N2497	0803-FS	4*	U-GRD	Fuse	LR	6'	12.98	11.80
60N2498	0803-BS	4*	U-GRD	C.B.	LR	6'	15.24	13.85
60N2499	0803-BF	4*	U-GRD	C.B.	LR	15'	17.55	15.95
60N2407	1300-FS	7*	U-GRD	Fuse	RP	6'	17.22	15.65
60N2408	1300-FF	7*	U-GRD	Fuse	RP	15'	19.53	17.75
60N2440	1300-BS	7*	U-GRD	C.B.	RP	6'	19.53	17.75
60N2409	1300-BF	7*	U-GRD	C.B.	RP	15'	21.84	19.85
60N2410	1301-XS	9*	U-GRD	—	—	6'	14.08	12.80
60N2411	1301-XF	9*	U-GRD	—	—	15'	16.39	14.90
60N2402	1302-FT	6	2-WIRE	Fuse	TP	10'	12.60	11.45
60N2403	1302-BT	6	2-WIRE	C.B.	TP	10'	14.91	13.55
60N2400	1303-FS	6	U-GRD	Fuse	RP	6'	16.28	14.80
60N2438	1303-FF	6	U-GRD	Fuse	RP	15'	18.59	16.90
60N2401	1303-BS	6	U-GRD	C.B.	RP	6'	18.59	16.90
60N2439	1303-BF	6	U-GRD	C.B.	RP	15'	20.90	19.00
60N2404	1325-FT	4	2-WIRE	Fuse	TI	10'	14.85	13.50
60N2405	1325-BT	4	2-WIRE	C.B.	TI	10'	17.16	15.60
60N2412	1340-FS	4	U-GRD	Fuse	RI	6'	18.10	16.45
60N2413	1340-FF	4	U-GRD	Fuse	RI	15'	20.35	18.50
60N2414	1340-BS	4	U-GRD	C.B.	RI	6'	20.35	18.50
60N2415	1340-BF	4	U-GRD	C.B.	RI	15'	22.66	20.60
60N2450	1350-FS	4	U-GRD	Fuse	LRI	6'	21.29	19.35
60N2452	1350-BS	4	U-GRD	C.B.	LRI	6'	23.60	21.45
60N2453	1350-BF	4	U-GRD	C.B.	LRI	15'	25.91	23.55
60N2431	1900-FS	6	U-GRD	Fuse	LR	6'	23.21	21.10
60N2490	1900-FF	6	U-GRD	Fuse	LR	15'	25.47	23.15
60N2432	1900-BS	6	U-GRD	C.B.	LR	6'	25.47	23.15
60N2491	1900-BF	6	U-GRD	C.B.	LR	15'	27.78	25.25
60N2578	1901-BS	6	U-GRD	C.B.	LR	6'	24.53	22.30
60N2579	1901-BF	6	U-GRD	C.B.	LR	15'	26.84	24.40
60N2434	1902-FF	6	U-GRD	Fuse	LR	15'	24.48	22.25
60N2492	1902-BS	6	U-GRD	C.B.	LR	6'	24.48	22.25
60N2493	1902-BF	6	U-GRD	C.B.	LR	15'	26.79	24.35
60N2580	1903-BS	6	U-GRD	C.B.	LR	6'	24.37	22.15
60N2581	1903-BF	6	U-GRD	C.B.	LR	15'	26.68	24.25
60N2459	2600-BS	10	U-GRD	C.B.	LR	6'	26.51	24.10
60N2430	2600-BF	10	U-GRD	C.B.	LR	15'	28.82	26.20
60N2454	2650-FS	7	U-GRD	Fuse	LRI	6'	35.86	32.60
60N2455	2650-FF	7	U-GRD	Fuse	LRI	15'	38.17	34.70
60N2456	2650-BS	7	U-GRD	C.B.	LRI	6'	38.17	34.70
60N2457	2650-BF	7	U-GRD	C.B.	LRI	15'	40.48	36.80
80N220	4800-FS	8	U-GRD	Fuse	LR	6'	29.26	26.60
80N201	4800-FF	8	U-GRD	Fuse	LR	15'	31.52	28.65
80N200	4800-BS	8	U-GRD	C.B.	LR	6'	31.52	28.65
80N222	4800-BF	8	U-GRD	C.B.	LR	15'	33.83	30.75
80N202	4801-FS	15	U-GRD	Fuse	LR	6'	37.35	33.95
80N205	4801-FF	15	U-GRD	Fuse	LR	15'	39.66	36.05
80N203	4801-BS	15	U-GRD	C.B.	LR	6'	39.66	36.05
80N272	4801-BF	15	U-GRD	C.B.	LR	15'	41.97	38.15
80N273	4802-XS	8	U-GRD	—	—	6'	25.41	23.10
80N206	4802-XF	8	U-GRD	—	—	15'	27.72	25.20
80N207	4803-XS	15	U-GRD	—	—	6'	33.33	30.30
80N208	4803-XF	15	U-GRD	—	—	15'	35.64	32.40

* = 1 Outlet on end of box
T = Toggle on-off switch
R = Rocker on-off switch
LR = Lighted rocker switch
P = Pilot light
I = Individual switch for each outlet

Power Outlet Boxes and Strips

SPC technology

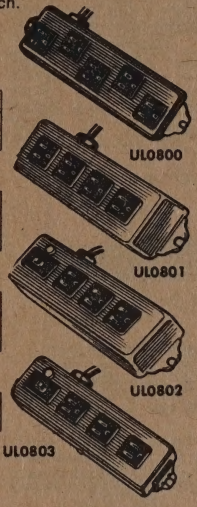
MEET OSHA REQUIREMENTS

LISTED

- Furnished With 15 Amp Push-To-Reset Circuit Breakers
- Finest Quality Heavy Duty UL Listed Cord-Sets
- U-Ground Outlets With Electrically Wired Ground
- Snap-In Components And Circuit Breakers Are UL Listed
- Housings Of Sturdy, Gray Finished Steel
- Rated 15 Amps, 130 Volts Continuous Duty

SERIES UL800

Box size is 8⅝" x 2⅜ x 1½" high. Shipping Weight: 2 lbs. with six foot cord; three lbs. with 15 ft. cord. **UL0800:** Five outlets only. **UL0801:** Four outlets only. **UL0802:** Three outlets only. **UL0803:** Four outlets, one on end of box for series string wiring, with lighted rocker switch.



UL0800

Stock No.	Type	Cord	Each
60N2582	UL0800-BS	6'	14.90
60N2583	UL0800-BF	15'	17.30

UL0801

Stock No.	Type	Cord	Each
60N2584	UL0801-BS	6'	13.65
60N2585	UL0801-BF	15'	16.05

UL0802

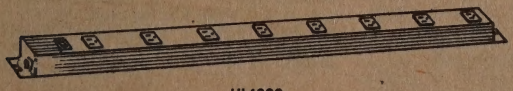
Stock No.	Type	Cord	Each
60N2586	UL0802-BS	6'	15.25
60N2587	UL0802-BF	15'	17.65

UL0803

Stock No.	Type	Cord	Each
60N2588	UL0803-BS	6'	16.05
60N2589	UL0803-BF	15'	18.45

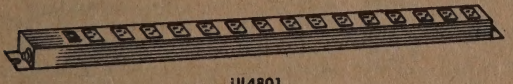
SERIES UL4800

Box size is 49" x 2" x 1½" high. Shipping Weight: 6 lbs. with 6 ft. cord; 7 lbs. with 15 ft. cord. **UL4800:** eight outlets with lighted rocker switch. **UL4801:** fifteen outlets with lighted rocker switch. **UL4802:** eight outlets only. **UL4803:** fifteen outlets only.



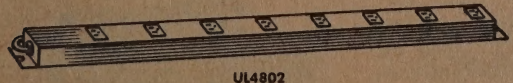
UL4800

Stock No.	Type	Cord	Each
80N374	UL4800-BS	6'	30.90
80N375	UL4800-BF	15'	33.35



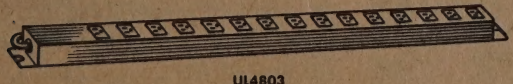
UL4801

Stock No.	Type	Cord	Each
80N376	UL4801-BS	6'	40.20
80N377	UL4801-BF	15'	42.65



UL4802

Stock No.	Type	Cord	Each
80N378	UL4802-BS	6'	28.45
80N379	UL4802-BF	15'	30.85



UL4803

Stock No.	Type	Cord	Each
80N380	UL4803-BS	6'	37.90
80N381	UL4803-BF	15'	40.30

SERIES UL1300

Box size is 13⅛" x 2⅜" x 1½" high. Shipping Weight: 2 lbs. with 6 ft. cord; 3 lbs. with 15 ft. cord.

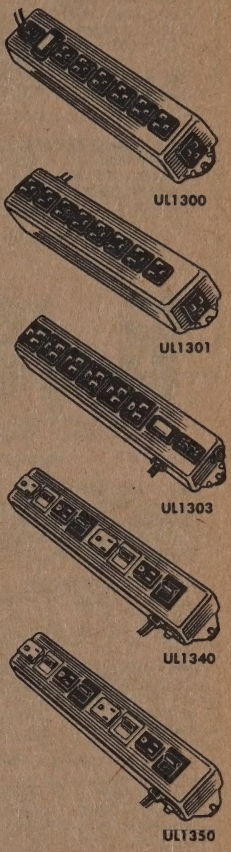
UL1300: seven outlets, one on end of box for series string wiring, with on-off switch and pilot light.

UL1301: nine outlets, one on end of box for series string wiring. Use as slave with model UL1300 as control.

UL1303: six outlets with on-off switch and pilot light.

UL1340: four alternating black and white switch-outlet groups.

UL1350: four alternating black and white lighted rocker switch-outlet groups.



UL1300

Stock No.	Type	Cord	Each
60N2590	UL1300-BS	6'	19.55
60N2591	UL1300-BF	15'	21.95

UL1301

Stock No.	Type	Cord	Each
60N2592	UL1301-BS	6'	19.20
60N2593	UL1301-BF	15'	21.60

UL1303

Stock No.	Type	Cord	Each
60N2594	UL1303-BS	6'	20.30
60N2595	UL1303-BF	15'	22.70

UL1340

Stock No.	Type	Cord	Each
60N2596	UL1340-BS	6'	20.40
60N2597	UL1340-BF	15'	22.80

UL1350

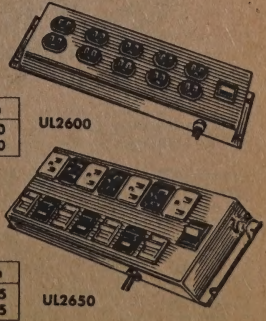
Stock No.	Type	Cord	Each
60N2598	UL1350-BS	6'	23.65
60N2599	UL1350-BF	15'	26.05

SERIES UL2600

Box size is 13⅜" x 4⅛" x 1½" high. Shipping Weight: 3 lbs. with 6 ft. cord, 4 lbs. with 15 ft. cord.

UL2600. Five duplex outlets (a total of 10) with lighted rocker switch.

UL2650. Seven alternating black and white lighted rocker switch-outlet groups plus master lighted rocker switch control.



UL2600

Stock No.	Type	Cord	Each
60N2600	UL2600-BS	6'	26.50
60N2601	UL2600-BF	15'	28.90

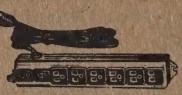
UL2650

Stock No.	Type	Cord	Each
60N2602	UL2650-BS	6'	42.65
60N2603	UL2650-BF	15'	45.05

SGL WABER Electric OUTLET BOXES

HEAVY DUTY OUTLET BOXES

Model 20



Model 24

Panel mtd. fuse or ckt. brkr.; On-Off switch; Bright neon pilot light; UL approved component's 15 amps, 130V; 12¾" mtg. ctrs; Size, 13⅛" x2⅜"x1⅝"; Steel case.

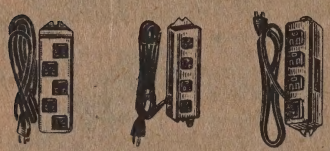
Model 20 2-Wire Outlet Box

Stk. No.	Model	Description	NET
60F2402	20	fuse 10' crd. set	11.45
60F2403	20CB	ckt. brkr., 10' cd. set	13.55

Model 24 "U" Ground Outlet Box

60F2400	24	fuse, 6' cd. set	14.80
60F2438	24-15	fuse, 15' cd. set	16.90
60F2401	24CB	ckt. bkr., 6' cd. set	16.90
60F2439	24CB-15	ckt. bkr., 15' cd. set	19.00

"U" GROUND OUTLETS



Model 602 Model 603 Model 605

Models 602, 603 and 605. Tough cord set. UL approved components. 15 amps, 130 volts. Steel case finished in silver gray textured hammertone "U" ground outlets. 8¼" mounting ctrs. Size: 8⅝"x2⅜"x1½".

Model 602: Outlets only

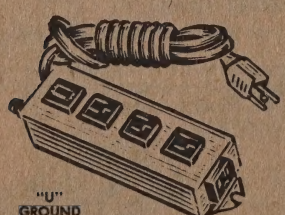
Stk. No.	Model	Description	NET
60F2420	602	6' cord set	8.45
60F2421	602-15	15' cord set	10.55

Model 603. Fuse or Circuit breaker

60F2422	603	Fuse 6' cord set	9.45
60F2443	603-15	Fuse 15' cord set	11.55
60F2444	603CB	Ckt. brkr., 6' cord set	11.55
60F2445	603CB-15	Ckt. brkr. 15' cd. set	13.65

Model 605. Pilot-Light, On-Off switch, Fuse or circuit breaker.

60F2446	605	Fuse 6' cord set	10.55
60F2447	605-15	Fuse 15' cord set	12.65
60F2448	605CB	Ckt. brkr. 6' cd. set	12.65
60F2449	605CB-15	Ckt. brkr. 15' cd. set	14.70



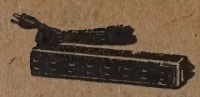
"U" GROUND OUTLETS

Series-String Wiring

Series 608. 4 "U" ground outlets, pilot light, on/off switch, fuse or circuit breaker, outlet on one end for series string wiring. Cord. 15A, 130V. UL listed components. 8¼" mtg. centers. Size: 8⅝"x2⅜"x1½". Ship. Wt. 2 lbs. 6' cord; 3 lbs. 15' cord.

Stk. No.	Model	Description	NET
60F2497	608	fuse, 6' cord	11.80
60F2498	608CB	Ckt. bkr, 6' cord	13.85
60F2499	608CB-15	Ckt. bkr, 15' cord	15.95

OUTLET BOXES



Model 17

Model 15

Series stringing possible. Model 15 is control unit, with fuse or circuit breaker, on-off switch, neon pilot light and 7 "U" ground outlets. Model 17 is slave unit with 9 outlets; can be used independently when outlets only are required. Size: 13⅛"x2⅜"x1⅝"; 15 amps, 130V. Steel case, tough UL approved cord set.

Stk. No.	Model	Description	NET
60F2407	15	fuse 6' cord set	15.65
60F2408	15-15	fuse, 15' cord set	17.75
60F2440	15CB	ckt. brkr. 6' cord set	17.75
60F2409	15CB-15	ckt. brkr. 15' cord set	19.85
60F2410	17	6' cord set	12.80
60F2411	17-15	15' cord set	14.90

HEAVY DUTY OUTLET BOXES

Model 700

Model 705

4' "U" ground outlet boxes. Features: 48¾" mtg. ctrs.; Size, 49x2x1½"; UL approved components; Rated at 15 amps. 130V continuous duty; Steel case finished in silver gray textured hammertone.

Model 700 Series, 8 Outlets On-Off Switch, Bright Pilot Light

Stk. No.	Model	Description	NET
80W220	700	Fuse 6' cord set	26.60
80W201	700-15	Fuse 15' cord set	28.65
80W200	700CB	Ckt. brkr. 6' cd. set	28.65
80W222	700CB-15	Ckt. brkr. 15' cd. set	30.75

Model 705 Series, 15 Outlets On-Off Switch, Bright Pilot Light

80W202	705	Fuse 6' cord set	33.95
80W203	705CB	Ckt. brkr. 6' cord set	36.05
80W272	705CB-15	Ckt. brkr. 15' cord set	38.15
80W205	705-15	Fuse 15' cord set	36.05

Model 710 Series, 8 Outlets Only

80W273	710	6' cord set	23.10
80W206	710-15	15' cord set	25.20

Model 715 Series. 15 Outlets Only

80W207	715	6' cord set	30.30
80W208	715-15	15' cord set	32.40

MULTI-LENGTH OUTLET BOXES

Space-saver size in a sturdy steel case. Completely wired. "U" ground outlets. UL approved cord set. On-Off switch. 15 amps, 130V. size, 49x1½x1⅛"; Steel case finished in silver gray textured hammertone.

Model 1100 Series. 12 Outlets On-Off Switch Bright Pilot Light Combination.

Stk. No.	Model	Description (Set)	NET
80W275	1145	Fuse, 6' cord set	26.45
80W276	1145-15	Fuse, 15' cord	28.50
80W277	1145-CB	Ckt. Brkr. 6' cord	28.50
80W278	1145CB-15	Ckt. brkr. 15' cd.	30.60

Model 1141 Series. 13 Outlets Only

80W279	1141	6' cord	23.80

Model 1146 Series. 8 outlets with ind. on/off switch, pilot light. Master on/off switch, pilot light.

80W280	1146 CB-15	Ckt. brkr. 15' cd. set	46.90

OUTLET BOXES

Model 1165-CB-15. 19 "U" ground outlets, on-off switch, push-to-reset circuit breaker and 15-foot UL approved cord set. 73 x 1½W x 1⅛D.

80W281. NET **41.30**

Model 1161-15. Twenty "U" ground outlets, pilot light. 15-foot cord set. 73 x 1½W x 1⅛D.

80W282. NET **36.35**

Model 1160-15. Ten "U" ground outlets. 15' cord. 73 x 1½W x 1⅛D.

80W283. NET **24.00**

Model 1164CB-15. Same as 1165 CB-15 except has 9 outlets. 73 x 1½W x 1⅛D.

80W284. NET **29.00**

COLOR CODED SWITCH-OUTLET BOXES

Model 30

Model 32

Four color keyed switch-outlet groups. Both models available with panel mounted fuse or circuit breaker. Model 30 is the two wire type with a rugged 10' Neoprene cord-set. Model 32 is the "U" ground type with a choice of six or fifteen foot Waber high quality UL approved cord-set.

Model 30-2 Wire Type

Stk. No.	Model	Description	NET
60F2404	30	Fuse, 10' cord set	13.50
60F2405	30CB	Ckt. brkr. 10' cord set	15.60

Model 32- "U" Ground Type

60F2412	32	Fuse 6' cord set	16.45
60F2413	32-15	Fuse 15' cord set	18.50
60F2414	32CB	Ckt. brkr. 6' cord set	18.50
60F2415	32CB-15	Ckt. brkr. 15' cord set	20.60

Model 32P. "U" Ground Type Ind. Pilot Lights.

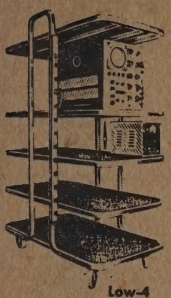
60F2450	32P	Fuse 6' cord set	19.35
60F2451	32P-15	Fuse 15' cord set	21.45
60F2452	32PCB	Ckt. brkr. 6' cd. set	21.45
60F2453	32PCB-15	Ckt. brkr. 15' cd. set	23.55

800 SERIES DUPLEX MASTER POWER CONTROLS

"U" Ground outlets. 12⅞x2⅞" mtg. ctrs.; On-Off switch; 15 amps, 130 volts. HPN cord set; Choice of fuse or push-to-reset ckt. bkr; steel case of textured hammertone; bright neon pilot light. Size: 13⅜"x4⅛"x1½".

Stk. No.	Model	Description	NET
60F2429	800	Fuse 6' cord set	22.00
60F2430	800CB-15	Ckt. brkr. 15' cd. set	26.20
60F2458	800-15	Fuse 15' cord set	24.10
60F2459	800CB	Ckt. brkr. 6' cord set	24.10

WHEELED UTILITY CARRIERS



Low-4

Low-8

Construction with 1" square steel tubing makes these wheeled carriers ideal for use in school, laboratory or industrial plant. Beautifully finished in bright chrome plating. Heavy duty, 5 inch wheels with heavy plate casters are quiet, fast and swivel easily. Adjustable shelf position. Units without outlet boxes have provisions for mounting Waber outlet boxes. Equipment shown in illustrations is not included.

LOW-3 5-shelf model with single cantilever. (Less outlet box). Size 28" x 26" x 66" H.
80W160 NET **245.00**

Low-4. 5-shelf model with double cantilever. (Less outlet box). Size 48" x 26" x 71" H.
80W161. NET **300.00**

LOW-6. Scope dolly is designed to accomodate big scopes and oversized test equipment. Non-skid deck is inclined at 10°. Integral 3-outlet box has pilot light and fuse, is rated at 15A, 130V. Capacity, 500 lbs. Size: 19" x 31" x 35" H. Shpg. wt. 38 lbs.
80W162. NET **145.00**

LOW-8. Scope dolly has top shelf adjustable to provide convenient viewing, 3-outlet box has on-off switch, pilot light and fuse, rated at 15A, 130V. Capacity, 360 lbs. Size: 18½" x 33" x 30" H. Shpg. wt. 38 lbs.
80W164. NET **140.00**

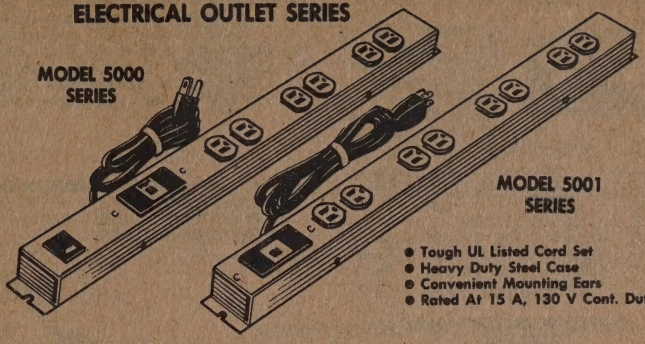
LOW-25. Scope dolly has integral 3-outlet box with pilot light, fuse and switch. Top shelf is at fixed 20° angle. 360 lb. capacity. Dimensions, 21" x 31" x 33½" H. Shpg. wt. 32 lbs.
80W165. NET **105.00**

LOW-13. Four-shelf equipment cart, with one-half inch plywood shelves, covered by black, ribbed, non-slip surface. Integral 3-outlet box with pilot lamp, fuse and on-off switch is rated at 15A, 130V. Middle shelves are adjustable. Capacity, 500 lbs. 5" rubber casters. 20" x 29" x 60" H. Shpg. wt. 102 lbs.
80W166. NET **215.00**

LOW-15. Dual-shelf cart with 3-outlet box same as above. Capacity 500 lbs. 20" x 29" x 36" H. Shpg. wt. 40 lbs.
80W168. NET **190.00**

LOW-17. Dual-shelf cart w/outlet. Specifications same as Low-15 except 32" H.
80W169. NET **145.00**

GFI PROTECTED ELECTRICAL OUTLET SERIES



- Tough UL Listed Cord Set
- Heavy Duty Steel Case
- Convenient Mounting Ears
- Rated At 15 A, 130 V Cont. Duty.

Incorporates UL listed Ground Fault Circuit Interrupters featuring feed-through protection of all receptacles on the same circuit. Dimensions 24" x 2" x 2¼" with 23-¾" mounting centers. **Model 5000** has 4 GFI protected circuits (8 outlets) and are protected against overload conditions by integral fuses or circuit breakers. **MODEL 5001** has 5 GFI protected circuits (10 outlets) without overload protection.

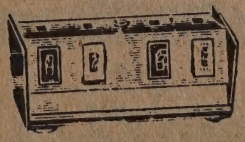
STK. MODEL	MODEL	DESCRIPTION	NET
60F2416	5000	Fuse, 6' cord-set	79.85
60F2418	5000-15	Fuse, 15' cord-set	81.90
60F2419	5000CB	Circuit breaker, 6' cord-set	81.90
60F2423	5000CB-15	Circuit breaker, 15' cord-set	83.95
60F2424	5001	6' cord-set	76.90
60F2425	5001-15	15' cord-set	78.90

DELUXE COLOR CODED POWER CONTROL CENTER OUTLET BOXES

MODEL 25. Features individual control, and master control. Seven outlets can be individually switched. UL listed cord set. "U" ground outlets. Model 25P features built-in pilot lights on all switches.

Stk. No.	Model	Description	Net
60F2416	25	Fuse, 6' cord set	28.60
60F2417	25-15	Fuse, 15' cord set	30.70
60F2441	25CB	Ckt. brkr. 6' cd. set	30.70
60F2442	25CB-15	Ckt. brkr. 15' cd. set	32.80
60F2454	25P	Fuse 6' cord set	32.60
60F2455	25P-15	Fuse 15' cord set	34.70
60F2456	25PCB	Ckt. brkr. 6' cord set	34.70
60F2457	25PCB-15	Ckt. brkr. 15' cd. set	36.80

CONSOLE DESK TOP



Model 95 Gives you complete control over instruments and equipment. "U" ground outlets, each controlled by its own switch with pilot light. Outlets in rear of units. Circuit breaker. 15' cord set. Model 95 7½x2¾x2¾. Model 96. 9¼x2¾x2¾. Model 97. 11x2¾x2¾.

Stk. No.	Type	Outlets	Each
60F2575	95CB-15	4	26.10
60F2576	96CB-15	6	31.75
60F2577	97CB-15	8	37.75

RACK MOUNTS—MASTER POWER CONTROLS

Model 900

Model 900. "U" ground outlets controlled by an on-off switch, pilot light, fuse or ckt. bkr. UL Listed cord set. Size 3½"x19".

Stk. No.	Model	Description	Net
60F2431	900-6	Fuse, 6' cord set	21.10
60F2490	900-15	Fuse, 15' cord set	23.15
60F2432	900CB	Ckt. bkr. 6' cord set	23.15
60F2491	900CB-15	Ckt. bkr. 15' cd. set	25.25

Model 904. Similar to 900 but with 2 outlets in front, 4 in back. Made to be mtd. on a rack panel for remote control of other Waber power outlet boxes mtd. inside the rack cabinet. Size, 3½x19".

Stk. No.	Model	Description	Net
60F2433	904	Fuse, 6' cord set	20.15
60F2434	904-15	Fuse, 15' cord set	22.25
60F2492	904CB	Ckt. Bkr. 6' cd. set	22.25
60F2493	904CB-15	Ckt. Bkr. 15' cd. set	24.35

RACK PANELS

903

Model 903. 6 "U" ground outlets (in the front) "on/off" switch, pilot light, circuit breaker, 6 or 15-foot cord set. Component parts UL approved. Size: 1¾"x19".
Model 911 has same features except outlets are in back. (6-foot cord, remaining have 15-foot cord.)

Stock No.	Type	Description	Net
60F2578	903CB	Circuit Brk.	22.30
60F2579	903CB-15	Circuit Brk.	24.40
60F2580	911CB	Circuit Brk.	22.15
60F2581	911CB-15	Circuit Brk.	24.25

SGL WABER Electric U.L. Listed Multiple-Outlet Strips

Complete line of multiple outlet strips . . . all bearing the **U.L.** label. All the units shown on this page have passed the testing of the Underwriters Laboratories and are designed to exceed NEC requirements and meet OSHA standards. These units are equipped with push-to-reset circuit breakers, completely wired and ready to plug in. All are rated at 15 amperes, 125 volts, 60 Hz continuous duty. Cases are of rugged steel, finished in hammertone blue. Plug-in units are available with 14/3 jacketed cord-sets. All units incorporate 3-wire "U" ground outlets.

U.L. LISTED DELUXE OUTPUT STRIPS

UL800CB: 10 U grnd. outlets. **UL25CB:** 7 switch outlet groups. **UL25PCB:** Pilot lights on switches; otherwise same as UL25CB. 6' cord—3 lbs.; 15'—4 lbs.

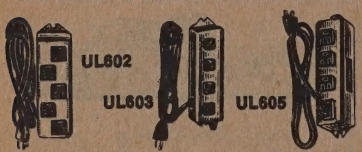
Stk. No.	Type	Description	EACH
80W289	UL25CB-6	6' line cord	36.25
80W290	UL25CB-15	15' line cord	38.65
80W291	UL25PCB-6	6' line cord	42.65
80W292	UL25PCB-15	15' line cord	45.05
80W293	UL800CB-6	6' line cord	26.50
80W294	UL800CB-15	15' line cord	28.90

U.L. LISTED DESK TOP CONSOLE OUTLETS

UL95CB: 4 outlets w/pilot lights on switches. **UL96CB:** 6 outlets w/pilot lights on switches. **UL97CB:** 8 outlets w/pilot lights on switches. 6' cord—3½ lbs.; 15'—4½ lbs.

Stk. No.	Type	Description	EACH
80W295	UL95CB-6	6' line cord	26.25
80W296	UL95CB-15	15' line cord	28.70
80W297	UL96CB-6	6' line cord	33.40
80W298	UL96CB-15	15' line cord	35.80
80W299	UL97CB-6	6' line cord	40.20
80W300	UL97CB-15	15' line cord	42.65

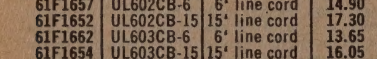
U.L. LISTED COMPACT OUTLET STRIPS



Compact outlet strips provide "U" ground type outlets and all are protected by circuit breakers. Model **UL602CB** has 5 outlets. Model **UL603CB** has 4 outlets. Model **UL605CB** has 3 outlets, on-off switch and pilot light. 6' cord—2 lbs.; 15' cord 2½ lbs. 8⅝" L x 2⅜" W x 1½" H.

Stk. No.	Type	Description	EACH
61F1657	UL602CB-6	6' line cord	14.90
61F1652	UL602CB-15	15' line cord	17.30
61F1662	UL603CB-6	6' line cord	13.65
61F1654	UL603CB-15	15' line cord	16.05
61F1660	UL605CB-6	6' line cord	15.25
61F1656	UL605CB-15	15' line cord	17.65

U.L. LISTED OUTLET STRIPS

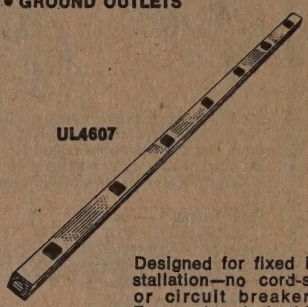


MODEL UL15 MODEL UL17

Models **UL15CB** and **UL17CB** are designed for series stringing with a convenient outlet on one end and a cord-set on the other end. **UL15CB** is the control unit with on-off switch, pilot, circuit breaker and 7 "U" outlets. **UL17CB** is the slave unit. Both models are finished in blue hammertone. Model **UL24CB** has 6 outlets, on-off switch, pilot and circuit breaker. Wt.: 6' cord—2 lbs.; 15' cord—3 lbs. Size: 13⅛"L x 2⅜"W x 1½"H. Suffix in model no. indicates cord length in feet.

Stk. No.	Type	Description	EACH
61F1650	UL15CB-6	7 outlets	19.55
61F1659	UL15CB-15	7 outlets	21.95
61F1653	UL17CB-6	9 outlets	19.20
61F1661	UL17CB-15	9 outlets	21.60
61F1655	UL24CB-6	6 outlets	20.30
61F1663	UL24CB-15	6 outlets	22.70

U.L. LISTED WIRE-IN ELECTRICAL OUTLET STRIPS
- **INTERNALLY WIRED**
- **GROUND OUTLETS**



Designed for fixed installation—no cord-set or circuit breakers. Fastened to desired location by means of wire nuts. Size is 1½" W x 1⅜" H. Models **4305, 4309:** Lgth. 3', Wt. 3 lbs. **4407, 4413:** Lgth. 4', Wt. 4 lbs. **4508, 4515:** Lgth. 5', Wt. 5 lbs. **4607, 4610, 4619:** Lgth. 6', Wt. 6 lbs.

Stk. No.	Type	Outlets	Centers	EACH
80W301	UL4305	5	7"	12.25
80W302	UL4309	9	3½"	18.15
80W303	UL4407	7	7"	15.40
80W304	UL4413	13	3½"	23.70
80W305	UL4508	8	7"	17.20
80W306	UL4515	15	3½"	26.95
80W307	UL4607	7	10½"	16.20
80W308	UL4610	10	7"	20.30
80W309	UL4619	19	3¼"	33.10

U.L. LISTED OUTLET STRIPS

Model **UL764** has 8 "U" ground outlets w/lighted rocker switch. **UL770** has outlets only. Size: 24"L x 2"W x 1½"H. 6' cord—3½ lbs.; 15' cord—4 lbs.

Stk. No.	Type	Description	EACH
80W310	UL764CB-6	6' line cord	27.30
80W311	UL764CB-15	15' line cord	29.70
80W312	UL770CB-6	6' line cord	25.25
80W313	UL770CB-15	15' line cord	27.65

HEAVY DUTY OUTLET BOXES

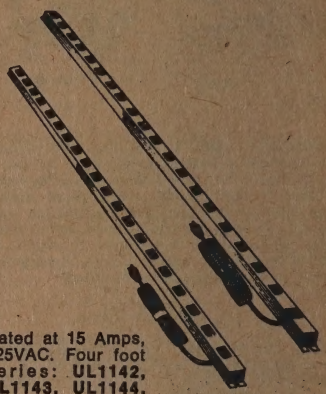
UL700

UL705

4 foot outlet strips. Rated at 15 Amps, 125VAC. Last digit of type no. indicates length of cord in feet. Size: 49"L x 2"W x 1½"H. Wt. 5½ lbs.

Stk. No.	Type	Outlets	EACH
61F1658	UL700CB-6	8	30.90
61F1651	UL705CB-6	15	40.20

U.L. LISTED SPACE SAVING OUTLET STRIPS
- **"U" GROUND OUTLETS**



Rated at 15 Amps, 125VAC. Four foot series: **UL1142, UL1143, UL1144, UL1145.** Six foot series: **UL1162, UL1163, UL1164, UL1165.** Equipped with circuit breakers. Model **UL114,** Wt. 5½ lbs.; Model **UL116,** Wt. 7½ lbs. Suffix in type no. indicates cord length in feet.

Stk. No.	Type	Outlets	EACH
80W314	UL1142CB-6	7	24.50
80W315	UL1142CB-15	7	26.90
80W316	UL1143CB-6	13	32.25
80W317	UL1143CB-15	13	34.65
80W318	UL1144CB-6	6	25.35
80W319	UL1144CB-15	6	27.75
80W320	UL1145CB-6	12	32.70
80W321	UL1145CB-15	12	35.10
80W324	UL1162CB-6	10	32.00
80W325	UL1162CB-15	10	34.40
80W326	UL1163CB-6	20	41.70
80W327	UL1163CB-15	20	44.10
80W328	UL1164CB-6	9	32.40
80W329	UL1164CB-15	9	34.80
80W330	UL1165CB-6	19	43.15
80W331	UL1165CB-15	19	45.55

U.L. LISTED OUTLET STRIPS

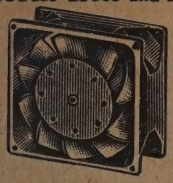
UL1500CB has two "U" ground outlets with lighted rocker switch, and extra outlet on the end. **UL1501-CB** has three outlets on top and extra one on the end. Both equipped with push-to-reset circuit breakers. Finished in blue hammertone. Size is 12⅝"L x 1¾"W x 1½"H. Shipping wt. is 2 lbs. for 6' cord set and 3 lbs. for 15' cord set. Cord length indicated by last one or two digits in type number.

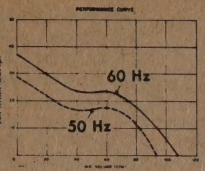
Stk. No.	Type	Outlets	EACH
80W334	UL1500CB-6	3	17.85
80W335	UL1500CB-15	3	20.25
80W336	UL1501CB-6	4	16.60
80W338	UL1501CB-15	4	19.00

UL/CSA Air Cooling Fans

PAMOTOR

MODELS 2500S and 2550S SHADED-POLE MINIATURE

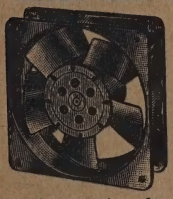


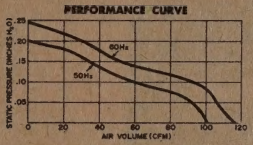


4⅞₆x4⅞₆x1²⁵⁄₃₂ in. Universal 4⅛ in. mounting. Stator laminations, winding, and splices are varnish treated and baked at 130°C. Moisture resistant finish prevents corrosion under extreme temp. variations and humid atmospheric conditions. Performance characteristics with variable back pressures are illustrated on adjacent graph. Noise level, 43 dB SIL. **Model 2500S:** 105-125 VAC, 50/60 Hz.; 25 watts; 3300 RPM. **Model 2550S:** 198-253 VAC, 50/60 Hz.; 31 watts; 3250 RPM. −20°C to +45°C. Wt. 2 lbs. 10 oz.

Stk. No.	Model	1-9	10-24	25-49	50-99
57F1019	2500S	29.35	26.25	24.10	22.85
57F1021	2550S				

MODELS 4500X AND 4550X SHADED-POLE MINIATURE

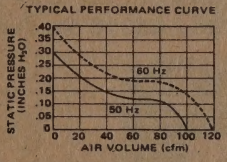




Provides 115 CFM with less than 37.5 dB SIL. Designed to operate continuously at room temperature for over 100,000 hrs. **Model 4500X:** 3000 RPM, 17 W. **Model 4550X:** 2850 RPM, 17 W. High temperature ball bearing design. **4500X:** 115V, 50-60 Hz. **4550X:** 230V, 50-60 Hz. Terminals; Heavy duty plug-in. (also solderable #18 AWG wire). Size: 4¹⁵⁄₁₆"x 4¹⁵⁄₁₆"x1½". Weight: 18 oz.

Stock No.	Type	1-9	10-24	25-49	50-99
57F1025	4500X	16.45	14.80	13.70	12.80
57F1026	4550X	17.45	15.65	14.50	13.45

MODELS 4600X AND 4606X SHADED-POLE MINIATURE



Model 4600X provides 120 CFM @ 34 dB SIL; 4606X provides 120 CFM @ 36.6 dB SIL. 4⅛" universal mount. Over 100,000 hrs. of continuous operation in normal room temperature. Terminals; heavy duty plug-in (also solderable—#18 AWG wire). 115-125 VAC, 50, 60 Hz. 3100 RPM. 18 W. Size: 4¹⁵⁄₁₆" x 4¹⁵⁄₁₆" x 1½". Weight: 20 ounces.

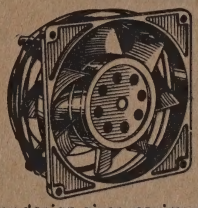
Stock No.	Type	1-9	10-24	25-49	50-99
57F2601	4600X	17.45	15.65	14.50	13.45
57F1027	4606X	30.85	27.60	25.35	23.95

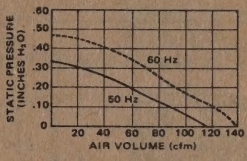
MODEL 4700 SHADED-POLE MINIATURE

For industrial control equipment, audio amplifiers, telephone systems, RF power amplifiers, etc. 100,000 hours operation at room temperature delivering 65 CFM at a noise level less than 37 dB. SIL. Measures 4⅛" in diameter and is designed for a universal mounting, interchangeable with similar fans. Special moisture resistant finish for humid atmospheric applications. Stator laminations, windings, and splices varnish treated and baked at 130°C. Fan speed: 2900 RPM at 115V/60 Hz. Temperature range: −20°C to +55°C. Power requirements: 105-125 VAC, 50/60 Hz.; 20 watts at 115 Volts. Wt. 1 lb.

Stock No.	Model	1-9	10-24	25-49	50-99
57F1029	4700	16.60	14.90	13.85	12.95

MODEL 5500S SHADED-POLE MINIATURE

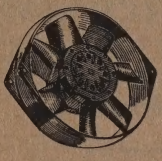


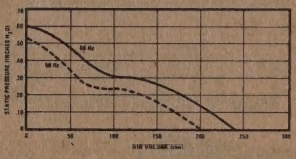


New design gives maximum efficiency at all operating points on the performance curve. Intake radially as well as axially. Moisture resistant finish. Stator laminations, windings, and splices are varnish treated and baked at 130°C. Warrantied for one year on materials and workmanship. 140 CFM. 41.8 SIL. UL accepted. Terminals: heavy duty, 12", #24 AWG wire. 105-125 VAC 50, 60 Hz. 3250 RPM. 42 W. Size: 4.685" x 4.685" x 2.17". Weight: 2 lbs. 3 ounces.

Stock No.	Type	1-9	10-24	25-49	50-99
57F2602	5500S	36.95	33.20	30.45	28.90

MODELS 7600S AND 7650S SHADED-POLE MINIATURE





Lightweight fans for use where high air volume is essential, or to replace several smaller fans. Delivers 250 CFM at a noise level of less than 46.4 dB SIL. Unit measures 6" in diameter by 2¾₆" in depth. Provides more than 2½ times the air flow of the conventional miniature fan yet weighs only one-third of the miniature types. These units are rated at 100,000 hours of continuous operation at room temperature. Model **7600S** rated at 105-125 VAC, 50/60 Hz. 40 Watts. Model **7650S** rated at 220 VAC, 50/60 Hz, 40 Watts. Operating temperature: −20°C to +50°C. Weight: 2 lbs. 6 oz.

Stock No.	Model	1-9	10-24	25-49	50-99
57F1023	7600S	32.75	29.45	27.30	25.55
57F1044	7650S				

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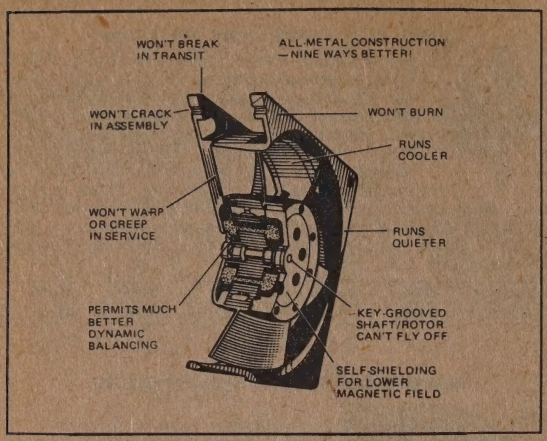
PAMOTOR Air Cooling Devices

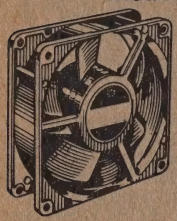

WON'T BREAK IN TRANSIT
ALL-METAL CONSTRUCTION —NINE WAYS BETTER!
WON'T CRACK IN ASSEMBLY
WON'T BURN
RUNS COOLER
WON'T WARP OR CREEP IN SERVICE
RUNS QUIETER
PERMITS MUCH BETTER DYNAMIC BALANCING
KEY-GROOVED SHAFT/ROTOR CAN'T FLY OFF
SELF-SHIELDING FOR LOWER MAGNETIC FIELD

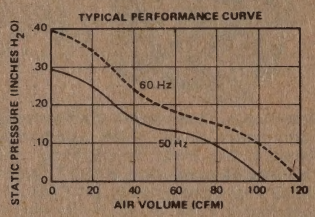
DESIGNED TO OUTLAST THE EQUIPMENT THEY COOL

- All Metal Construction
- Low Noise Level
- Maintenance Free Operating Life
- Low Operating Temperature

Patented design yields maximum performance at minimum cost. Rigorous quality control assures a high level of workmanship and performance. All metal, non-flammable construction for greater durability and heat dissipation. No cracking, creeping or warping to cause lock-up or bearing failure. Computer-designed, impulse welded steel impellers. Special moisture resistant finish prevents corrosion or other deterioration from high humidity or extreme temperature variations. Unique, patented "insideout" motor configuration that delivers greater torque and power at reduced operating temperature and reduces electromagnetic radiation. Maintenance-free, hand-fitted bearing system. Rotors dynamically balanced to a maximum shift of the center of gravity of .0001 inch in each end plane. Aerodynamically designed venturies and fan housings for maximum air intake with minimum air turbulance and noise. Speech interference level (SIL) is characteristically 5 dB to 10 dB below that of competitive designs with comparable air flow.

Model 4600XP Miniature Fan

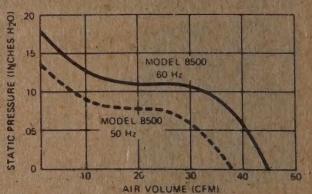




Provides the same or higher airflow at higher back pressures than the 4500P, from 15% to 25% higher pressures. Supplies the extra margin required for application in which higher package densities may be encountered, such as tightly packed computers, power supplies, process controls, airborne consoles and electronic RF/-Microwave transmission. 130 CFM airflow with SIL of 39.8 dB. Rated Life (Continuous Operation) 100,000 hrs. @ 25°C, 45,000 hrs. @ 50°C, 20,000 hrs. @ 65°C. Terminals: heavy duty plug-in (also solderable-18 AWG wire). 115 V, 50, 60 Hz. Size: 4½" x 4½" x 1½". Weight: 20 ounces.

Stock No.	Type	1-9	10-24	25-49	50-99
57F2600	4600XP	22.95	20.65	19.15	17.90

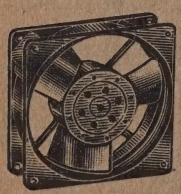
Model 8500P Miniature Fan

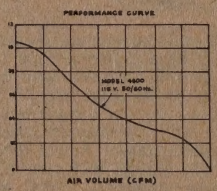


Ultra-quiet. Yields 20% more air flow in free air, and almost three times more air at moderate back pressures than comparable fans. Reduced noise level is half that of others in its class. Ideal for cooling portable equipment, standard 3½" rack applications, computer terminal equipment, medical instrumentation, audio-visual equipment, bench instruments, desk-top instruments and broadcast studio consoles. 43 CFM with SIL of 28.8 dB. Rated Life (Continuous Operation) 100,000 hrs. @ 25°C, 45,000 hrs. @ 45°C, 20,000 @ 60°C. Terminals: heavy duty 12" #24 AWG wire leads. 115 V 50, 60 Hz. 3200 RPM. 15W Size: 3⅛" x 3⅛" x 1½". Weight: 18½ ounces.

Stock No.	Type	1-9	10-24	25-49	50-99
57F1041	8500P	23.80	21.40	19.85	18.55

Model 4800X Shaded-Pole Miniature

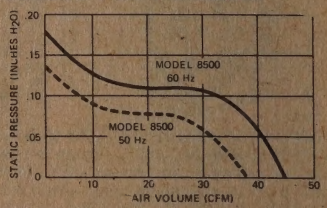




Miniature, shade-pole, axial fan. Moderate air flow, low noise fan. Less than 18 dB. SIL. 70 cfm. Ideal for HI/Fi stereo equipment, television equipment, medical or office equipment. Fan functions as a natural heat sink, assuring cooler operation. Universal mounting, 4" all metal construction. Moisture resistant finish. Terminals are designed for use with #18 AWG wire or with a plug and cord assembly. 115V, 50, 60 Hz, 1450 RPM. 10 W. Size: 4 1/16"x4 1/16"x1 ½". Wt. 20 oz.

Stock No.	Type	1-9	10-24	25-49	50-99
57F1028	4800X	18.10	16.25	15.10	14.10

Model 8500C Shaded-Pole Miniature



Sub-miniature, shaded pole axial fan for general cooling purposes. High air-flow ultra-quiet fan provides twenty percent more air-flow in free air than competitive fans. Half noise level. Delivers 43 cfm @ less than 28.8 dB SIL. Rated life (continuous operation); 100,000 hours @ 25°C, 20,000 hours @ 55°C. Heavy-duty, 12 inch. No. 24 AWG wire leads are standard. Built to Underwriters' Laboratories standards. 115 V, 60 Hz. 3250 RPM, 15 W. Size: 3⅛" x 3⅛" x 1½". Wt.: 15 oz.

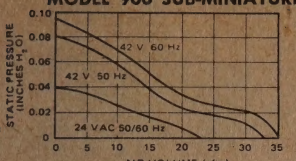
Stock No.	Type	1-9	10-24	25-49	50-99
57F1028	8500C	18.25	16.40	15.20	14.25

MAKE NEWARK YOUR DEPENDABLE SOURCE
FOR ALL ELECTRONIC PARTS AND EQUIPMENT

Air Cooling Fans and Blowers

PAMOTOR

MODEL 900 SUB-MINIATURE INDUCTION TYPE



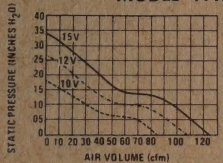
Extremely small, ultra-quiet general purpose fan. Air enters fan radially as well as axially. Induction type motor requires a 5.6 mfd. capacitor. Die-cast metal mounting base functions as a built-in heat sink. Extremely low electro-magnetic radiation. 34 CFM. 24 dB SIL. Terminals: three stranded 6" leads, #24 AWG, UL approved insulated wire. 1750 RPM. 2.5 W. 21-42 VAC, 50-60 Hz. Size: 3.129" dia. x 1.46". Wt.: 5.6 oz.

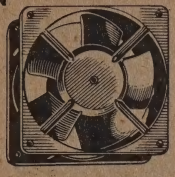
Stock No.	Type	1-9	10-24	25-49
57F2603	900	14.35	12.90	11.95

CAPACITOR FOR MODEL 900

Stk. No.	Type	Mfd.	1-9	10-24	25-99
57F2606	1011	5.6	2.20	2.00	1.80

MODEL 4112 AXIAL FAN

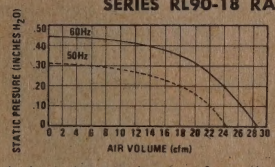


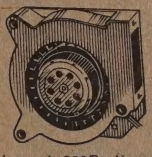


All metal fan is rated at 12 VDC, develops air flow of 122 CFM @ 15 VDC and 0 static pressure. Power consumption at 12 VDC and 0 static pressure is 8.2 Watts; @ maximum static pressure, 10.6 Watts. Typical noise level at 15 VDC is 35.6 dB SIL. Life expectancy 20,000 hours @ 70°C. Fan is lubricated for life and finished in electrophoretic black varnish. Operating temperature: −20° C to +80° C. Size: 4 1/16" square x 1 1/2" deep. Wt. 21 ounces.

Stock No.	Type	1-9	10-24	25-49	50-99
57F1001	4112	61.60	55.40	51.35	48.00

SERIES RL90-18 RADIAL BLOWERS





Rated at 100,000 hours of continuous operation at 20°C, these blowers can deliver 29 CFM of air. Model RL90:18/00: Input power 21 watts @ noise level of 42.7 dB SIL, 115 VAC. Model RL90-18/50: 19 watts @ 42.7 dB SIL, 220 VAC. Size: 4.75" square x 1.46" deep. Weight: 20 ounces. UL recognized.

Stock No.	Type	1-9	10-24	25-49	50-99
57F1002	RL90-18/00	23.70	21.30	19.75	18.45
57F1003	RL90-18/50	23.70	21.30	19.75	18.45

ACCESSORIES

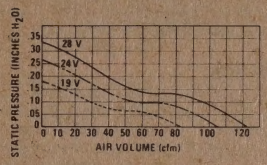
Mounting Brackets—5501. Two cadmium plated steel mounting brackets. These must be ordered separately.
Filter—5502. The multilayer, oil-treated metal filter is designed to permit a maximum of air flow while providing effective filtering.
Screen Assembly—5503. The screen portion is a protective fan guard and is housed in a rugged die-cast metal frame with spring steel holding clips which mount the assembly on equipment panels. Mounting brackets (part number 5501) for the screen assembly must be ordered separately.

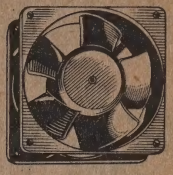
Stock No.	Type	Description	For Series	1-499
57F1030	5501	Brackets (2)	2000, 2110, 2500C 4500C, 4600C, 5500S	.70
57F1031	5502	Filter		2.20
57F1032	5503	Screen Assembly		3.80
57F1033	5504	Fingerguards	As above plus 4700	2.05
57F1034	5505	Plug, cord 24'	4500C, 4600C, 4800	.85
57F1035	5506	Fingerguards	7500S	3.70
57F1036	5507	Fingerguards	1000A, 1110, 1300, 1500	1.30
57F1039	5508	Fingerguards	5500C	1.45
57F1037	5509	Air Straightr.	7500S	4.50
57F2605	5511	Adaptor plate	7500S	2.50
57F1005	5512	Adaptor Ring	7500S, 7506, 7550S, 7556, 7600S, 7606, 7650S, 7656, 7900S, 7950S	3.50

DC FANS

Engineered to tackle those specialized applications which require highly reliable DC performance. Common uses include mobile radio equipment, medical electronics, shipboard computers, airborne applications, and communications systems where 19 to 28 VDC is normally available. Brushless motor design, reverse polarity protection, minimum magnetic and RF radiation. Power drain at maximum back pressure is approximately 20% of that required in conventional AC units. Operation is possible at lower voltages. Precision bearings and high temperature lubricants help achieve rated life expectancy of 20,000 hours of continuous operation at 70°C. Electronic circuitry eliminates need for external voltage inverters. All fans are designed to meet UL standards.

MODEL 4110

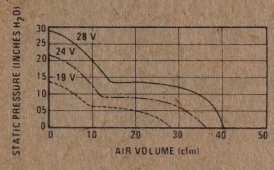


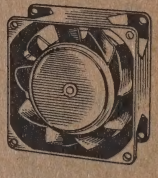


SPECIFICATIONS @ 24 VDC: Input power 4.1 Watts, airflow 106 CFM, noise level 32.9 dB SIL. Size: 4.68" square x 1.50" deep. Weight 21 ounces.

Stock No.	Type	1-9	10-24	25-49	50-99
57F1020	4110	61.60	55.40	51.35	48.00

MODEL 8110

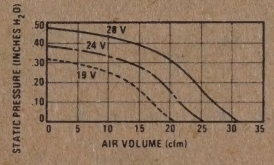


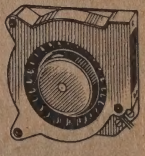


SPECIFICATIONS @ 24 VDC: Input power 2.8 Watts, airflow 37 CFM, noise level 27.9 dB SIL. Size: 3.13" square x 1.50" deep. Weight 19 ounces.

Stock No.	Type	1-9	10-24	25-49	50-99
57F1022	8110	61.60	55.40	51.35	48.00

MODEL RL90-18/10





SPECIFICATIONS @ 24 VDC: Input power 5 Watts, airflow 31 CFM, noise level 44.9 dB SIL. Size: 4.75" square x 1.46" deep. Weight 22 ounces.

Stock No.	Type	1-9	10-24	25-49	50-99
57F1007	RL90-18/10	74.25	66.75	61.85	57.85

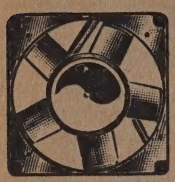
You Can Depend on NEWARK For Everything in Industrial Electronics

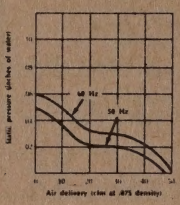
Equipment Cooling Fans

BOXER FANS

The basic fan is compact, just 4 1/16 inches square by 1 1/2 inches deep. Mounts for either intake or exhaust (flip fan over to reverse air flow) inside or outside the equipment to be cooled. Rugged all metal housing resists breakage and acts as an effective heatsink. Motors are reliable 60/50 Hz shaded pole types. Five bladed aerodynamic impeller (seven bladed in Super Boxer) is designed for high strength, light weight and maximum air delivery against high impedance. Construction and other features found only in Boxer fans are covered by three US Patents. The standard ball bearing, sleeve bearing, Super Boxer, and HiFi Boxer are all Underwriter Laboratory Approved. IMC fans are excellent for cooling all types of electronic enclosures helping to reduce the size of the system or enclosure. Effective cooling provided by IMC fans will prolong the life of electronic components and in many cases permit the use of less expensive components in instruments of systems thereby reducing the system cost while at the same time adding reliability. No other fan can offer IMC's metal housing, lubrication system, cooling power, quiet operation and long life at the same cost.

HI-FI BOXER

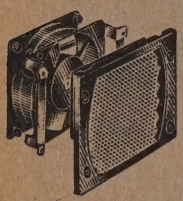


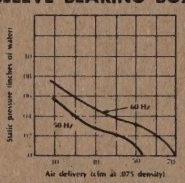


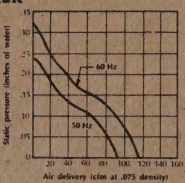
A high powered, exceptionally low-noise fan that will fit into almost any enclosure. It will remove heat quietly, efficiently and extend the life of your Hi-Fi. Comes as a kit including Boxer fan, line cord, mounting brackets, rubber isolators, and hardware. Low cost, easy to install. Frequency: 60/50 Hertz. Air delivery: 50 CFM.

Stk. No.	Type	Volt (Vac)	Amps	1-9	10-24	25-49	50-99
60F1639	WS2107FL-9	115	.10	18.05	16.45	14.85	13.25

SLEEVE BEARING BOXER



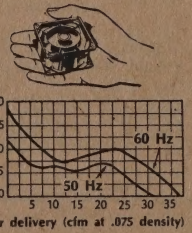




IMC's patented sleeve bearing; a unique oil recirculating design that assures positive lubrication of the entire bearing surface, provides cooler, more efficient operation, longer life than conventional designs. Rated at 10 years life under normal Oper. Temp. from −20°F to +158°F. UL Approved. 115 volts, 50/60 Hz.

Stk. No.	Type	Amps	Air Delivery (cfm)	1-9	10-24	25-49	50-99
60F1600	WS2107FL	.24	115	15.85	14.45	13.10	11.95
60F1625	WS2107FL-2	.10	70	18.05	16.45	14.85	13.25

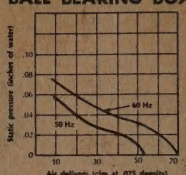
SUB-MINIATURE "PEE-WEE" BOXER

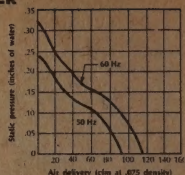


Delivers up to 36 cubic feet of air per minute. Fan measures just 3.125 inches to a side, 1.665 inches slim. Performance against back pressure, 22cfm at .10 inches, 28 cfm at .08 inches, 32 cfm at .05 inches static pressure. Two patented bearing designs, both rated at 10 years life, are available. Venturi and skeleton are die-cast of aluminum alloy. Ideally suited to use in standard 3 1/2" high relay rack panels.

Stk. No.	Type	Bearing Type	1-9	10-24	25-49	50-99
60F1585	PBS2107FL	Ball	24.70	23.50	21.65	19.10
60F1586	PWS2107FL	Sleeve	16.70	16.50	15.00	13.25

BALL BEARING BOXER

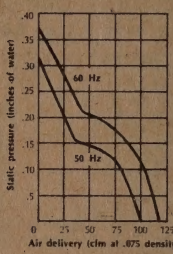




Designed for optimum life and operating efficiency, equipped with stainless steel ball bearings provide minimum 10 year life. Temp range: −25°F to +185°F. Utilizes a large capacity lubricant reservoir to insure long bearing life and lubricant cooling. For use in instruments and systems requiring long life, quiet operation and minimum maintenance. Can be mounted in either direction to give exhaust or intake. 115 Volts, 50/60 Hz.

Stk. No.	Type	Current (Amps)	Air Delivery (cfm)	1-9	10-24	25-49	50-99
62F1577	BS2107FL	.18	115	25.75	24.40	22.45	19.75
60F1628	BS2107FL-2	.10	70	26.75	25.95	24.00	21.05

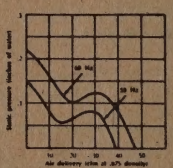
SUPER BOXER



Operating temperature range −25 to +185°F for ball bearing model, −20 to +158°F for slave bearing. Operate on 50 or 60 Hertz, 115 volts input. Air delivery 117 cubic feet/minute. Seven-blade propellor. Accept wide range of standard Boxer accessories for added flexibility. Size and styling identical to standard Boxer. Designed for efficient, economical cooling in tightly packed card racks, cabinets, and similar space critical systems enclosures. Aerodynamic impeller design provides exceptional output characteristics against high back pressure. Size: 4 1/16 inches high x 4 1/16 inches wide x 1 1/2 inches deep. UL approved.

Stk. No.	Type	Bearing	Current Amps	1-9	10-24	25-49	50-99
62F1570	BS2107F-110	Ball	.20	27.20	25.95	23.85	21.25
62F1571	WS2107F-110	Sleeve	.24	19.65	18.00	16.20	14.40

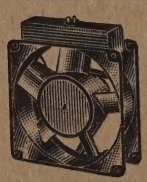
MINI BOXER

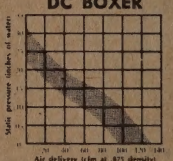


3 5/8" sq. x 1 1/2" dp. Wt. 1.6 lbs. Air delivery 46 CFM. For low profile cooling applications. Shaded pole type motor, 115 VAC, 60 Hz., 1-phase. Aerodynamic five-bladed impeller in strong fire-retardant polypropylene Venturi housing. Spider and hub die-cast of rugged zinc alloy. (No filter or screen kits available.)

Stk. No.	Type	Bearing	Amps	1-9	10-24	25-49	50-99
60F1642	MWS2107FL	Sleeve	.24	18.65	16.95	15.20	13.50

DC BOXER





- **Long life**
- **Mounts easily**
- **Versatile**
- **Solid state inverter**

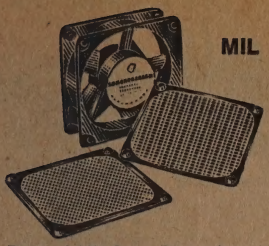
Integrally mounted solid state module converts DC input to drive the standard A.C. Boxer fan. Eliminates arcing contacts with their attendant noise and short life found in DC fans. Integrally mounted inverter means no extra connections or additional fasteners. Protected circuit; inadvertent reversal of polarity will not cause failure of inverter electronics.

Stk. No.	Type	Bearing	Input VDC	Air Delivery (cfm)	1-9	10-24
60F1647	BS2107F-12	Ball	12-16	97-118	71.50	69.95
60F1649	BS2107F-24	Ball	22-26	100-110	71.50	69.95
60F1646	WS2107F-12	Sleeve	12-16	95-100	65.55	63.70
60F1648	WS2107F-24	Sleeve	22-26	97-100	65.55	63.70

Fans

imc

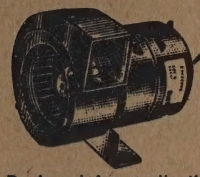
MIL SPEC BOXER

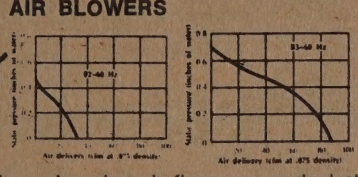


Rugged Mil Spec Boxer fans increase life and reliability of military equipment. Featuring ball bearing design, units meet 16 different mil spec tests; salt, sand, humidity, fungus, moisture, rain, temperature, vibration, shock, acceleration, radio noise finish and barometric pressure. Will operate up to +185°F. Frequency: 60/50 Hz. Air delivery 115 cfm.

Stock No.	Type	Volt. (Vac)	Amps	1-9	10-24	25-49	50-99
62F1572	BS2107F-0-1	115	.18	33.65	31.10	28.15	24.90

AIR BLOWERS

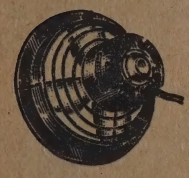


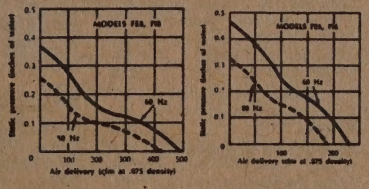


Designed for applications where low air flows are required at relatively high pressures. Compactly designed metal housings will not distort under heat. Continuous duty, operation, single phase shaded pole motor with bearing life of 10,000 hours at 125°F. Size B2, 7/8"h x 4¾"w x 3½"d. B3 5⅝"h x 5⅞"w x 5"d. For operation from 115 volts, 50-60 cycles.

Stock No.	Type	CFM	Amps.	1-9	10-24	25-49	50-99
60F1617	B2	24	.55	23.65	22.30	21.30	20.70
60F1618	B3	87	.60	32.80	30.90	29.65	28.35

AIR FANS

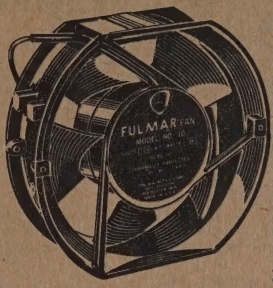


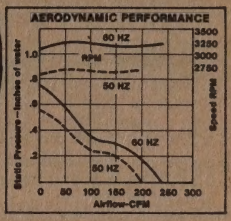


For applications where high air flow and low noise operation is required. Precision-built shaded pole motor. Flush mounting with shaft in any operating position. All single phase. Size: Model FE8, F18, 10" dia. x 2½" deep—5 13/16" with motor clearance. Models FE6, F16 8⅛" dia. x 2" deep—4½" with motor clearance. For operation from 115 volts, 50-60 cycles.

Stock No.	Type	CFM	Amps.	1-9	10-24	25-49	50-99
60F1613	FE-6	225	.50	24.00	22.30	20.70	19.65
60F1614	FI-6	225	.50	24.00	22.30	20.70	19.65
60F1615	FE-8	485	1.0	40.70	38.50	37.10	33.20
60F1616	FI-8	485	1.0	40.70	38.50	37.10	33.20

FULMAR 10
FULMAR 11
FULMAR 12

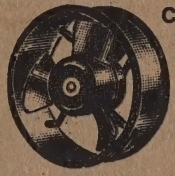


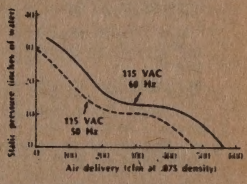


Operates at 115VAC. Typical air delivery 200 CFM. Operates on 50/60 Hz within 10% of nominal vltg. Min. life 10 yrs. Max. ambient temp. 72°C. Size: 5 23/32"W x 6¾"H x 2"Dp. "Brown out" operation at 20% below nominal vltg., will still supply clg. w. 5% airflow redctn.

Stck. No.	Type	Term. Block	1-9	10-24	25-49	50-99
60F1610 60F1611 60F1612	10 11 12	Standard Quick disconnect 12" leads	38.40	34.95	32.20	29.60

CONDOR





High performance Condor fans provide 575 cubic feet of air per minute for use in relay racks, transmitter packages, computers, peripheral equipment, and electronic enclosures where high volume flushing and cooling is required. Lightweight, 10 inches dia. and 3.5 inches depth design makes for easy mounting inside or outside system enclosures. Aerodynamically designed impeller is high strength polycarbonate with integral venturi and skeleton assembly of sturdy die-cast aluminum. Condor motor, equipped with long-life stainless ball bearings is matched to the impeller for maximum operating efficiency. Standard terminal block, 115 volts 50/60 Hz. Operates over temperature range from —20°F to +140°F. Noise level is held to a minimum less than 49DB (SIL).

Stock No.	Type	Description	1-9	10-24	25-49	50-99
60F1645	10	With Standard terminal block	36.40	32.45	28.50	26.50
62F1574	11	With Quick Disconnect term. block	36.60	32.65	28.70	26.70
62F1575	12	With 24" lead extension	35.85	31.80	27.90	25.85

ACCESSORIES

Type 69-95 Boxer Screen Kit
Consists of screen assembly and one set of mounting brackets with screws and nuts.

Type 69-79-1 Mounting Brackets
Cadmium plated steel, positive action mounting brackets allow quick, easy, shock and vibration proof installation. Includes screws, nuts and washers.

Type 69-94 Boxer Filter Kit
Consists of filter panel, filter frame, plus one set of mounting brackets and hardware.

Type 69-93 Slim Line Filter
Compact filter measures just 0.125-inch deep for applications where space is critical and systems must be protected from the environment. One piece all-aluminum design is more rugged than plastic frame filters and is alodined for RF1 shielding. Supplied oil sprayed, it can be easily washed in solvent or vapor degreaser, or cleaned ultrasonically. Respray with atomized oil after cleaning. Filter may be mounted directly to a panel or to the fan with bolts or self-tapping screws.

Type 69-31-1 Slim Line Screen
Sturdy, all-aluminum, flat screen unit, just 0.125-inch thick acts as an effective guard for fingers or other large objects. Mounts directly to the fan or to the panel. Minimal airflow impedance. May be easily removed for cleaning.

Type 65-175 Finger Guard
Bright, zinc plated finger guard ⅜-inch deep, prevents accidental contact with the rotating fan impeller.

Type 69-74 Plug and Cord Set
Fully insulated 24-inch cord with female connector, plugs into fan terminals.

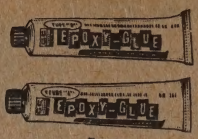
Type 69-74-1 Plug and Cord Set
Fully insulated 36-inch cord set with female plug. Plug can be optionally removed and wires soldered directly to the fan terminals.

Stock No.	Type	Net	Stock No.	Type	Net
60F1607	69-95	2.15	60F1638	69-93-1	1.90
60F1643	69-79-1	.40	60F1624	65-175	.85
60F1606	69-94	3.95	60F1623	69-74	.75
60F1637	69-93	1.90	62F1576	69-74-1	.90

CHEMICAL PRODUCTS

Plastic Repair Kit

Acrylic Cement



Epoxy

Color-Code Kit

Electronic Oil Assortment Kit

Magic Vista golden foam tuner cleaner features the new any-angle, constant discharge 360 valve. Cleans, polishes and lubricates tuner contacts on color or black and white sets.
13F3350. Type 10-800. 8 oz. aerosol. **NET** 2.52

SpraLube cleaner lubricant. Won't harm plastics. Chemically formulated especially for servicing all color TV tuners. Safely cleans away oxidation, dust and dirt.
32F335. Type 5555. 8 oz. aerosol. **NET** 2.52

Tuner Bath for degreasing and cleansing tuners. Loosens and blasts away all dust, grime and foreign matter. Will not harm plastics and will not detune.
13F3351. Type 10-901. 16 oz. aerosol. **NET** 2.77

Spra-Kleen electronic contact-control cleaner and lubricant. Eliminates noise due to dust, dirt and corrosion.
32F347. Type 8666-16. 16 oz. aerosol. **NET** 2.40

"Pressurized Lubricating Oil." Ideal for those small trouble spots that are hard-to-reach. For any piece of equipment that must have complete, thorough lubrication.
13F3353. Type 10-916. 6 oz. aerosol. **NET** 1.18

"Insul-Volt." Positive insulation against hi-voltage leaks, arcing and corona shorts. For use on transformers, electric motors, generators, etc. Max. op. temp. 275°F.
35F3388. Type 10-608. 8 oz. aerosol. **NET** 2.40

"Red-X TV Corona Dope." Prevents corona shorts in high voltage TV circuits. Fast drying, silicone base. Has excellent dielectric strength.
13F3355. Type 50-12. 16 oz. aerosol. **NET** 3.33

"Audio-Video Magnetic Tape Head Cleaner." Quickly removes dirt and oxide build-up; won't harm tape, tape coating or paint finish.
35F3386. Type 10-620. 16 oz. aerosol. **NET** 2.90

"Dri-Spra Formula X-27" displaces moisture, penetrates frozen parts, lubricates and prevents corrosion, which causes 80% of electrical equipment failures.
13F3356. Type 8678. 6 oz. aerosol. **NET** 1.97

"De-Ox-Id" electronic contact cleaner to eliminate noise. This is not a solvent, but an active chemical compound.
35F3381. Type 19-2. 2 oz. bottle. **NET** 1.38

Extra-Dry "Super Freeze Mist." Leaves no liquid residue. Non-toxic and non-flammable and odor-free.
13F3357. Type 10-702. 15 oz. aerosol. **NET** 2.75

"Zero-Mist" cools components instantly, thereby pinpointing faulty capacitors, transistors, oxidized junctions, etc. caused by component failures, due to heating.
34F610. Type 8667. 16 oz. aerosol. **NET** 2.63

"Jif" contact and control cleaner. Eliminates noise due to dust, dirt and corrosion on electrical contacts. Cleans and lubricates with the longest possible protection.
32F368. Type 8670-6. 6 oz. aerosol. **NET** 1.97

"Action" electronic silicone contact cleaner. Will not harm plastics. Non-flammable and will provide long-lasting protection from dirt and corrosion.
13F3359. Type 99-06. 6 oz. aerosol. **NET** 1.20

"Dry Kleen" GC electronic dry cleaner. Cleans contacts, relays and other electronic devices and leaves absolutely no deposits. Degreaser and general solvent for inks, etc.
13F3360. Type 8669. 16 oz. aerosol. **NET** 2.53

"Relay-Kleen" contact cleaner. Excellent for cleaning relays and contacts. Non-flammable.
32F349. Type 8682-6. 6 oz. aerosol. **NET** 2.08

MIRACLE ADHESIVE

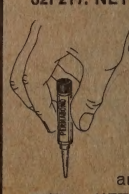
Complete rapid bonding adhesive kit—possible to bond: Dupont Teflon, glass, polyethelene, vinyl, and silicon rubber. Kit contains: Cyano-Prep, GR-R-RIP (bonding adhesive), Cyano-Solv.
Type 10-135 Kit of GR-R-RIP.
32F337. NET 4.95
Type 10-115 GR-R-RIP (2 grams).
32F338. NET 1.96
Type 10-125 Cyano-Prep bottle.
32F339. NET 1.75
Type 10-130 Cyano-Solv. 1 oz. bottle.
32F340. NET 1.75

Type 46-975. Plastic repair kit. Plastic material can be molded to almost any shape to form new parts.
32F333. NET 2.75
Type 677. Color-code kit. Includes brushes and E.I.A. coloring chart. Shpg. wt. 1 lb.
32F350. NET 5.94
Type 9400. Electronic oil assortment kit. Contains all oils commonly used in electronic work. The other tube is liquid graphite. Shpg. wt. 1 lb.
32F364. NET 4.24
Type 345. Cement sampler lab kit. 14 bottles contain cement and adhesive for every application. 22-oz. bottles.
32F257. NET 11.39
Type 175-6. "G-C" 60" glass treatment compound. Degreases, removes static, waterproofs and keeps surfaces cleaner and longer. 6-oz. bottle.
32F201. NET 1.27
Type 26-2. "Strip-Ex." Strips enamel from magnet wire, enabling it to be soldered immediately. 2-oz. bottle.
32F255. NET 1.05
Type 8101-S. Transistor Z5 silicone compound. Maintains efficient transfer of heat from transistor to chassis. 1 oz. tube.
32F365. NET 2.92
Type 8109-S. DCZ9 silicone heat ink compound. 1 oz. tube.
35F3389. NET 3.25
Type 47-2. High voltage and corona dope. Prevents corona shorts on high voltage circuits. 2-oz. bottle.
32F206. NET 1.05
Type 37-2. Q-Dope. Pure polystyrene dissolved in Q-Dope thinner. 2-oz. bottle.
32F208. NET ..... .76
Type 37-4. 8-oz. bottle.
32F209. NET 1.09
Type 41-4. Q-Dope thinner. Solvent for polystyrene Q-Dope and other coil dopes. 4-oz. bottle.
32F241. NET 1.09
Type 213-16. Chloro-Kleen cleaner. Component cleaner. 16 oz. bottle.
32F378. NET 2.37
Type 14-6. K-27 print-kote silicone resin. Insulates, protects, prevents shorts. 6 oz. can.
32F357. NET 3.03

NO NOISE

Cleans, lubricates, restores all tuners. Prevents gumming and eliminates binding in auto. turntables. Use for noisy tube sockets & wafer type tuners. Non-toxic. 6 oz. spray can.
32F269. NET 3.50

Type 21-1. Silver print. "Pure silver" compound used by manufacturers in printed circuit design. Wt. ½ Troy oz.
32F355. NET 7.88
Type 20-2. Copper print. For repairing printed circuit. 2-oz. bottle.
32F346. NET 2.75
Type 13-2. Solvent for Type 14-2. Print-Kote Silicone resin. Shpg. wt. 2 oz.
32F360. NET ..... .66
Type 56-2. Insulating and dipping varnish. Produces a smooth, tough insulating film that is non-corrosive. Shpg. wt. 2 oz.
35F3379. NET ..... .83
Type 90-2. Red insulating varnish. Used on all solder connections, etc. 2 oz. bottle.
32F332. NET 1.10
Type 984. Reach-all pen oiler. Highest quality non-gumming instrument oil; meets MIL-L-6085A specs.
32F186. NET 1.38
Type 43-2. Pliobond cement. Cold setting thermoplastic liquid. 2 oz. bottle.
32F256. NET 1.15
Type 347. Epoxy glue. Won't shrink or expand. Kit of 2 tubes. 4 oz.
35F3378. NET 3.03
Type 30-2. Radio service cement. Mends speaker cones, tube bases, grid caps, etc. 2 oz. bottle.
32F214. NET ..... .83
Type 31-8. Radio service cement solvent. 8 oz. bottle.
32F233. NET 1.38
Type 32-2. Bakelite cement. Made for cementing bakelite to bakelite and bakelite to other materials. 2 oz. bottle.
32F220. NET 1.27
Type 58-2. Vinylite cement. For metals, plastics, paper, leather, etc.
32F221. NET ..... .83
Type 35-2. Rubber to metal cement. 2 oz. bottle.
32F225. NET ..... .83
Type 40-2. Acrylic cement. 2 oz. bottle.
32F228. NET ..... .76
Type 32-2A. Plastic cement. 2 oz. bottle.
32F217. NET ..... .83



PERMABOND CYANOACRYLATE ADHESIVE

Type 10-120 Instant bonding adhesive. Non-toxic. Ready to use. Bonds almost anything. 3 gm. tube.
32F341. NET 1.98

SPRAYTEC brand Paints & Chemicals SPC technology

SPRAYTEC brand paints & chemicals
SPRAY PAINT GLOSSY BLACK
CRYSTAL CLEAR ACRYLIC
CONTACT CLEANER & LUBRICANT
TAPE HEAD CLEANER
SPC technology
CAUTION:
FEATURING "FAN SPRAY" ADJUSTABLE VALVE
A long needed improvement in aerosol valve design, specially developed for improved spraying of thick fluids such as paint.
• Oval Spray Pattern Reduces Over-spray by as Much as ⅓
• Finer Spray Particles Yield Greater, More Uniform Coverage
• Requires Less Finger Pressure than Other Sprays
• Adjustable Nozzle Tip—Rotates 90° so that Spray Pattern Can Be Stroked Up and Down or Side to Side Without Tilting Can. Results in More Even Coverage Like Using a Wide Brush

SPRAY PAINTS

Colors meet Federal Color Specification TTL-0048 (GSA-FSS), Federal Color Standard 595 number as indicated below. 1 pint cans.

Stk. No.	Color	Fed. Color Std.	1-11	12-up
32N290	Bright Silver	17178	2.35	2.12
32N292	Glossy White	17075		
32N293	Glossy Black	17038		
32N282	Ultra Flat Black	37038		
32N288	Hunter Green	14062		
32N289	Cherry Red	11136		

WHITE EPOXY SPRAY

Hard porcelain-like finish won't chip, peel or crack. For appliances, bowls, sinks, tubs, tile, window sills, railings, ground maintenance equipment. Adjustable fan spray valve. 13 oz. can.
32N1005. 1-5..**1.87** 6-11..**1.66** 12-Up..**1.40**

WRINKLE FINISH BLACK SPRAY

Air drying wrinkle finish develops in two hours at 75°F and 50% humidity—or faster using oven or heat lamp for 15 minutes. For chassis, panels, racks, audio equipment. Adjustable fan spray valve. 13 oz. can.
32N325 .....Each **2.25**

METAL PRIMER SPRAYS

Adhere to base metal, prepare for finish coat. I. Fan spray valve. 13 oz. can.

Stock No.	Description	1-11	12-up
32N160	Gray	**2.35**	**2.12**
32N172	Ruddy Brown	**2.35**	**2.12**

INSULATOR SPRAY

MOISTURE AND FUNGUS-PROOF VARNISH

Meets Mil Spec. MIL-V-173B. Widely used as PC board coating. Fluorescent, the treated chassis may be checked with ultraviolet light. Produces clear, smooth surface which will not crack, splinter or remain tacky. Diel. Str. 750 V/mil. 15¾ oz. can.
32N427. 1-11..Each **2.54** 12-23..Each **2.34** 24-47....Each **2.14** 48-Up....Each **1.95**

CRYSTAL CLEAR INSULATING ACRYLIC

MIL-TT-L-0048. For metal, electrical and electronic equipment, PC boards, chrome, brass, plastic, tools, batteries, paper, wood, leather. Weatherproof, protects against corrosion. 1500 V/mil. dielectric strength. 15¾ oz. can.
32N291. 1-11.....**2.35** 12-Up.....**2.12**

RED INSULATING VARNISH

Tough, flexible film with high adhesion and arc resistance, non-tracking properties. For new or old stator windings, armatures, coils, commutator end rings, frames and end shields, bus bars, switchboard parts. Air dry or bake. Diel. str. dry 100 V/mil., wet 700 V/mil.; ASTM-D-149. 13 oz. can.
32N510. 1-11.....**2.35** 12-Up.....**2.12**

SERVICE AID CHEMICALS

CIRCUIT COOLER SPRAYS

Locate thermal-intermittent component by spraying suspected component while equipment is operating. If cooling solves intermittent problem, replace component. Use on capacitors, transistors, resistors, oxidized joints. 15¾ oz. can.
34N610 .....Each **2.85**

TAPE HEAD CLEANER SPRAY

Cleans tape heads on audio and video recording equipment. Removes oxide and dirt. Harmless to tape. 6" spray extension tube included. 16 oz. can.
35N3386 .....Each **3.06**

RELAY AND CONTACT CLEANER

Leaves dry surface. Non-flammable. Dissolves gummy deposits. Degreases and flushes off electronic and electrical equipment. Extension tube included for hard-to-reach places.
32N184. 15¾ oz. can.....Each **4.54**
32N349. 5¾ oz. can.....Each **2.46**

TUNER CLEANER AND GUARD—SAFE FOR PLASTICS

Provides non-oily film that lubricates contacts, guards against corrosion. Won't affect magnet wire coatings, paper insulation, most paints and varnishes. For tuners, switches, volume controls, rheostats, commutators, circuit breakers, motors, locks. With spray extension tube. 15¾ oz. can.
32N154. 1-11.....**3.65** 12-Up.....**3.29**

CONTACT CLEANER AND LUBRICANT SPRAY

Cleans, lubricates and protects from corrosion. For use where spray will not come in contact with plastics. For switches, volume controls, tuners, relays, commutators, slip rings, tube pins, dials, recorders, rheostats, circuit breakers, locks, tools. With extension tube.
32N521. 16¼ oz. can 1-11 **2.35** 12-Up **2.12**
32N343. 5¾ oz. can.....Each **1.29**

ELECTRIC MOTOR CLEANER

Dissolves and flushes away dirt, grease. Non-flammable, non-toxic. Does not require water flush. Evaporates and leaves dry surface. Will not harm insulation or painted surface. May be harmful to plastics. With extension tube for pinpoint application. 15¾ oz. can.
32N508. 1-11.....**2.35** 12-Up.....**2.12**

SILICONE LUBRICANT

For metal, plastic, rubber, wood, leather, etc. Non-freezing, non-gumming. Ideal for anti-stick, anti-squeak action in hot and cold sealer bars, windows and doors, drawers, sliding tracks, cutting equipment, conveyors, dispensing equipment, food processing machinery. Diel. str. 350 V/mil. Temp. range −40°F to +500°F. 15¾ oz. can.
32N181. 1-11.....**2.35** 12-Up.....**2.12**

QUICK PENETRATING OIL

Frees up and lubricates rusted or frozen bolts, screws, nuts, chains, mufflers, bearings, hinges, linkages, and other industrial and electronic equipment. 15¼ oz. can.
32N509. 1-11.....**2.12** 12-Up.....**1.90**

PLASTIC AND GLASS CLEANER

Developed for heavy-duty cleaning of glass and plastic surfaces — windows, screens, safety shields. Spray on—wipe off. Will not leave dulling streaks or residue.
35N3383. 13¾ oz. can.....Each **1.16**

ANTI-STATIC SPRAY

Neutralizes static electricity and inhibits accumulation of airborne dust on plastics, glass, tile, leather, foil, textiles, metal, photo transparencies, negatives, TV screens, and other surfaces.
32N1079. 15¼ oz. can.....Each **3.29**

Hardware

TINNED SOLDERING LUGS

Stock No.	Hole Size	Length	Fig.	Boxes of 100 1-9	Boxes of 100 10-Up
31F2293	No. 6	19/32"	E	2.66	2.13
32F1300	No. 6	21/32"	B	2.35	1.64
32F1301	No. 6	9/16"	C	1.57	1.26
31F2074	No. 8	13/16"	C	2.35	1.64
31F2075	No. 10	13/16"	C	2.59	2.07
32F1302	No. 6	11/16"	C	1.43	1.14
31F2076	No. 4	9/16"	D	2.57	2.07
32F1303	No. 6	9/16"	D	1.70	1.09
32F1304	No. 8	5/8"	D	2.25	1.53
32F1306	No. 8	7/8"	G	2.04	1.64
32F1307	No. 10	7/8"	G	2.04	1.64
32F1308	No. 6	5/8"	L	2.15	1.72
32F1309	No. 8	5/8"	L	2.15	1.72

RUBBER BUMPERS

For mounting on all types of electronic equipment. Prevents vibration and protects surfaces under equipment from being marred.

RECESS SCREW TYPE

Stock No.	Dimensions A	B	C	D	E	Pkgs. of 100 1-9	Pkgs. of 100 10-Up
43F475	1/2"	1/4"	5/32"	1/4"	1/8"	3.65	2.71
43F476	3/4"	1/4"	1/8"	1/4"	1/8"	8.10	5.40
43F477	5/8"	3/8"	7/32"	1/4"	1/8"	8.20	5.46
43F478	3/4"	3/8"	7/32"	1/4"	1/8"	8.50	5.73

BUTTON TYPE

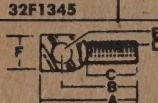
Stock No.	Dimensions A	B	C	D	E	Pkgs. of 100 1-9	Pkgs. of 100 10-Up
31F2284	3/8"	3/8"	17/64"	3/16"	.040"	5.00	3.82
31F2285	1/2"	7/16"	11/32"	1/4"	.040"	4.70	3.59
31F2286	5/8"	9/16"	15/32"	5/16"	.040"	8.80	5.97

RECESSED BUMPERS (STEEL WASHER INSETS)

Stock No.	Height	O.D.	Hole Size	Boxes of 100 1-9	Boxes of 100 10-Up
32F1331	5/8"	5/8"	5/16"	7.83	6.27
32F1334	5/8"	13/16"	7/16"	13.17	10.54
32F1338	1"	1"	5/16"	13.66	10.92

RUBBER FEET SCREW TYPE

Stock No.	O.D.	Height	Boxes of 100 1-9	Boxes of 100 10-49
31F2007	1/2"	1/4"	3.71	3.08
31F2008	5/8"	5/16"	5.19	4.16
32F1345	3/4"	3/8"	5.48	4.39

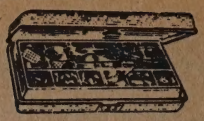


SPADE BOLTS FOR MOUNTING SCREWS STEEL-NICKEL PLATED

Stock No.	Tread Size	Overall Length	Overall Width	Screw Length	Boxes of 100 1-9	Boxes of 100 10-Up
31F2121	6-32	3/4"	1/4"	11/32"	8.47	6.78
31F2122	6-32	7/8"	1/4"	13/32"	9.01	7.22
31F2123	8-32	15/32"	11/32"	7/16"	15.42	9.80

FAHNSTOCK SPRING CLIPS

Stock No.	Fig.	Length	Width	Max. Wire	Mtg. Hole	Boxes of 100 1-9	Boxes of 100 10-Up
32F631	A	1/2"	7/32"	16 GA	#4	2.56	2.04
32F632	B	3/4"	5/16"	14 GA	#6	3.83	3.07
32F633	B	1"	3/8"	10 GA	#8	6.62	5.30



Selections of the fastest moving hardware items to provide handy kits for service and maintenance work. Individually compartmented, for fast selection, in reusable, plastic boxes with hinged cover and positive clasp. All metal hardware is nickel-plated steel.

REGULAR ROUND HEAD SCREW ASSORTMENT

Qty.	Description	Qty.	Description
35	4-40 x 1/2" Machine Screw	21	6 x 1/2" Sheet Metal Screw
35	6-32 x 1/4" Machine Screw	35	4-40 x 1/4" Nut
17	6-32 x 3/4" Machine Screw	35	6-32 x 1/4" Nut
17	8-32 x 1/2" Machine Screw	35	8-32 x 1/4" Nut

32F051 Model HD-4013 NET 1.95

BINDER HEAD SCREW ASSORTMENT

Qty.	Description	Qty.	Description
35	4-40 x 1/2" Machine Screw	21	6 x 1/2" Sheet Metal Screw
35	6-32 x 1/4" Machine Screw	35	4-40 x 1/4" Nut
17	6-32 x 3/4" Machine Screw	35	6-32 x 1/4" Nut
17	8-32 x 1/2" Machine Screw	35	8-32 x 1/4" Nut

32F052 Model HD-4018 NET 1.95

WOOD SCREW ASSORTMENT
Round and Flat Types

Qty.	Description	Qty.	Description
35	4 x 1/2" Round Head	12	8 x 1" Round Head
20	6 x 3/4" Round Head	10	8 x 1 1/4" Round Head
12	6 x 1" RoundHead	12	8 x 1" Flat Head
12	8 x 3/4" Round Head	10	8 x 1 1/4" Flat Head

32F054 Model HD-4019 NET 1.95

HEX HEAD (SLOTTED) SHEET METAL SCREW ASSORTMENT

Quantity	Description	Quantity	Description
22	4 x 3/8"	30	8 x 1/4"
22	6 x 1/4"	22	8 x 3/8"
22	6 x 1/2"	9	8 x 1/2"
9	6 x 3/4"	9	8 x 5/8"

32F053 Model HD-4014 NET 1.95

HEX WASHER HEAD SHEET METAL SCREW ASSORTMENT

Slotted, Type A. The washer head prevents denting of sheet metal, conceals marks made by previous screws, provides better bearing surface for tight hold, and prevents the screw from sinking into nut driver.

Quantity	Description	Quantity	Description
13	6 x 1/4"	13	8 x 1/4"
13	6 x 3/8"	13	8 x 3/8"
13	6 x 1/2"	13	8 x 1/2"
13	6 x 3/4"	13	8 x 5/8"

32F1367 Model HD-4011 NET 1.95

RUBBER GROMMETS

Stock No.	Mounting Hole Dia.	I.D.	O.D.	Boxes of 100 1-9	Boxes of 100 10-Up
31F2000	1/4"	1/8"	11/32"	1.91	1.54
31F2001	5/16"	3/16"	7/16"	2.88	2.31
32F1349	5/16"	3/16"	1/2"	5.84	4.68
31F2282	3/8"	1/4"	1/2"	4.16	3.32
31F2002	3/8"	1/4"	9/16"	2.56	2.05
32F1353	3/8"	1/4"	5/8"	5.45	4.36
32F1354	7/16"	5/16"	5/8"	5.27	4.21
31F2004	1/2"	3/8"	5/8"	4.90	3.92
31F2081	9/16"	7/16"	3/4"	7.91	6.33
31F2003	5/8"	1/2"	13/16"	4.42	3.54
31F2080	3/4"	9/16"	7/8"	6.49	5.20
31F2283	13/16"	3/8"	11/16"	8.84	7.08
31F2083	7/8"	5/8"	1 1/8"	8.81	7.05
32F1363	15/16"	13/16"	1 1/8"	12.71	10.17
31F2084	1"	11/16"	15/16"	17.74	14.19
32F1364	1 3/4"	1 1/2"	2 1/8"	26.50	21.20

VINYL GROMMETS

Resistant to temperature, oils, chemicals. Approximately 100 per package. Except (*)—50 per pkg.

Stock No.	Chassis Hole	O.D.	I.D.	Per Pkg. 1-9	Per Pkg. 10-Up
30F743	1/4"	11/32"	1/8"	2.00	1.31
30F744	5/16"	7/16"	3/16"	2.25	1.52
30F745	3/8"	9/16"	1/4"	2.30	1.84
30F747	1/2"	5/8"	3/8"	2.75	1.96
30F748*	5/8"	13/16"	1/2"	4.80	3.31

Phone your NEWARK Facility For Quotes on Larger Quantities

Hardware

HEXAGON NUTS BRASS NICKEL PLATED

Stock No.	Thread	Width	Thick	Boxes of 100 1-9	Boxes of 100 10-Up
31F2214	2-56	3/16"	1/16"	3.20	2.33
31F2217	4-40	1/4"	3/32"	3.80	2.82
31F2218	6-32	1/4"	3/32"	4.00	2.99
31F2071	6-32	5/16"	7/64"	4.20	3.16
31F2072	8-32	1/4"	3/32"	4.00	2.99
31F2219	8-32	5/16"	7/64"	4.20	3.16
31F2220	10-32	3/8"	1/8"	4.40	3.32

EXTRUDED FIBRE WASHERS

Stock No.	Screw Size	I.D.	O.D.	Thick	Boxes of 100 1-9	Boxes of 100 10-Up
30F357	No. 4	1/8"	9/32"	1/16"	2.35	1.61
31F2171	No. 6	9/64"	5/16"	1/16"	1.96	1.58
31F2172	No. 8	11/64"	3/8"	1/16"	1.86	1.50
31F2173	No. 10	13/64"	7/16"	1/16"	2.00	1.60
31F2174	No. 1/4	1/4"	1/2"	1/16"	2.15	1.72
31F2175	No. 3/8	3/8"	5/8"	1/16"	2.00	1.60

FLAT FIBRE WASHERS

Stock No.	Screw Size	I.D.	O.D.	Thick	Boxes of 100 1-9	Boxes of 100 10-Up
30F355	No. 4	.120"	1/4"	1/32"	.76	.61
31F2165	No. 6	9/64"	1/4"	1/32"	.51	.41
31F2166	No. 8	11/64"	3/8"	1/32"	.76	.61
31F2167	No. 10	.196"	3/8"	1/32"	.76	.61
30F356	No. 1/4	1/4"	1/2"	3/64"	1.01	.82
31F2169	No. 3/8	25/64"	39/64"	3/64"	1.20	.95

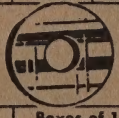
NYLON BINDER HEAD MACHINE SCREWS

Stock No.	Screw Size	Length	Boxes of 100 1-9	Boxes of 100 10-Up
30F1001	2-56	1/4"	4.70	3.57
32F656	2-56	1/2"	4.85	3.69
30F1005	4-40	1/4"	5.00	3.80
30F1007	4-40	1/2"	5.00	3.82
32F657	4-40	3/4"	5.10	3.92
30F1009	6-32	1/4"	4.90	3.72
30F1011	6-32	3/8"	5.00	3.80
30F1013	6-32	1/2"	5.00	3.82
43F479	6-32	3/4"	5.15	3.93
43F480	8-32	3/8"	5.15	3.94
43F481	8-32	1/2"	5.15	3.95
30F1023	8-32	3/4"	5.55	4.27
32F659	10-32	1/2"	6.10	4.73
32F660	10-32	1"	6.10	4.74

NYLON HEX NUTS

Stock No.	Screw Size	Width	Thick	Boxes of 100 1-9	Boxes of 100 10-49
30F1033	2-56	3/16"	1/16"	5.30	4.05
30F1034	4-40	1/4"	3/32"	5.30	4.07
30F1035	6-32	5/16"	7/64"	5.30	4.09
30F1036	8-32	5/16"	7/64"	5.35	4.10
30F1037	10-32	3/8"	1/8"	5.90	4.57

NYLON WASHERS



Stock No.	Screw Size	O.D.	I.D.	Boxes of 100 1-9	Boxes of 100 10-49
30F1040	No. 4	9/32"	.050	1.20	.65
30F1041	No. 6	5/16"	.050	1.25	.72
30F1042	No. 8	3/8"	.050	1.80	1.17
30F1043	No. 10	7/16"	.060	1.85	1.22

PLUG BUTTONS

Cover holes in metal, wood, etc. Nickel plated steel. Shpg. wt. 2 oz.
*Screen Type (Bright zinc plated)

Stk. No.	Type	Type No.	Hole Dia.	1-24	25-49	50-99	100-249
29F633	41A	463 99 22 094 201	1/4"	.22	.19	.17	.14
29F634	41B	463 99 22 098 201	3/8"	.22	.19	.17	.14
29F635	41C	463 99 22 095 201	1/2"	.22	.19	.17	.14
29F636	41D	463 99 22 097 201	5/8"	.22	.19	.17	.14
29F637	41E	463 99 22 100 201	3/4"	.24	.22	.19	.17
29F638	41F	463 99 22 096 201	7/8"	.24	.22	.19	.17
29F639	41G	463 99 22 093 201	1"	.25	.24	.22	.19
29F640	41H	463 99 22 099 201	1 1/4"	.33	.31	.26	.22
29F641	41V*	463 99 11 109 501	1"	.63	.47	.41	.40

ADHESIVE MOUNTED LOCKING CABLE CLIP

Easily mounted, neat appearing fastening device. Exclusive patented lock/release design allows easy insertion of cable and positive holding action. Long aging adhesive backing on clip holds to almost any clean surface. Average pull-off strength of 12 pounds. High-impact, stable PVC temp. range —20° to +180°F.

Stock No.	I.D.	Width	Length	Boxes of 100 1-9	Boxes of 100 10-Up
32F682	3/4"	1.5"	1.5"	36.89	29.52
32F684	1/2"	1"	1.25"	19.82	15.86
32F685	3/8"	1"	1"	17.19	13.76
32F686	1/4"	1"	1"	14.76	11.82
32F687	3/16"	1"	3/4"	13.53	10.82
32F688	3/8"	1/2"	1"	12.10	9.68
32F689	1/4"	1/2"	1"	10.24	8.20
32F690	3/16"	1/2"	3/4"	9.32	7.45

ETHYL CELLULOSE CABLE CLAMPS

Stock No.	I.D.	Length	Width	Boxes of 100 1-9	Boxes of 100 10-Up
32F1269	1/8"	0.328"	1/2"	2.82	2.40
32F1270	3/16"	0.390"	1/2"	2.90	2.41
32F1271	1/4"	0.421"	1/2"	3.12	2.66
32F1272	5/16"	0.453"	1/2"	3.45	2.94
32F1273	3/8"	0.483"	1/2"	3.63	3.09
32F1275	1/2"	0.562"	1/2"	4.36	3.59
32F1277	5/8"	0.610"	1/2"	5.45	4.36
32F1279	3/4"	0.765"	1/2"	6.25	4.75
32F1281	1"	0.906"	1/2"	6.90	5.52
32F1282	1 1/8"	0.968"	1/2"	7.26	5.81

NYLON (DU-PONT) CABLE CLAMPS

32F1284	1/8"	0.328"	3/8"	4.36	3.49
32F1285	3/16"	0.390"	3/8"	4.72	3.78
32F1286	1/4"	0.422"	3/8"	5.08	4.07
32F1287	5/16"	0.453"	3/8"	5.63	4.50
32F1288	3/8"	0.484"	3/8"	5.81	4.65
32F1290	1/2"	0.562"	3/8"	6.53	5.23
32F1291	9/16"	0.625"	1/2"	7.99	6.39
32F1292	5/8"	0.610"	1/2"	8.71	6.97
32F1294	3/4"	0.765"	1/2"	9.80	7.85

CINCH JONES CABLE CLAMPS

85A 85B 85C 85D 85E 85F

Stk. No.	Type	Type No.	Dia. of Arc	1-24	25-49	50-99	100-249
29F627	85A	1065P24	1/8"				
29F628	85B	1051P24	5/16"				
29F629	85C	854P24	5/16"	.19	.17	.14	.12
29F630	85D	8339P27	5/16"				
29F631	85E	8522P24	1/2"				
29F632	85F	292LP24	5/8"				

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- **On-the-Shelf Stock**

Lowest Prices — Fastest Service

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Hardware

EXTERNAL LOCK WASHER CADMIUM PLATED STEEL

Stock No.	Screw Size	Boxes of 100 1-9	10-49
30F644	No. 4	.90	.40
30F646	No. 6	.80	.31
30F648	No. 8	.80	.35
30F448	No. 10	.80	.35
30F650	No. ¼	.95	.48

KNURLED THUMB NUTS BRASS-NICKEL PLATED

31F2180	6-32	4.21	3.37

ACORN NUTS BRASS-NICKEL PLATED

31F2102	6-32	10.40	8.30
31F2103	8-32	11.20	8.97
31F087	10-32	12.00	9.63

CONTROL AND SWITCH MOUNTING NUTS STEEL-NICKEL PLATED

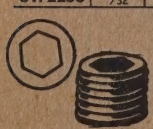
Stock No.	Thread Size	Wd.	Thk.	Boxes of 100 1-9	10-Up
32F608	⅜-32	9/16"	3/32"	3.13	2.51
31F2113	15/32-32	9/16"	5/64"	3.31	2.65
31F2114	15/32-32	19/32"	1/16"	5.34	4.27
31F2112	⅜-32	½"	3/32"	3.39	2.71

FLAT METAL WASHER NICKEL PLATED STEEL

Stock No.	Screw Size	O.D.	Boxes of 100 1-9	10-Up
31F2138	No. 4	9/32"	.65	.22
31F2139	No. 6	⅜"	.75	.30
31F2140	No. 8	⅜"	.75	.28
31F2141	No. 10	7/16"	.75	.30
32F612	No. ¼	⅝"	1.60	.98

INTERNAL LOCKWASHERS CADMIUM PLATED STEEL

Stock No.	Screw Size	O.D.	Mat. Thk.	Boxes of 100 1-9	10-Up
31F2243	2	...	.013	1.15	.82
31F2245	4	...	.015	.95	.45
31F2246	6	9/32"	.018	.90	.42
31F2247	8	21/64"	.020	.85	.38
31F2248	10	⅜"	.022	1.00	.52
31F2249	¼"	15/32"	.025	.95	.46
31F2251	⅜"	11/16"	.035	1.55	.95
31F2252	⅜"	9/16"	...	1.94	1.55
31F2253	15/32"	19/32"	...	2.42	1.94



ALLEN HEX SET SCREWS HARDENED STEEL-HEADLESS

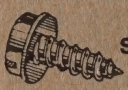
Stock No.	Screw Size	Length	Boxes of 100 1-9	10-Up
32F652	6-32	⅛"	7.59	6.07

FLAT HEAD RACK AND CABINET SCREWS

Stock No.	Screw Size	Length	Boxes of 100 1-9	10-Up
31F2176	6-32	½"	1.70	1.06
31F2177	6-32	¾"	1.85	1.21
31F2066	8-32	½"	2.10	1.40
31F2178	8-32	¾"	2.25	1.55
31F2313	10-32	½"	2.00	1.31

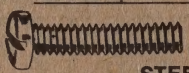
SHEET METAL SCREWS SLOTTED HEX HEAD SELF-TAPPING NICKEL PLATED

Stock No.	Screw Size	Length	Boexs of 100 1-9	10-Up
30F092	No. 4	⅜"	1.85	1.19
31F2124	No. 4	½"	1.90	1.24
31F2125	No. 6	¼"	1.95	1.28
31F2126	No. 6	⅜"	1.95	1.30
31F2127	No. 6	½"	2.10	1.43
31F2128	No. 6	¾"	2.30	1.60
31F2129	No. 8	⅜"	1.90	1.25
31F2130	No. 8	½"	2.05	1.38
31F2132	No. 10	½"	2.50	1.74
31F2133	No. 10	¾"	2.85	2.04



WASHER HEAD SHEET METAL SCREWS NICKEL PLATED

32F613	No. 6	⅝"	2.25	1.54
32F614	No. 8	¾"	2.35	1.61
32F615	No. 8	½"	2.45	1.71



BINDING HEAD MACHINE SCREWS STEEL-NICKEL PLATED

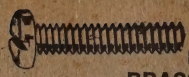
30F695	2-56	¼"	1.95	1.30
30F696	2-56	½"	2.10	1.41
30F698	4-40	¼"	1.75	1.14
30F699	4 40	½"	2.05	1.35
30F700	4-40	¾"	2.15	1.47
31F2196	6-32	3/16"	2.05	1.36
31F2197	6-32	¼"	1.40	1.40
31F2198	6-32	⅜"	1.53	1.53
30F701	6-32	½"	1.60	.98
30F703	6-32	¾"	1.90	1.24
30F704	8-32	¼"	1.75	1.13
31F2201	8-32	5/16"	1.75	1.13
30F705	8-32	⅜"	1.70	1.06
30F706	8-32	½"	2.00	1.35
30F707	8-32	¾"	1.90	1.25
30F708	10-32	½"	2.45	1.70
30F709	10-32	¾"	2.90	2.08

CUP FINISHING WASHERS NICKEL-PLATED

Stock No.	Screw Size	O.D.	Boxes of 100 1-9	10-Up
31F2142	No. 6	7/16"	.85	.37
31F2143	No. 8	½"	1.00	.49
31F2144	No. 10	9/16"	1.10	.60

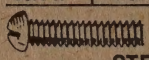
HEXAGON NUTS STEEL-NICKEL PLATED

Stock No.	Thread Size	Wd.	Thk.	Boxes of 100 1-9	10-Up
31F2207	2-56	5/16"	1/16"	1.80	1.16
31F2208	3-48	5/16"	1/16"	1.90	1.25
31F2105	4-36	¼"	3/32"	2.00	1.33
31F2106	4-40	¼"	3/32"	2.10	1.41
31F2107	6-32	¼"	3/32"	2.20	1.50
31F2209	6-32	5/16"	7/64"	2.30	1.58
31F2108	8-32	¼"	3/32"	2.20	1.50
31F2210	8-32	5/16"	7/64"	2.30	1.58
32F644	8-32	11/32"	1/8"	2.15	2.15
31F2200	10-32	⅜"	1/8"	2.40	1.66
31F2211	¼-20	7/16"	3/16"	3.70	2.75



BINDER HEAD MACHINE SCREW BRASS-NICKEL PLATED

Stock No.	Screw Size	Length	Boxes of 100 1-9	10-Up
30F090	4-40	½"	3.35	2.46
30F091	4-40	¾"	3.55	2.60
30F710	6-32	¼"	3.20	2.31
30F711	6-32	⅜"	3.60	2.66
30F712	6-32	½"	3.35	2.43
30F713	6-32	¾"	3.80	2.82
30F715	8-32	⅜"	4.15	3.10
30F716	8-32	½"	4.40	3.31
30F717	8-32	¾"	5.10	3.89

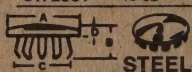


ROUND HEAD MACHINE SCREW STEEL-NICKEL PLATED

31F2189	2-56	½"	1.70	1.07
31F2190	2-56	¾"	1.75	1.13
31F2086	4-40	¼"	1.85	1.20
30F082	4-40	⅜"	1.65	1.05
31F2087	4-40	½"	1.90	1.25
31F2034	4-40	⅝"	1.80	1.16
31F2088	4-40	¾"	1.95	1.28
31F2091	6-32	¼"	1.60	.98
30F083	6-32	⅜"	1.70	1.10
31F2092	6-32	½"	1.60	1.02
31F2035	6-32	⅝"	1.80	1.16
31F2093	6-32	¾"	1.70	1.08
31F2094	6-32	1"	2.10	1.41
31F2192	6-32	1¼"	2.25	1.53
31F2195	6-32	2"	3.70	2.76
32F627	8-32	¼"	1.80	1.15
31F2096	8-32	⅜"	1.70	1.10
31F2097	8-32	½"	1.85	1.10
31F2098	8-32	¾"	2.05	1.36
31F2099	8-32	1"	2.30	1.60
31F2193	8-32	1¼"	2.80	1.98
31F2100	10-32	½"	2.05	1.35
30F084	10-32	¾"	2.40	1.68
31F2101	10-32	1"	2.95	2.11
31F2194	10-32	1½"	3.45	2.53

ROUND HEAD MACHINE SCREW BRASS-NICKEL PLATED

31F2042	3-48	¾"	3.20	2.31
31F2050	4-40	¾"	3.05	2.21
31F2053	6-32	1¼"	5.20	3.97
30F087	8-32	⅜"	4.90	3.74
31F2302	8-32	½"	5.45	4.19
31F2303	8-32	¾"	5.90	4.55
31F2304	8-32	1"	6.25	4.87
31F2057	8-32	1¼"	6.70	5.23
31F2061	10-32	1"	7.40	5.81

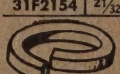


SNAP BUTTON HOLE PLUGS STEEL-NICKEL PLATED

Stock No.	Hole Size	Boxes of 100 1-9	10-UP
31F085	¼"	3.51	2.81
32F646	5/16"	3.70	2.96
31F2015	⅜"	3.89	3.11
31F2016	½"	5.48	4.39
31F2017	⅝"	6.69	5.35
31F2018	¾"	7.13	5.71
32F648	⅞"	7.35	5.88
31F086	1"	9.30	7.44
32F649	1⅛"	9.48	7.59
32F650	1¼"	10.14	8.11

ANGLE BRACKETS

Stock No.	A	B	C	Boxes of 100 1-9	10-Up
31F2152	1 1/32"	7/16"	3/32"	3.41	2.73
31F2153	1 3/32"	9/16"	3/32"	2.70	2.16
31F2154	2 1/32"	2 1/32"	⅜"	2.42	1.93



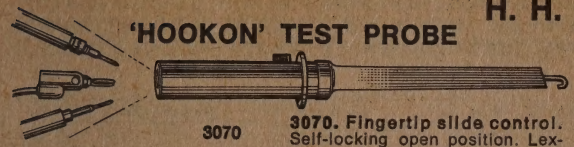
SPLIT TYPE LOCK WASHER ZINC PLATED STEEL

Stock No.	Screw Size	Boxes of 100 1-9	10-Up
31F2160	No. 4	.85	.37
31F2161	No. 6	.75	.30
31F2162	No. 8	.80	.33
31F2163	No. 10	.80	.32

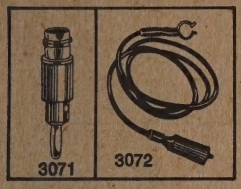
GC and H. H. Smith Miscellaneous Products

H. H. SMITH

'HOOKON' TEST PROBE



3070. Fingertip slide control. Self-locking open position. Lexan construction. Spring tension sensitivity. **3071.** Coax cable adapter. Banana plug to BNC female. **3072.** Ground lead clip extension. 18"L. Insulated alligator clip.



Stock No.	Type	Each
39F946	3070	3.00
39F947	3071	2.00
39F948	3072	.60

AMP AC FAULT FINDER

- Plug-in
- Easy to Read
- Resistant Plastic

Model 3030. Has indicator lights and chart on both sides. Plug in and then illuminated signals indicate: reverse polarity, faulty wiring, missing or open grounds and/or correct wiring conditions.

Stock No.	Type	Each
39F949	3030	5.95

GC MISCELLANEOUS PRODUCTS

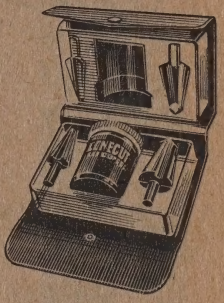
IC TOOLS

Insertic. Type 870. Easy to load without damage to IC. Positions quickly and accurately during insertion. Shaped for sure, fatigue-free handling. **Pul-n-Sertic. Type 875.** For quick, easy IC insertion. Extracts IC without damage. Acts as heatsink when desoldering IC. Both tools provide maximum protection for IC. Constructed of high impact plastic.

Stock No.	Type	Each
39F951	870	2.95
39F952	875	4.95

CONECUT SHEET & TUBE DRILL

Drill burr-free hole in sheet or tube in seconds. Drill .007" shim steel without clamps. Drill Perspex or Formica without splitting. Drill overlapping holes. No center punch or pilot hole needed. **3400.** No. 1 Tool: drills ¼-13/16". **3405.** No. 2 Tool: drills ⅝ - 1-3/16".



Stock No.	Type	Description	Each
39F953	3400	No. 1 Tool	12.95
39F954	3405	No. 2 Tool	19.95
39F955	3425	Compound	2.50
39F956	3420	Kit	34.95

BURNISHING TOOL KIT

- Contact Cleaner
- Burnishing Tool
- Complete Kit

9339. A complete kit for servicing relays, switches, anything where critical contact points must be kept clean for ideal operating conditions. Kit contains 2 ounce bottle of contact cleaner and burnishing tool.

35F3392. Net **1.21**

QUICK-PICK REMOVER

- Remover
- Heat Sink
- Non-magnetic

9216. Quick, easy method of removing transistors and capacitors. Doubles as heat sink while unsoldering/replacing parts. 7 tools fit more than 25 different outlines of transistors and canned capacitors. Non-magnetic. Approximately .028" larger than part. Each tool quick-pick color identified for fast, easy selection.

35F1494. Net **6.55**

IC REMOVAL TOOL

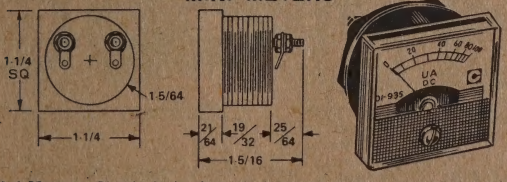
- For DIP's

9227. Easily removes 8, 10, 14, 16, & 18 pin DIP IC's. Tool hooks under diagonal terminals and lifts circuit out. Nickel plated metal. Non-slip grip. **9228.** IC Tool Kit. Includes 9227 tool and round TO-5 Outline tool.

35F1495. Type 9227 Net **1.97**

35F1496. Type 9228 Net **3.07**

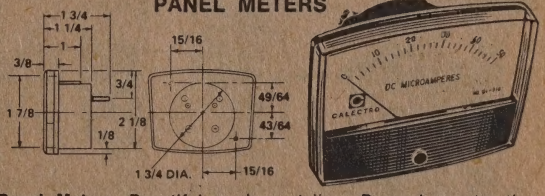
MINI METERS



Mini Meters. Single hole-threaded mount meters mount in 1-1/16" diameter hole. Measure 1¼" high by 1¼" wide by 1-5/64" deep. Reliable and rugged. D'Arsonval meter movement. Clear plastic coverplate. Available in several models ranging from 0-100 UA DC to 0-150 VAC. VU meter also available. An economical choice for a variety of uses.

Stock No.	Type	Description	Each
39F979	D1-935	0-100 μA DC	7.50
39F980	D1-938	0-1 MA DC	
39F981	D1-939	0-50 MA DC	
39F982	D1-940	0-100 MA DC	
39F983	D1-941	0-500 MA DC	
39F984	D1-943	0-5 Amp DC	
39F985	D1-945	0-15 Amp DC	
39F986	D1-950	0-15 VDC	
39F987	D1-952	0-50 VDC	
39F988	D1-955	0-150 VAC	
39F989	D1-958	VU Meter	8.95

PANEL METERS



Panel Meters. Beautiful modern styling. Rugged construction. 2% accuracy. Hand calibrated. Linear dial scales. D'Arsonal movement with jeweled bearings. Crystal clear plastic coverplate. Clearly marked, easy to read dial scale. Mounts in 1¾" diameter hole. 2⅛" high. 1¼" deep.

Stock No.	Type	Description	Each
39F991	D1-910	0-50 DC Microamp	10.95
39F992	D1-912	0-1 DC Milliamp	9.00
39F993	D1-914	0-50 DC Milliamp	9.00
39F994	D1-915	0-100 DC Milliamp	9.00
39F995	D1-916	0-500 DC Milliamp	9.00
39F996	D1-917	0-10 DC Amp	9.40
39F997	D1-918	0-3 DC Amp	9.40
39F998	D1-920	0-15 VDC	8.95
39F999	D1-923	0-25 VDC	10.25
39F921	D1-926	0-150 VAC	9.95
39F930	D1-930	VU Meter	11.50

EVEREADY®

Batteries

All the batteries listed below are guaranteed fresh when they leave our stock and carry additional manufacturers' guarantees. Made to high standards and fully inspected, these batteries are of the highest quality. Equivalent NEDA numbers are included in tables for your convenience.

509

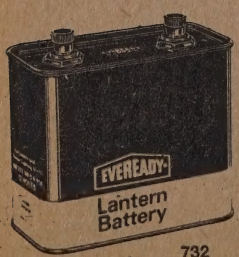
1461

W353

477

222

489



732

Stock No.	Eveready Type	Price Each	Volts	L x W x H	Burgess Type	NEDA No.
49F1180	CF15	2.03	AA	.....	...	...
49F1147	CH15	1.84	AA	.....	...	...
49F1181	CH35	1.99	C	.....	CD12	...
49F1182	CH50	1.99	D	.....	...	...
49F1183	N88	8.30	8.4V	.....	...	...
49F1184	ACC75	12.45	...	Charger	...	...
49F1043	735	1.85	1½	$2\frac{5}{8} \times 2\frac{5}{8} \times 4^{15}/_{16}$	410(4FM)	900
49F1049	IS6	1.99	1½	2½ (diam.) x $6\frac{5}{8}$	6-Ign. Bp	905
49F1051	IF6	1.99	1½	.....	6-Tel. SC	906
48F931	HS6	1.53	1½	.....	6-Ind. BP	911
49F1044	W357	4.60	3	$3^{25}/_{32} \times 2^{11}/_{16} \times 5^{13}/_{32}$	4F2H	901
49F1045	706	8.83	6	$8^{5}/_{16} \times 2^{13}/_{16} \times 6^{7}/_{16}$	4F4H	902
49F1050	1461	6.65	6	$10^{7}/_{16} \times 2^{23}/_{32} \times 7^{7}/_{32}$	S461	907
49F1046	715	7.93	7½	$7\frac{1}{4} \times 4^{1}/_{16} \times 6^{7}/_{16}$	4F5H	903
49F1047	716	9.19	9	$8^{37}/_{64} \times 4^{1}/_{16} \times 6^{7}/_{16}$	4F6H	904
48F932	1463	11.19	12	$10^{7}/_{16} \times 2^{23}/_{32} \times 7^{7}/_{32}$	2G8H	922
49F1015	W353	2.26	1½	$2^{19}/_{32} \times 1\frac{3}{8} \times 4^{5}/_{32}$	2F	11
49F1053	711	1.93	1½	$2\frac{5}{8} \times 1^{5}/_{16} \times 4^{1}/_{32}$	2FH	700
49F1054	742	2.44	1½	$2\frac{5}{8} \times 2\frac{5}{8} \times 3^{27}/_{32}$	4F	4
48F933	750	2.26	3	$1^{7}/_{32} \times \frac{5}{8} \times 2^{21}/_{32}$	422	704
49F1056	W356	6.63	3	$2\frac{5}{8} \times 2\frac{5}{8} \times 4^{9}/_{16}$	2F2H	703
49F1059	703	2.26	4½	$2^{7}/_{16} \times 2^{7}/_{32} \times 3^{1}/_{16}$	532	706
49F1020	736	3.08	4½	$3^{15}/_{16} \times 1^{5}/_{16} \times 4$	F3	3
49F1017	724	2.26	6	$1^{7}/_{32} \times 1^{7}/_{32} \times 2^{11}/_{32}$	Z4	2
49F1004	457	5.87	67½	$3^{13}/_{16} \times 1\frac{3}{8} \times 2\frac{1}{2}$	K45	203
49F1009	416	2.47	67½	$1^{21}/_{64} \times {}^{63}/_{64} \times 3\frac{1}{2}$	UX45	217
49F1008	479	5.81	90	$1^{59}/_{64} \times 1^{1}/_{16} \times 7^{15}/_{32}$	P60	214
49F1006	490	6.60	90	$3^{23}/_{32} \times 1\frac{3}{8} \times 3^{45}/_{64}$	V60	204
49F1089	493	12.26	300	$2^{11}/_{16} \times 2^{7}/_{32} \times 3^{29}/_{32}$	U200	722
48F934	781	2.43	4½	$2^{7}/_{16} \times 2^{7}/_{32} \times 3$	S360	714
48F935	773	3.97	7½	$3^{29}/_{32} \times 2^{7}/_{32} \times 3$	5540	713
48F936	812	.22	1½	$^{13}/_{32}$ (diam.) x $1\frac{3}{4}$	720	24P
48F937	815	.22	1½	$^{9}/_{16}$ (diam.) x $1^{31}/_{32}$	920	15P
49F1136	489	14.50	225	$4^{11}/_{32} \times 2^{11}/_{16} \times 4^{3}/_{16}$	XX150	728
49F1138	491	9.45	240	$2^{19}/_{32} \times 1^{5}/_{16} \times 4\frac{1}{2}$	U160	729
49F1139	497	16.58	510	$3 \times 1^{19}/_{32} \times 5\frac{5}{8}$	U320	741
49F1080	417	3.83	15	$1^{5}/_{16} \times {}^{31}/_{32} \times {}^{19}/_{16}$	K10	224
49F1061	411	1.16	15	$1^{1}/_{32} \times \frac{5}{8} \times 1^{29}/_{64}$	U10	208
49F1062	504	1.30	15	$^{39}/_{64} \times {}^{19}/_{32} \times 1\frac{3}{8}$	Y10	220
49F1064	763	4.09	22½	$3\frac{1}{2} \times 2^{3}/_{32} \times 3^{1}/_{16}$	4156	710
49F1077	778	9.58	22½	$4 \times 2^{7}/_{16} \times 3\frac{1}{8}$	5156 SC	708
49F1081	420	4.83	22½	$1^{5}/_{16} \times {}^{31}/_{32} \times 2^{9}/_{16}$	K15	225
49F1063	412	1.51	22½	$1^{1}/_{32} \times \frac{5}{8} \times 2$	U15	215
49F1064	505	1.51	22½	$^{19}/_{32} \times {}^{19}/_{32} \times 1.975$	Y15	221
49F1039	425P	6.87	22½	$1^{23}/_{64} \times 1^{1}/_{32} \times 3^{15}/_{16}$	XX15	...
49F1078	413	1.44	30	$1^{1}/_{32} \times \frac{5}{8} \times 2^{9}/_{16}$	U20	210
49F1001	415	2.20	45	$1^{3}/_{64} \times \frac{5}{8} \times 3^{11}/_{16}$	U30	213
49F1092	455	3.73	45	$2^{31}/_{32} \times 1 \times 3^{11}/_{16}$	XX30	201
49F1093	738	4.74	45	$3 \times 2^{5}/_{16} \times 4\frac{1}{8}$	Z30	205
49F1091	482	6.30	45	$3^{19}/_{32} \times 1^{27}/_{32} \times 5\frac{1}{2}$	M30	202
49F1085	762S	8.83	45	$4^{3}/_{32} \times 2^{9}/_{16} \times 5^{7}/_{16}$	5308	709
49F1090	484	8.27	45	$3^{21}/_{32} \times 2^{17}/_{32} \times 5^{5}/_{16}$	B30	207
49F1003	477	4.73	63	$1^{59}/_{64} \times 1^{1}/_{16} \times 5^{7}/_{16}$	P45	211
49F1002	467	4.46	67½	$2^{13}/_{16} \times 1\frac{3}{8} \times 3^{45}/_{64}$	XX45	200
49F1029	226	1.01	9	1 (diam.) x $1^{15}/_{16}$	P6	1600
49F1041	222	.84	9	$1^{1}/_{32} \times 1^{1}/_{16} \times 1^{15}/_{16}$	2MN6	1604D
49F1023	904	.15	1½	$^{7}/_{16}$ (diam.) $1^{11}/_{64}$	310	910F
49F1035	1015	.22	1½	$^{25}/_{64}$ (diam.) $1^{31}/_{32}$	930	15
49F1034	1035	.28	1½	$^{63}/_{64}$ (diam.) $1^{15}/_{64}$	130	14
49F1030	1050	.28	1½	$1^{21}/_{64}$ (diam.) $2^{25}/_{64}$	230	13
49F1028	216	.61	9	$1 \times {}^{39}/_{64} \times 1\frac{7}{8}$	2U6	1604
49F1026	276	2.72	9	$2^{9}/_{16} \times 2 \times 3^{5}/_{32}$	D6	1603
49F1025	246	2.12	9	$1\frac{3}{8} \times 1\frac{3}{8} \times 2\frac{3}{4}$	2N6	1602
49F1033	2356N	5.43	9	$2^{5}/_{16} \times 1^{1}/_{32} \times 6^{1}/_{16}$	C6X	1612
49F340	228	1.71	12	1 (diam.) x $2^{7}/_{16}$	PM8	1810
49F1118	950	.30	1½	$1^{21}/_{64}$ (diam.) x $2\frac{3}{8}$	2	13F
49F1119	1150	.30	1½	$1^{21}/_{64}$ (diam.) x $2\frac{3}{8}$	210	13C
49F1014	935	.30	1½	$^{63}/_{64}$ (diam.) x $1^{15}/_{16}$	1	14F
49F1122	915	.22	1½	$^{35}/_{64}$ (diam.) x $1^{31}/_{32}$	Z(910)	15F
49F1123	912	.22	1½	$^{13}/_{32}$ (diam.) x $1\frac{3}{4}$	7	24F
49F1126	731	3.87	6	$5\frac{3}{8} \times 2\frac{7}{8} \times 4^{15}/_{16}$	TW1	918
49F1127	732	4.77	12	$5\frac{3}{8} \times 2\frac{7}{8} \times 4^{15}/_{16}$	TW2	926
49F1060	510S	1.82	6	$2\frac{5}{8} \times 2\frac{5}{8} \times 4$	F4BP	915
49F1125	509	1.74	6	$2\frac{5}{8} \times 2\frac{5}{8} \times 4\frac{3}{8}$	F4M	908

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Batteries

EVEREADY

ZINC-CARBON BATTERIES

Long-life zinc carbon batteries are most popular for portable power. Available in most standard sizes. For use in industrial, electronic, transistor, and many other applications. Specially sealed to provide protection in handling and against corrosive leakage. Sturdy construction. Long dependable service, even over a wide range of temperatures, plus peak performance at all times.

AAA

AA

Stock No.	Eveready Type	NEDA No.	Volts	Dimensions (in.)	Weight (oz.)	EACH
49F1023	904	910F	1.5	N .445 diam. x 1.180	0.22	.13
49F1123	912	24F	1.5	AAA 13/32 diam. x 1¾	0.3	.20
49F1122	915	15F	1.5	AA 9/16 diam. x 1 31/32	0.6	.20
49F1014	935	14F	1.5	C 1 1/32 diam. x 1 15/16	1.4	.27
49F1118	950	13F	1.5	D 1 11/32 diam. x 2 13/32	3.0	.27

TRANSISTOR CARBON ZINC BATTERIES

Stock No.	Eveready Type	NEDA No.	Volts	Dimensions (in.)	Weight (oz.)	EACH
49F1035	1015	15	1.5	AA 9/16 diam. x 1 31/32	0.6	.22
49F1034	1035	14	1.5	C 1 1/32 diam. x 1 15/16	1.4	.28
49F1030	1050	13	1.5	D 1 11/32 diam. x 2 13/32	3.0	.28
49F1028	216	1604	9.0	9V 1 1/32 (L) x 21/32 (W) x 1 29/32 (H)		.61

C

HEAVY-DUTY CARBON ZINC

Stock No.	Eveready Type	NEDA No.	Volts	Dimensions (in.)	Weight (oz.)	Pkg.	Per Pkg.
48F909	1215	15D	1.5	AA 9/16 diam. x 1 31/32	0.6	1	.25
49F1041	1222	1604D	9.0	C 1 1/32 x 11/16 x 1 15/16	9.0	1	.84
48F910	1235-2	14D	1.5	D 1 1/32 diam. x 1 15/16	1.5	2	.62
48F911	1250-2	13D	1.5	9V 1 11/32 diam. x 2 13/32	1.5	2	.62

INDUSTRIAL BATTERIES

Designed for industry's maximum service demands. Long-life service on heavy-duty drain and long periods of consistent use. Industrial batteries are guaranteed and power-sealed.

Stock Number	Type	Description	EACH
48F912	HS15	Size "AA" Penlite Battery	.16
48F913	HS35	Size "C" Flashlight Battery	.22
48F914	HS50	Size "D" Flashlight Battery	.22
48F915	HS95	Size "D" Alkaline Flashlight Battery	.57
48F916	HS150	Size "D" Heavy-Duty Flashlight Battery	.25

D

ALKALINE BATTERIES

Stock No.	Eveready Type	NEDA No.	Volts	Dimensions (in.)	Weight (oz.)	EACH
49F1168	E90	910A	N 1.5	0.455 diam. x 1.130	0.35	.50
49F1169	E91	15A	AA 1.5	9/16 diam. x 1 31/32	0.75	.52
49F1170	E92	24A	AAA 1.5	0.405 diam. x 1.745	0.4	.52
49F1171	E93	14A	C 1.5	1 1/32 diam. x 1 15/16	2.2	.59
49F1173	E95	13A	D 1.5	1 11/32 diam. x 2 13/32	4.5	.65
48F917	522BP	1604A	9V 9.0	1 1/32 x 11/16 x 1 15/16	1.6	1.16
49F1174	523	1306A	4.5	0.662 diam. x 1.965	1.17	1.53
48F918	531	1307A	4.5	0.662 diam. x 2.290	1.25	1.53
48F919	532	1308A	3.0	0.664 diam. x 1.670	0.8	1.34

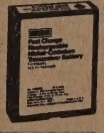
216
1222
522BP

N

RECHARGEABLE NICKEL-CADMIUM TRANSCEIVER BATTERIES

HS4068

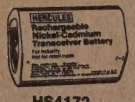
HS4073


HS4080/4130

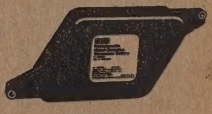
HS4081
4125

HS4133

HS4151
4153



HS4172


HS4280

For industrial use. Can be stored charged or uncharged. Capacity of "Hercules" nickel-cadmium batteries is expressed in average ampere hours, and stays relatively fixed over a wide range of discharge currents. To measure the capacity of a given battery use the 1 hour rate to an end point of 1.0 volts per cell. At normal discharge rates the characteristic is very nearly flat until the battery approaches complete discharge. The battery provides most of its energy above 1.1 volts per cell. Nominal cycle life is 1000 cycles. End of cycle life is considered to be the point where the battery no longer provides 80% of rated capacity. Polarity reversals cause no damage to batteries when discharged at the ten hour rate. Low internal impedance and high capacitance are characteristic. Nominal voltage is 1.2 volts.

STOCK NUMBER	TYPE	VOLTAGE	RATED CAPACITY	DIMENSIONS			WEIGHT		EACH
				LENGTH	WIDTH	HEIGHT	LBS.	OZ.	
48F920	HS4068	14.4	500mAh	2.87	2.80	1.33	—	12	38.40
48F921	HS4073	14.4	4Ah	7.87	2.62	3.10	5	1	156.20
48F922	HS4080	14.4	225mAh	2.76	2.17	0.76	—	5	43.85
48F923	HS4081	14.4	450mAh	2.76	2.17	1.26	—	10	48.46
48F924	HS4125	14.4	450mAh	2.76	2.17	1.26	—	10	43.85
48F925	HS4130	14.4	225mAh	2.76	2.17	0.76	—	5	40.77
48F926	HS4133	1.2	150mAh	0.47 diam.		1.23	—	1	5.00
48F927	HS4151	12.0	500mAh	5.65	2.50	0.65	—	11	38.40
48F928	HS4153	12.0	500mAh	5.65	2.50	0.65	—	11	35.31
49F929	HS4172	6.0	500mAh	2.00	1.25	1.50	—	5	18.39
48F930	HS4280	13.2	1Ah	7.32	1.46	3.10	1	11	92.23

Duracell® Batteries

MALLORY

ALKALINE BATTERIES

Stk. No.	Mallory Type	Eveready Type	Volts or Size	Each
49F1173	MN1300	E95	1.5/D	.64
49F1171	MN1400	E93	1.5/C	.64
49F1169	MN1500	E91	1.5/AA	.57
49F1175	MN1604	216	9	1.16
49F1170	MN2400	E92	1.5/AAA	.50
49F1168	MN9100	E90	1.5/N	.51

For devices that require a long lasting power source that delivers high energy, such as movie cameras cassette players, electronic flash units, etc. Alkaline cells can last up to 6 times as long as carbon cells.

MECURY BATTERIES

Mercury batteries offer more power per unit of volume than any other type making them ideal for use in electronic circuits. Mercury batteries are widely used in electronic instruments, photographic equipment, hearing aids, paging equipment, and radios.

Stock No.	Type	Replaces Eveready	Replaces Burgess	* B.P.	Std. Pkg.	† S.P.	Volts	Dimension	Common Use
48F017	MP401	EP401	...	1.19	24	1.08	1.4	29/64Dx1⅛	Paging
48F018	PX13	EPX13	HPX13	1.10	24	1.00	1.35	⅜x¼	Photo
48F019	PX14	EPX14	HPX14	2.11	24	1.91	2.7	21/32Dx 19/64	Photo
48F020	PX675	EPX675	...	1.10	24	1.00	1.35	29/64Dx1 3/64	Photo
49F563	RM1	E1	HG1	1.10	20	1.00	1.4	⅜D21/32	Phys. hndcp.
49F500	RM1R	E1N	HG1R	1.29	40	1.17	1.35	⅜D21/32	Electronic
49F564	RM1RT	E1NT1	HG1RT	1.40	40	1.27	1.35	⅜D21/32	Electronic
49F565	RM1RT2	E1NT2	HG1RT2	1.51	40	1.37	1.35	⅜D21/32	Electronic
49F501	RM3R	E3	HG3R	2.04	20	1.85	1.35	1Dx21/32	Electronic
49F502	RM4R	E4	HG4R	2.62	20	2.38	1.35	1.2Dx21/32	Electronic
49F504	RM4Z	...	...	1.41	24	1.28	1.4	1.2Dx½	Electronic
49F530	ZM9	E9	HG9	1.20	48	1.09	1.4	17/32Dx1 31/32	Radio "AA"
49F532	RM12	E12	HG12	1.90	10	1.72	1.35	⅜Dx2	Tape Rcrdr.
49F505	RM12R	E12N	HG12R	2.04	10	1.85	1.35	⅜Dx2	Tachometer
49F566	RM12RT	E12NT1	HG12RT	2.15	10	1.95	1.35	⅜Dx2	Electronic
49F567	RM12RT2	E12NT2	HG12RT2	2.26	10	2.05	1.35	⅜Dx2	Electronic
49F423	RM42	E42	HG42	5.23	10	4.75	1.4	1.2Dx2⅜	Elec. "D"
49F506	RM42R	E42N	HG42R	5.76	10	5.23	1.35	1.2Dx2⅜	Elec. "D"
49F507	RM42RT	E42NT1	HG42RT	5.87	10	5.33	1.35	1.2Dx2⅜	Elec. "D"
49F568	RM42RT2	E42NT2	HG42RT2	5.98	10	5.43	1.35	1.2Dx2⅜	Elec. "D"
48F021	TR112	...	...	2.23	20	2.02	2.8	21/32Dx 19/64	Electronic
49F533	TR113R	E113	H113R	2.81	10	2.55	4.05	21/32Dx 53/64	Electronic
49F534	TR114R	E114	H114R	3.10	10	2.81	5.4	21/32Dx1 1/16	Electronic
49F535	TR115R	E115N	H115R	3.88	10	3.52	6.75	21/32Dx1 5/16	Electronic
49F450	TR118	...	...	3.99	10	3.62	11.2	21/32Dx2 1/32	Medical
49F570	TR126	E126	H126	2.68	24	2.43	8.4	¾D×2	Radio
49F431	TR132	E132	H132	2.20	10	2.00	2.8	21/32Dx 15/16	Paging
49F508	TR132R	E132N	H132R	2.29	10	2.08	2.7	21/32Dx 15/16	Electronic
49F536	TR133	E133	H133	2.75	24	2.50	4.2	21/32Dx2	Radio, Pag.
49F571	TR133R	E133N	H133R	2.92	10	2.65	4.05	21/32Dx2	Radio, Pag.
49F510	TR134R	E134N	...	3.52	10	3.20	5.4	21/32Dx2 9/16	Electronic
49F537	TR135R	E135N	H135R	4.15	10	3.77	6.75	21/32Dx3¼	Electronic
49F538	TR136R	E136N	H136R	4.71	10	4.28	8.1	21/32Dx3 9/32	Electronic
49F435	TR137R	E137R	H137R	5.23	12	4.75	9.45	21/32Dx4 19/32	Electronic
49F511	TR146X	E146X	H146X	1.98	24	1.80	8.4	1x19/32x1 15/16	Medical
49F539	TR152R	152N	H152R	2.04	20	1.85	2.7	19/32Dx1⅛	Electronic
49F541	TR162R	E162	H162R	2.49	10	2.26	2.7	21/32Dx⅞	Electronic
49F542	TR163	E163	H163	3.00	10	2.72	4.2	21/32Dx1 5/16	Electronic
49F544	TR164	E164	H164	2.68	24	2.43	5.6	21/32Dx1¾	Phys. Hndcp.
49F439	TR164R	E164N	H164R	3.57	10	3.24	5.4	21/32Dx1¾	Electronic
49F546	TR165	E165	H165	3.39	10	3.08	7.0	21/32Dx2 9/16	Electronic
49F438	TR165R	E165N	H165R	3.87	10	3.51	6.75	21/32Dx2 9/16	TV Tuner
49F426	TR169	E169	H169	5.76	10	5.23	12.6	21/32Dx3 61/64	Electronic
49F548	TR175	E175	E175	2.35	10	2.13	7.0	31/64Dx1 3/32	Microphone
49F549	TR177	E177	H177	2.37	24	2.15	9.8	35/64Dx1 29/32	Radio
49F512	TR233	E233	H233	4.71	10	4.28	4.2	1 1/16Dx1 31/32	Radio
49F440	TR233R	E22N	...	5.23	10	4.75	4.05	1 1/16Dx1 31/32	Radio
49F441	TR234	E234N	...	6.26	10	5.69	5.4	1Dx2 19/32	Electronic
49F424	TR234R	E234N	...	6.78	10	6.16	5.6	1Dx2 19/32	Electronic
49F527	TR235R	E235N	...	8.38	10	7.61	6.75	1Dx3¼	Electronic
49F442	TR236R	E236N	...	9.93	5	9.02	8.1	1Dx3¾	Electronic
49F573	TR286	E286	H286	2.68	6	2.43	8.4	1Dx1 5/16	Radio
49F574	TR289	228	PM8	5.28	6	4.80	12.6	1Dx2 25/64	Electronic
49F425	RM312	E312	HG312	.31	60	.28	1.4	1/64Dx3/64	Radio
49F513	RM400	E400	HG312	.87	60	.79	1.35	29/64Dx3/64	Phys. Handcp.
49F514	RM401	E401	HG400R	1.10	72	1.00	1.4	29/64Dx1⅛	Paging
49F444	RM401R	E401N	HG401R	1.29	20	1.17	1.35	29/64Dx1⅛	Electronic
49F550	RM411	...	...	2.58	12	2.34	14.0	1x17/32x1 3/32	Electronics
49F551	RM412	...	...	3.44	12	3.12	22.4	1x17/32x1 5/16	Electronic
49F451	RM413	...	...	4.29	12	3.90	28.0	1x17/32x2½	Electronic
49F553	RM415	...	...	6.44	6	5.85	42.0	1x17/32x3½	Electronic
49F452	TR431	...	...	4.99	6	4.53	10.7	1x1/16x3 5/16	Dictation
48F022	TR431S	...	...	4.99	6	4.53	11.2	1Dx3 1/64	Alarm
49F554	RM450R	E450	HG450R	1.29	24	1.17	1.35	29/64Dx9/16	Electronic
49F427	RM502R	E502	HG502R	1.82	10	1.65	1.35	½Dx1 31/32	Electronic
49F519	RM520	E520	HG520	.22	60	.20	1.4	½Dx17/64	Phys. Hndcp.
49F555	RM601R	E601	HG601R	1.73	20	1.57	1.35	5/8Dx1 9/32	Medical
49F447	RM625	E625	HG625	1.04	40	.94	1.4	⅝Dx¼	Phys. Hndcp.
49F556	RM625R	E625N	HG625R	1.15	40	1.04	1.35	⅝Dx¼	Electronic
49F520	RM625RT	E625	HG625RT	1.26	40	1.14	1.35	⅝Dx¼	Phys. Hndcp.
49F575	RM625RT2	E625NT1	HG625R	1.37	40	1.24	1.35	⅝Dx¼	Electronic
49F559	RM640	640	HG640	1.04	20	.94	1.35	⅝Dx7/16	Electronic
49F561	RM675	E67	HG675	.54	60	.49	1.4	19/64Dx1 3/64	Electronic
48F023	4R82	...	...	2.85	15	2.59	8.1	.655Dx1.411	Paging
48F024	7R31	...	...	2.14	12	1.94	4.2	1.6x.67x.45	Photo
48F025	9R81	...	...	1.28	20	1.16	1.4	29/64Dx1⅛	Paging
48F026	303996	...	...	2.26	1	2.05	8.4	1x 21/32 x1¾	Medical
48F027	304116	...	...	5.08	24	4.61	12.6	1Dx2.875	Alarm
48F028	304158	...	...	1.75	1	1.59	9.0	...	Medical

RM42

RM12

TR162R

RM675

TR112

***Indicates broken package. †Indicates standard package.**

Batteries and Chargers

GENERAL ELECTRIC

RECHARGEABLE SEALED NICKEL-CADMIUM CELLS

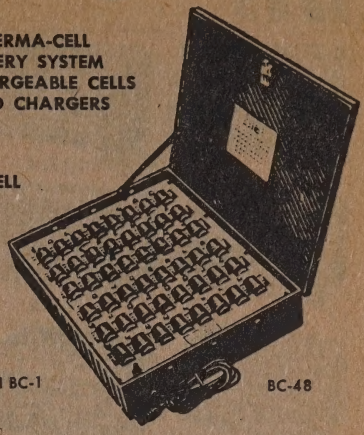
Battery system includes rechargeable sealed nickel-cadmium cells and chargers. Nickel cadmium cells rated 1.25 volts can be recharged up to 1000 times or more. Home consumer uses these cells along with Model BC-1 charger to replace ordinary throwaway batteries. Industrial and commercial firms use C or D cells in larger charger BC-48 or BC-48B. For more energy per charge, GC-4 4.0 amp-hour D size battery is used with the BC-448 charger.

Stk. No.	GE Type	Description	Net
49F990	GC-1	AA Size 0.5 AH Twin Pack	2.07
49F991	GC-2	C Size 1.0 AH Twin Pack	2.20
49F992	GC-3	D Size 1.2 AH Twin Pack	2.27
49F942	GC-4	D Size 4.0 AH Single Unit	5.93
49F993	BC-1	Charger for 2 or 4 GC-1, GC-2, or GC-3 Cells	11.98
49F988	BC-48	Charger for 1 to 48 GC-3 Cells	207.00
49F948	BC-48B	Charger for 1 to 48 GC-2 Cells	207.00
49F949	BC-448	Charger for 1 to 48 GC-4 Cells	244.00

PERMA-CELL

PERMA-CELL BATTERY SYSTEM RECHARGEABLE CELLS AND CHARGERS

Model BC-1



BC-48

RECHARGE BATTERY SYSTEM

Recharges AA, C or D battery pack in just 16 hours. Provides the most cost efficient source of portable energy available today. Delivers lower cost per hour of operation than "throw-away" battery types. Extends effective use up to a thousand times longer than "throwaway" types. AA size nicad cells used in a calculator are estimated to have a life of 6000 hours (based on a lifetime of 1000 discharge/charge cycles). Mini-charger unit plugs directly into wall socket. Battery modules utilize AA, C or D batteries. Strong durable construction. Consistent performance. Excel in high drain applications. Spare batteries can be left on charge for an indefinite period of time without harm to either batteries or charger. Useful in calculators, cameras, tape recorders, radios, toys and other types of battery-powered devices.

Type BC-3. Mini-Charger for Nicad battery modules.
48F239. NET 3.99

Type MA-21. AA Module for BC-3, with 2 AA rechargeable batteries.
48F240. NET 4.80

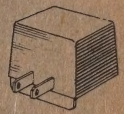
Type MC-22. C Module for BC-3, with 2 C rechargeable batteries.
48F241. NET 5.07

Type MD-23. D Module for BC-3, with 2 D rechargeable batteries.
48F242. NET 5.20

MA-21. AA

MC-22. C

MD-23. D



Type BC-3. Mini-Charger

SEALED CYLINDRICAL CELL BATTERIES

Sealed cylindrical cells and batteries are preferred for most applications requiring long, trouble-free life, high rates of discharge or charge current, complete portability, and safety. Micro-valve resealable pressure relief vent provides this safety by relieving excessive pressure when battery is misapplied or misused. After safely relieving abnormal pressure, vent then reseals and maintains sealed integrity of cell. Edge-welded construction permits very high discharge currents without overheating. Cells with this feature can be operated in ambient temperatures up to 40° C, provided that cell temperature never exceeds 50° C. They are designed for charging at constant current ten-hour of 0.1C rate. Furnished with insulating sleeve and solder tabs.

STANDARD RATINGS AND DIMENSIONS—CYLINDRICAL BATTERIES

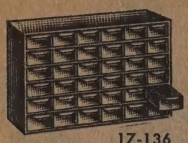
Stock No.	Model Number	Cell Type	DC Volts	Capacity Ampere-hour 1 Hr.	Capacity Ampere-hour 10 Hr.	Maximum Overcharge Rate in mA	Maximum Dimensions Diameter Inches	Diameter mm	Height Inches	Height mm	Outline Fig. #	1-99	100-999	1000-9999
48F112	GCK150ST	1/3 A	1.2	.150	.170	15	.643	16.3	.656	16.7	1	2.10	1.47	1.16
48F223	GCI200ST	1/3 Af	1.2	.175	.200	20	.673	17.1	.655	16.6	1	2.54	1.78	1.40
48F113	GCF250ST	½ AA	1.2	.250	.275	25	.574	14.6	1.28	32.5	1	2.10	1.47	1.16
48F224	GCI450ST	⅔ Af	1.2	.450	.490	40	.673	17.1	1.12	28.4	1	3.28	2.30	1.80
48F123	GCE450SB	AA	1.2	.450	.500	45	.560	14.2	1.978	50.2	2	2.22	1.55	1.22
48F114	GCF500ST	AA	1.2	.500	.550	50	.574	14.6	1.952	49.6	1	2.42	1.69	1.33
48F225	GCR550T	½ sub C	1.2	.500	.550	55	.900	22.9	1.045	26.5	1	2.48	1.74	1.36
48F115	GCK600ST	A	1.2	.600	.660	60	.643	16.3	1.965	49.9	1	2.52	1.76	1.39
48F117	GCR1.0ST	sub C	1.2	1.0	1.2	100	.900	22.9	1.645	41.8	1	2.98	2.09	1.64
48F116	GCT1.0ST	3/5 C	1.2	1.0	1.1	100	1.028	26.1	1.184	30.1	1	3.46	2.42	1.90
48F118	GCT1.1ST	2/3 C	1.2	1.0	1.1	110	1.028	26.1	1.30	33.0	1	3.92	2.74	2.16
48F125	GCT1.5SB	C	1.2	1.8	2.0	150	1.028	26.1	1.952	49.6	2	4.02	2.81	2.21
48F119	GCT1.5ST	C	1.2	1.8	2.0	150	1.028	26.1	1.85	47.1	1	4.08	2.86	2.24
48F120	GCW2.0ST	½ D	1.2	2.0	2.3	200	1.29	32.8	1.464	26.9	1	5.32	3.72	2.93
48F126	GCW3.5SB	D	1.2	3.5	4.0	350	1.29	32.8	2.41	61.2	2	8.10	5.67	4.46
48F121	GCW3.5ST	D	1.2	3.5	4.0	350	1.29	32.8	2.311	59.6	1	8.18	5.73	4.50

RECTANGULAR BATTERIES

Stock No.	Model Number	Cell Type	DC Volts	Capacity Ampere-Hour 1 Hr.	Capacity Ampere-Hour 10 Hr.	Maximum Overcharge Rate in mA	Maximum Dimensions Width Inches	Width mm	Length Inches	Length mm	Height Inches	Height mm	Outline Fig. #	1-99	100-999	1000-9999
48F230	5GCF500	AA	6	.500	.550	50	.78	19.8	3.01	76.5	2.16	54.9	3	13.54	9.48	7.45
48F234	10GCF500	AA	12	.500	.550	50	1.34	34.0	3.01	76.5	2.16	54.9	3	25.08	17.56	13.79
48F231	5GCR-1.0	Sub C	6	1.0	1.2	100	1.12	28.4	4.71	120	1.84	46.7	3	17.02	11.91	9.36
48F235	10GCR1.0	Sub C	12	1.0	1.2	100	2.02	51.3	4.71	120	1.84	46.7	3	33.60	23.52	18.48
48F232	5GCW2.0	½ D	6	2.0	2.3	200	1.51	38.4	6.68	170	1.67	42.4	3	29.32	20.52	16.13
48F236	10GCW2.0	½ D	12	2.0	2.3	200	2.81	71.4	6.68	170	1.67	42.4	3	57.94	40.56	31.87
48F233	5GCW3.5	D	6	3.5	4.0	350	1.58	40.1	6.75	171	2.62	66.5	3	44.80	31.36	24.64
48F237	10GCW3.5	D	12	3.5	4.0	350	2.88	73.2	6.75	171	2.62	66.5	3	88.76	62.13	48.82

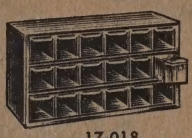
Akro-Mils Drawer Cabinets

MODULAR HEAVY-DUTY CABINETS


17-136

18-228

18-320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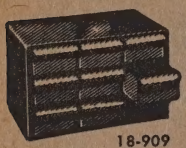
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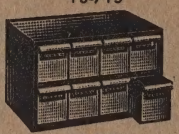
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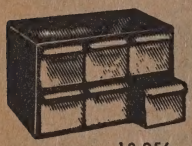

18-956

18-803

WELDED STEEL FRAMES

- **Chip-proof, scratch-resistant baked enamel finish**
- **Standard 18" width**
- **Keyhole slots for wall mounting**
- **Attractive charcoal hammertone finish**
- **Nesting "feet" for stability in stacking**

MOLDED STYRENE DRAWERS

- **Long-lasting—rust and corrosion proof**
- **Safe—no sharp edges**
- **Lightweight—60% lighter than steel**
- **Non-Spreading—won't bulge or sag**
- **Spill-proof—safety tab keeps drawer open**

TWO TYPES OF STYRENE DRAWERS

Gray Heavy-Duty
Virtually unbreakable hi-impact styrene—ideal for most requirements. Guaranteed for life, won't crack, dent or break.

Transparent
Where frequent visual inventories are required, transparent drawers permit a quick check.

Dividable
All drawers can be partitioned into several sub-compartments. Patented dovetail dividers lock in place—won't creep or slip. Label slots provide easy indexing.

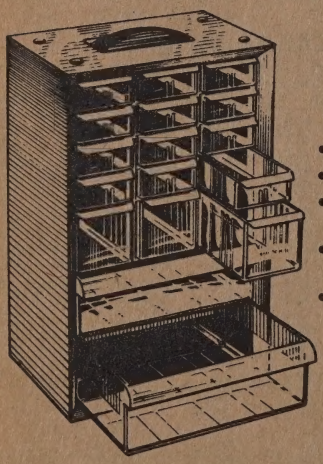
Gray HD Stk. No.	Type	Trans. Stk. No.	Type	Drws.	Drawer Size H"	Drawer Size W"	Drawer Size D"	Cabinet Size H"	Cabinet Size D"	Each
.....	.....	80W057	17-136	36	1¼	2¾	5⅞	9½	6	19.70
80W065	18-228	.....	.....	28	2⅛	2⅛	11	11	11	32.55
.....	.....	80WC85	17-018	18	2½	2¾	5⅞	9	6	19.70
80W061	18-320	80W062	17-320	20	2⅛	3⅛	11	11	11	
80W056	18-416	80W050	17-416	16	2⅛	4	11	11	11	
80W055	18-715	80W063	17-715	15	3 1/32	3⅛	11	11	11	29.35
80W054	18-909	80W064	17-909	9	3 1/32	5¼	11	11	11	
80W066	18-608	.....	.....	8	4¾	4	11	11	11	
80W067	18-956	.....	.....	6	4¾	5¼	11	11	11	
80W086	18-803	.....	.....	3	3 1/32	16¾	11	11	11	29.70

DIVIDERS FOR AKRO MILS CABINETS

Stk. No.	Type	Description	For Drwrs. in cabinet	Per Pkg.	Each
82F083	42-121	Long	17-136 11-150 11-124	25	2.22
82F119	40-501	Cross	17-136 11-150 11-124	25	.98
82F030	42-301	Cross	17-320 18-320	25	1.83
82F131	43-301	Cross	17-909 18-909	25	2.93
82F132	43-331	Long	17-715 18-715 17-909 18-909	10	2.75
82F134	43-101	Cross	17-715 18-715	25	2.75
82F137	42-401	Cross	17-416 18-416	25	2.22
82F138	42-431	Long	17-416 18-416 17-320 18-320	10	1.83
82F161	42-201	Cross	18-228	25	2.92
82F162	44-401	Cross	18-608	25	3.52
82F165	44-501	Cross	18-956	25	3.85
82F175	40-901	Cross	17-018 11-712	25	1.83

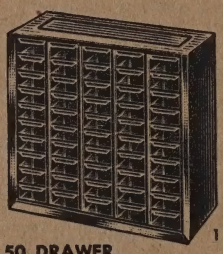
ECONOMY DRAWER CABINETS

STORAGE ORGANIZER
PORTABLE 17-DRAWER CABINET

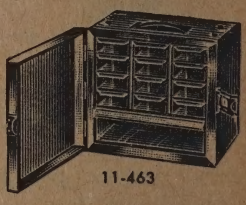


- **Self-stacking frame**
- **Dividable drawers**
- **Chip-proof enamel finish**
- **Built-in carrying handle**
- **Three drawer sizes**

Model 11-117. Steel-frame cabinet measures 10"W x 15"H x 6½"D. 17 dividable transparent drawers. 3 drawer sizes: 12 standard, 2¾"W x 1¼"D x 5¾"L; 3 double deep, 2¾"W x 2¼"D x 5¾"L; 2 jumbo, 8¾"W x 2½"D x 5¾"L. Finish is metallic blue chip-proof enamel. Built-in carrying handle, stamped key-hole slots facilitate wall mounting. Wt. 7 lbs.
80W058 NET.....11.19*


11-150

50 DRAWER
Portable steel frame, 50 Full Size 2¾" x 1¼" x 5¾" see-thru drawers. Blue metallic finish, dividable drawers. Stackable frame, wall mountable.


11-463

13 DRAWER WITH LOCKING DOOR
Portable steel frame, 12 Full Size 2¾" x 1¼" x 5¾" see-thru drawers. 1 Jumbo Deep 8¾" x 2½" x 5¾" drawer. Gray metallic finish, dividable drawers. Stackable frame, wall mountable.

11-712

12 DRAWER
Portable steel frame, 12 Double Deep 2¾" x 2½" x 5¾" see-thru drawers. Blue metallic finish, dividable drawers. Stackable frame, wall mountable.

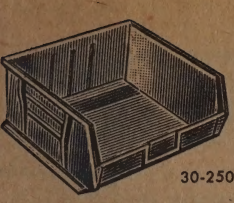
11-124

24 DRAWER
Portable steel frame, 24 Full size 2¾" x 1¼" x 5¾" see-thru drawers. Blue metallic finish, dividable drawers. Stackable frame, wall mountable.

Stk. No.	Type	Drwrs.	Cabinet Size	Shpg. Wt.	Each
80W087	11-150	50	15" x 15" x 6½"	12 lbs.	15.99
80W052	11-463	13	10" x 9" x 6½"	5¾ lbs.	8.45
80W088	11-712	12	13" x 9½" x 6½"	7 lbs.	8.45
80W051	11-124	24	13" x 9½" x 6½"	7 lbs.	8.45

Storage Bins and PC Equipment

AKRO-MILS STACKING STORAGE BINS


30-250

30-240

30-230

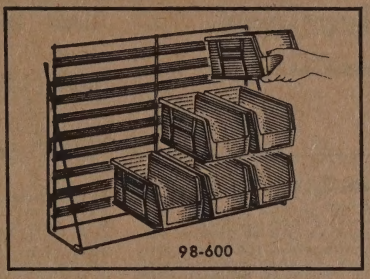
30-220

30-210

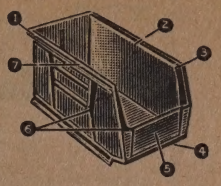
Efficient bins for storing, assembling, and transporting small parts, components, and finished goods. Use on shelving, rail or panel systems, or stacked. Blue-colored molded polypropylene is rust-proof, corrosion-proof, impervious to water, oils, and chemicals.

Stk. No.	Type	Inside Dimension L	W	H	X*	Each
80W089	30-210	4¾	3 7/16	2 13/16	4	.52
80W090	30-220	6¾	3 7/16	2 13/16	6	.96
80W091	30-230	10¼	4⅜	4¾	9	2.35
80W092	30-240	14	6 9/16	6¾	12	4.71
80W093	30-250	14	14¾	6¾	12	6.59

(*) Inside bottom length-front to back.


98-600

Model 98-600. Bench Rack. Accommodates 24 of 30-210, 24 of 30-220 or 12 of 30-230.
80W059. NET 21.95



1. Full width hanger—suspendable from most straight rails & carts.
2. Extra-wide stacking ledges for stability
3. Anti-Slide "Stops" prevent shifting of stacks when moved.
4. Extra large label holder.
5. Heavy reinforcing ribs prevent spreading under heavy loads.
6. Finger grips for easier handling.
7. Special slot under bin holds computer size inventory card.

PLASTIC UTILITY BOXES

MODEL 05-505, 5-15 COMPARTMENTS

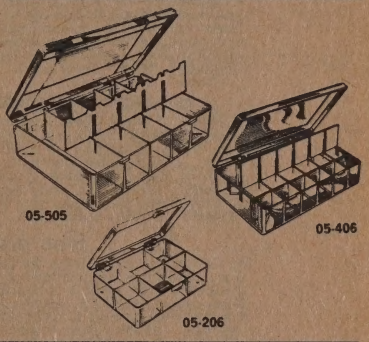
Has 5 permanent compartments that can be subdivided into 15 equal compartments or varied in other combinations. Molded of clear styrene, unbreakable hinges. Snap-tight lid. Size: 11½" wide x 6½" deep x 2⅜" high. Packaged in protective chipboard sleeves.
82F025. NET 2.31

MODEL 05-406, 6-18 COMPARTMENTS

Has six permanent compartments, 1¼" x 4⅛" each. Two removable partitions, scored to snap off at intervals, allowing up to eighteen subcompartments. Hinged lid. Molded of transparent styrene. Size 8½" wide x 4¾" deep x 1½" high.
82F135. NET 1.40

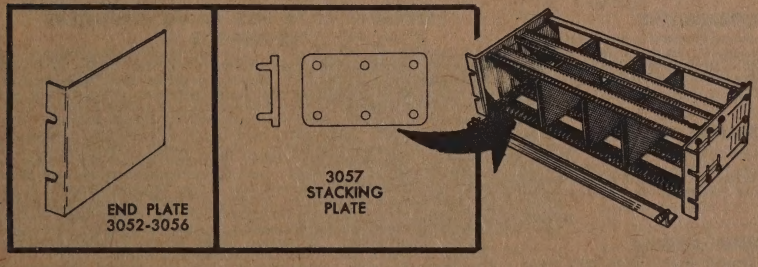
MODEL 05-206, 6 EQUAL COMPARTMENTS

Has six equal compartments, 1¼" x 1⅜" each. Break-away hinges give when lid is closed over overloaded box; top pops off, snaps into position. Size 4⅜" x 2⅝" x 1".
82F136. NET ..... .44



H. H. SMITH PRINTED CIRCUIT CARD EQUIPMENT

STACKING & BLANK END PLATES



P.C. Card Rack Blank End Plates. Anodized aluminum plates. Use with standard #3050 hardware, to design custom rack sizes. Flanged and notched for RETMA mounting. Drill templates furnished with each pair of plates.

P.C. Card Rack Stacking Plates. Designed to stack one or more #3050 card racks. Can also be used to create double size card. Made of anodized aluminum, supplied with mounting hardware. Packaged in pairs.

Stk. No.	Type	Length	Height	Ctr.	Per Pair
22F095	3052	7.812	5.219	1.125	4.80
22F096	3053	9.000	6.970	2.000	5.80
22F097	3054	11.000	8.718	2.875	7.00
22F098	3055	12.000	5.219	1.125	5.80
22F099	3056	12.000	10.470	3.750	9.00
22F100	3057	.....	.....	.....	3.50

P.C. Card Rack. Made of heavy gauge anodized aluminum, guide and alignment members are extrusions. Capacity 39 cards, 1.16" thick. Card spacing .400" minimum centers, adjustable in .400" increments. Accommodates card edge connectors with mounting centers from 0.936" minimum to 4.437" maximum. All hardware, plastic card guides (for 1/16" thick cards), step and assembly instructions included.

Stk. No.	Type	Each
65F020	3050	27.95

BOARD GUIDES

Stk. No.	Type	Pkg. of 100
39F1780	3051	5.00

Instrument Cases and Covers. Ideal for small instruments and test equipment. The right size and the right mounting for your requirements. Molded of high quality, glass finish, thermosetting plastic. Threaded brass insert for cover mounting. BLACK ONLY.

Stk. No.	Type	H	W	D	Insert	Ea.
22F101	2377	4"	2⅞"	1 9/16"	4-40*	.73
22F102	2291	5"	4¼"	1¾"	6-32	1.40
22F103	2255	6¼"	3¾"	2"	6-32	1.30
22F104	2257	6 3/16"	5 9/32"	2 5/16"	4-40	2.25
22F105	2289	8½"	7 1/16"	3"	6-32	2.60

PHENOLIC COVERS

Stk. No.	Type	Description	Each
22F108	2378	For No. 2377	.22
22F109	2292	For No. 2291	.33
22F110	2256	For No. 2255	.85
22F111	2260	For No. 2257	1.50
22F112	2390	For No. 2289	2.40

PANEL PLATE

Stk. No.	Type	Description	Each
22F115	2379	For No. 2255	1.10

*Self-tapping

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INDUSTRIAL

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AGD-367 to -380	Classic Cabinet Doors	608B
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AGR-9302 to -9306	Classic II Cabinet Racks	608B
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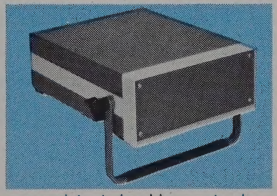
TR SERIES ENCLOSURES



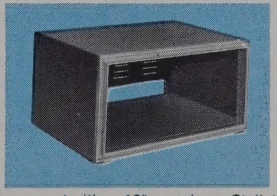
Can be used as desk top instrument cases, in systems, or as portable enclosures. The TR series is designed to accommodate an accessory chassis, or 1/16" thick printed circuit boards. Top and bottom of instrument enclosures are .050" aluminum; front panel .090" aluminum. Top and bottom can be removed. Carrying handle is also used as tilting bail. Finished in mar-resistant, durable easy to clean Nextel. In two colors, type number suffix: BLN, blue and white; BRN, brown and white. Enclosure includes front panel, rubber feet and carrying handle. Weight TR-6100, 4½ lbs.; TR-6101, 5½ lbs.; TR-6102, 7 lbs.; TR-6103, 9½ lbs.

BLN Stk. No.	BRN Stk. No.	Type	Size, In. W	D	H	Panel Space, In.	Each 1-4	5-9
86F918	**86F917**	TR-6100	8 5/16	10¾	3½	3¼x8 3/64	**71.30**	**64.15**
86F920	**86F919**	TR-6101	8 5/16	13¼	5¼	5x8 3/64	**76.30**	**68.65**
86F922	**86F921**	TR-6102	11 1/16	13¼	7	6¾x10 53/64	**83.60**	**75.25**
86F936	**86F923**	TR-6103	12	18¾	8	7¾x11¾	**90.25**	**81.25**

CHASSIS FOR TR SERIES

Stk. No.	Type	Size, In. Length	Width	Height	Wt. Lbs.	Fits Cabinet	Each Each	2-4
86F937	TRC-610	10⅓	7¾	1¼	¼	TR-6100	**7.10**	**6.45**
86F938	TRC-611	12⅝	7¾	1¾	1	TR-6101	**7.45**	**6.75**
86F939	TRC-612	12⅝	10½	1¾	1¼	TR-6102	**8.35**	**7.60**
86F940	TRC-613	18⅓	11 7/16	1¾	1¾	TR-6103	**10.45**	**9.50**

STYLIST CABINET



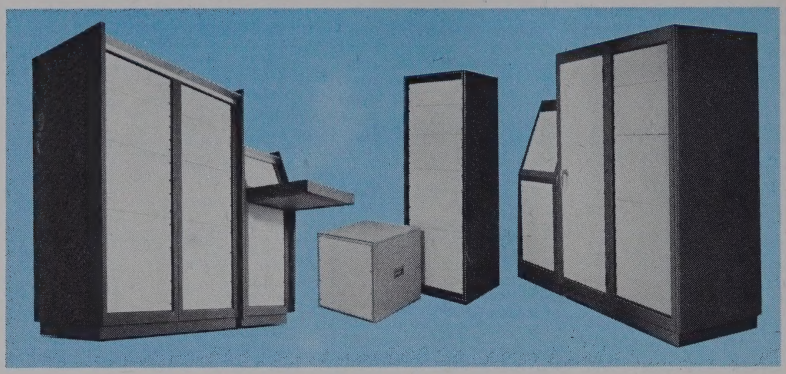
Square corner design, aluminum extrusion framing of front. Full width flanges along top and bottom of cabinet add strength. No tilt, no sway when cabinet is loaded, capacity of 500 lbs. Self-supporting 16 gauge cold rolled steel, no internal framework. Louvered rear panel, 1¾" high opening for cable accessories. Front and rear openings meet E.I.A. standards, accept either 19" panels or Stylist Series doors. Rubber feet furnished. RB, royal blue; HG, hammertone gray. Size: 20 13/16" width by 15¼" depth, overall.

RB Stk. No.	HG Stk. No.	Type	Size, In. Height	Panel	Wt. Lbs	Each 1-4	5-9	10-14
86F925	**86F924**	S-1640	8 13/16	7	26¾	**79.15**	**71.25**	**63.30**
86F927	**86F926**	S-1641	10 9/16	8¾	29	**82.90**	**74.60**	**66.30**
91F024	**91F025**	S-1642	12 5/16	10½	31	**87.25**	**78.55**	**69.80**
91F026	**86F928**	S-1643	14 1/16	12¼	33	**90.85**	**81.75**	**72.70**
91F027	**86F929**	S-1644	15 13/16	14	35¼	**94.75**	**85.30**	**75.80**
86F931	**86F930**	S-1645	17 9/16	15¾	37¼	**105.15**	**94.65**	**84.10**

FRONT DOORS FOR STYLIST CABINETS

RB Stk. No.	HG Stk. No.	Type	Height In.	Wt. Lbs	Fits Cabinet	Each Each	2-4	5-9
86F933	**86F932**	SD-540	7	4¾	S-1640	**19.05**	**17.30**	**15.55**
86F935	**86F934**	SD-541	8¾	5½	S-1641	**20.40**	**18.55**	**16.70**
91F028	**86F914**	SD-543	12¼	7	S-1643	**22.05**	**20.05**	**18.05**
91F029	**86F915**	SD-544	14	7¾	S-1644	**23.45**	**21.40**	**19.25**
86F941	**86F916**	SD-545	15¾	8½	S-1645	**24.80**	**22.55**	**20.30**

Designers' Group from Bud Radio



Designers' Group sets the pace for contemporary-styled enclosures. These are the enclosures with that custom-made look, but far from a custom-made price. Yet, there's more to the Designers' Group than appearance. Here's the quality line designed and built by Bud, the industry's leading manufacturer of cabinets, racks, enclosures and accessories. That means proven craftsmanship; enclosures produced to meet Bud's high-quality standards and yours. And regardless of the style or size enclosure you need, you're assured of immediate delivery. Assured of value.

CLASSIC II CABINET RACKS

Front framed with double-rimmed brushed aluminum extrusion. All steel. 14 ga. frame; 16 ga. top, bottom; 18 ga. sides. Takes 19" panels. Front rails tapped 10-32 with W.E. spacing. Pierced rear rails. Rails adjustable along support braces. Drilled for Bud RC-7758 casters. Gray and royal blue textured enamel. Select white panels. Comes assembled, including rear door.

CLASSIC II CABINET RACK

Gray Stk. No.	R. Blue Stk. No.	Type No.	W.	D.	Ht.	Panel Ht.	Lbs.	1-2	3-4	5-7
99F1032	99F1033	AGR-9302	22"	22"	47 5/16"	42"	126	218.50	196.65	174.80
99F1034	99F1035	AGR-9303	22"	22"	57 13/16"	52 1/2"	146	242.65	218.40	194.10
99F1036	99F1037	AGR-9304	22"	22"	68 5/16"	61 1/4"	162	269.65	242.70	215.70
99F1038	99F1039	AGR-9306	22"	22"	82 5/16"	77"	181	308.85	277.95	247.10

FRONT DOOR FOR CLASSIC II RACKS

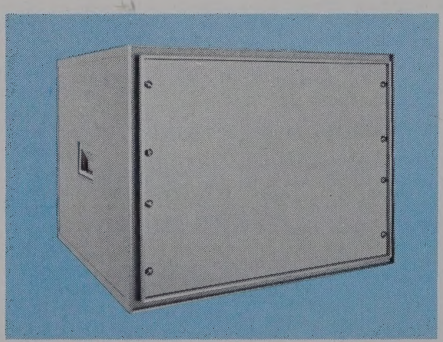
Gray Stk. No.	R. Blue Stk. No.	Type	Fits Rack	Lbs.	1-2	3-4	5-7
99F1040	99F1041	AGD-932	AGR-9302	19	49.45	44.50	39.55
99F1042	99F1043	AGD-933	AGR-9303	23	52.65	47.40	42.10
99F1044	99F1045	AGD-934	AGR-9304	26	55.50	49.95	44.40
99F1046	99F1047	AGD-936	AGR-9306	31	60.85	54.75	48.70

CLASSIC II CABINETS

Double-rimmed brushed aluminum extrusion frames front. Recessed chrome handles attached to two steel flanges extending along interior, provide carrying safety and support. Clear inside depth, 20 9/16"; overall depth, 21 7/16"; overall width, 20 13/16". Takes 19" panels. Made of .060 aluminum; frame, 6063-TS aluminum extrusions. Front and rear mounting rails tapped 10-32 W.E. spacing. Two 16 ga. vertically adjustable chassis supports. B-50, 52 and 54 blowers fit cabinets. For gray textured (GT) or royal blue (RB) cabinets use white door; for gold, use sand. Comes assembled with two aluminum handles and four feet.

DOORS (19" WIDE)

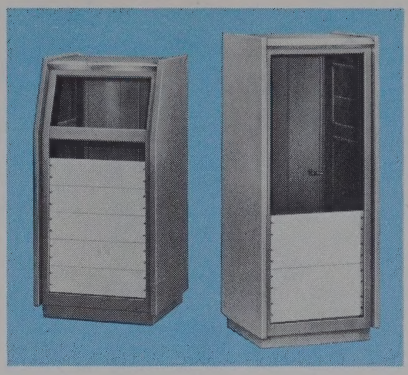
Sand Stk. No.	White Stk. No.	Type AGD	Height	Lbs.	Each	2-4	5-9	10-14
91F1451	91F1466	367	5 1/4"	1 3/4	14.95	13.60	12.25	10.90
91F1452	91F1467	368	7"	2	17.60	16.00	14.40	12.80
91F1453	91F1468	369	8 3/4"	2 3/4	19.40	17.65	15.90	14.10
91F1454	91F1469	370	10 1/2"	3	21.10	19.20	17.30	15.35
91F1455	91F1470	371	12 1/4"	3 1/2	20.65	20.65	18.60	16.50
91F1456	91F1471	372	14"	4	21.10	21.10	19.00	16.90
91F1457	91F1472	373	15 3/4"	4 3/4	23.80	23.80	21.40	19.05
91F1458	91F1473	374	17 1/2"	5	25.75	25.75	23.20	20.60
91F1459	91F1474	375	19 1/4"	5 1/2	27.55	27.55	24.80	22.05
91F1460	91F1475	376	21"	6 1/4	29.35	29.35	26.40	23.50
91F1461	91F1476	377	22 3/4"	6 3/4	30.70	30.70	27.65	24.55
91F1462	91F1477	378	24 1/2"	7 1/4	32.20	32.20	29.00	25.75
91F1463	91F1478	379	26 1/4"	7 1/2	34.05	34.05	30.65	27.25
91F1464	91F1479	380	28"	8	36.40	36.40	32.75	29.10



CABINETS

Gold Stk. No.	GT Stk. No.	RB Stk. No.	Type AGC	Height Inches	Wt. Lbs.	Panel Ht., In.	1-2	3-4	5-7
80W688	80W689	91F1684	9267	7 1/16	29 1/2	5 5/16	147.40	132.65	117.90
80W690	80W691	91F1685	9268	8 3/16	30 1/2	7 1/16	151.35	136.20	121.10
80W692	80W693	91F1686	9269	10 5/16	32 1/4	8 13/16	155.20	139.70	124.15
80W694	80W695	91F1687	9270	12 5/16	33 1/4	10 5/16	155.85	140.25	124.70
80W696	80W697	91F1688	9271	14 1/16	34 1/4	12 5/16	161.05	144.95	128.85
80W698	80W699	91F1689	9272	15 13/16	35	14 1/16	164.80	148.30	131.85
80W700	80W701	91F1690	9273	17 5/16	36	15 13/16	168.10	151.30	134.50
80W702	80W703	91F1691	9274	19 5/16	36 3/4	17 5/16	171.60	154.45	137.30
80W704	80W705	91F1692	9275	21 1/16	37 3/4	19 5/16	173.35	156.00	138.70
80W706	80W707	91F1693	9276	22 13/16	38 1/2	21 1/16	176.05	158.45	140.85
80W680	80W681	91F1694	9277	24 5/16	39 1/2	22 13/16	184.95	166.45	147.95
80W682	80W683	91F1695	9278	26 5/16	40 1/4	24 5/16	187.05	168.35	149.65
80W684	80W685	91F1696	9279	28 1/16	41 1/4	26 5/16	189.60	170.65	151.70
80W686	80W687	91F1697	9280	29 13/16	42	28 1/16	193.60	174.25	154.90

Series 2000 Cabinet Racks



Frame is all-welded. 14 ga. steel members; 18 ga. steel door, sides, and top. "U" braces welded to sides of frame augment strength, rigidity; act as mounting for vertical rails which can be adjusted horizontally. Front panel mounting rails tapped 10-32; rear rails pierced 9/32". Base drilled for Bud RC-7758 casters. Standard finishes: royal blue (RB) or gray textured (GT) enamel with clear anodized aluminum extrusion, and gold textured (GD) with gold anodized aluminum extrusion.

INCLINED PANEL AND EXTRA-DEEP CABINET RACKS

Inclined panel positioned 20° off vertical. Panel mounting rails in the front vertical section, inclined panel section and rear are adjustable front to rear. Ht. 51½"; wid. 24 3/16"; outside dep. 23⅞"; inside dep. 20½"; wgt. 173 lbs.

Extra-deep cabinet rack has 30¾" depth. 14 ga. steel welded frame; doors, sides, tops 18 ga. Front panel mounting rails tapped 10-32; rear rails pierced 3/32". Drilled for Bud RC-7758 casters. Wgt. 223 lbs.

PLAIN SIDES AND DOOR (LOUVRED SIDES & DOOR UPON REQUEST)

R. Blue Stk. No.	Gray Stk. No.	Gold Stk. No.	Type	Height	Width	Outside Depth	Clear Ins. Dep.	Inclined Panel	Vertical Panel	1-2	3-4	5-7
80W650	80W512	80W651	SE-2064	51¼"	24 3/16"	23⅞"	20½"	10½"	29¾"	279.40	251.45	223.50
80W513	80W652	80W653	SE-2065	51¼"	24 3/16"	23⅞"	20½"	15¾"	24½"	294.40	264.95	235.50
80W654	80W514	80W655	SE-2066	51¼"	24 3/16"	23⅞"	20½"	17½"	22¾"	294.40	264.95	235.50

SERIES 30-2000 EXTRA DEEP

99F1055	99F1058	99F1061	S-30-2064	51¼"	24 3/16"	32⅝"	29¼"	10½"	29¾"	313.15	281.85	250.50
99F1056	99F1059	99F1062	S-30-2065	51¼"	24 3/16"	32⅝"	29¼"	15¾"	24½"	331.95	298.75	265.55
99F1057	99F1060	99F1063	S-30-2066	51¼"	24 3/16"	32⅝"	29¼"	17½"	22¾"	294.40	264.95	235.50

ADD-A-RACK ENCLOSURES

R. Blue Stk. No.	Gray Stk. No.	Gold Stk. No.	Type	To Add A-Rack To	Wt. Lbs.	1-2	3-4	5-7
80W662	80W663	80W664	ASE-2084	SE-2064	115	236.55	212.90	189.25
80W665	80W666	80W667	ASE-2085	SE-2065	115	250.75	225.70	200.60
80W668	80W669	80W670	ASE-2086	SE-2066	120	250.75	225.70	200.60

UPRIGHT CABINET RACKS

Series below include plain sides, rear door and solid top. Louvered sides and doors upon request. Width, 24 3/16"; outside depth 23⅞" for 20½" inside depth; 27⅜" for 24" inside depth. Take 19" panels.

PLAIN SIDES AND DOORS (LOUVRED SIDES AND DOOR UPON REQUEST)

R. Blue Stk. No.	Gray Stk. No.	Gold Stk. No.	Type	Ht.	Clear Ins. Dept.	Panel Space	Wt. Lbs.	1-2	3-4	5-7
80W500	80W638	80W639	E-2000	30¼"	20½"	21"	125	228.85	205.95	183.10
80W640	80W501	80W641	E-2001	40¾"	20½"	31½"	150	251.10	226.00	200.90
80W502	80W503	80W642	E-2002	44¼"	20½"	35"	155	256.15	230.55	204.90
80W643	80W644	80W645	E-2003	51¼"	20½"	42"	167	281.85	253.65	225.50
80W646	80W647	80W648	E-2004	61¾"	20½"	52½"	205	182.05	163.85	145.65
80W649	80W625	80W504	E-2005	70½"	20½"	61¼"	219	340.45	306.40	272.35
80W621	80W622	80W623	E-2006	79¼"	20½"	70"	240	374.95	337.45	299.95
80W624	80W505	80W626	E-2007	88"	20½"	78¾"	262	391.35	352.20	313.10
80W627	80W628	80W629	E-2008	30¼"	24"	21"	135	235.50	211.95	188.40
80W630	80W631	80W632	E-2009	40¾"	24"	31½"	160	264.60	238.15	211.70
80W633	80W634	80W635	E-2010	44¼"	24"	35"	165	271.35	244.20	217.10
80W506	80W636	80W637	E-2011	51¼"	24"	42"	187	303.30	272.95	242.65
80W604	80W605	80W606	E-2012	61¾"	24"	52½"	222	325.20	292.70	260.15
80W607	80W507	80W608	E-2013	70½"	24"	61¼"	235	367.30	330.55	293.85
80W609	80W610	80W611	E-2014	79¼"	24"	70"	265	403.30	362.95	322.65
80W612	80W613	80W614	E-2015	88"	24"	78¾"	280	427.05	384.35	341.65

SERIES 30-2000 (EXTRA DEEP) UPRIGHT CABINET RACKS

R. Blue Stk. No.	Gray Stk. No.	Gold Stk. No.	Type	Height	Width	Outside Depth	Clear Ins. Dep.	Panel Space	Wt. Lbs.	1-2	3-4	5-7
99F1064	99F1072	99F1080	E-30-2000	30¼"	24 3/16"	32⅝"	29¼"	21"	150	267.85	241.05	214.30
99F1065	99F1073	99F1081	E-30-2001	40¾"	24 3/16"	32⅝"	29¼"	31½"	175	292.95	263.65	234.35
99F1066	99F1074	99F1082	E-30-2002	44¼"	24 3/16"	32⅝"	29¼"	35"	180	311.50	280.35	249.20
99F1067	99F1075	99F1083	E-30-2003	51¼"	24 3/16"	32⅝"	29¼"	42"	217	337.05	303.35	269.65
99F1068	99F1076	99F1084	E-30-2004	61¾"	24 3/16"	32⅝"	29¼"	52½"	248	372.60	335.35	298.10
99F1069	99F1077	99F1085	E-30-2005	70½"	24 3/16"	32⅝"	29¼"	61¼"	259	408.60	367.75	326.90
99F1070	99F1078	99F1086	E-30-2006	79¼"	24 3/16"	32⅝"	29¼"	70"	303	452.50	407.25	362.00
99F1071	99F1079	99F1087	E-30-2007	88"	24 3/16"	32⅝"	29¼"	78¾"	307	473.50	426.15	378.80

DESK TOPS

For Series 2000 racks only. Two pre-slotted supporting channels quickly bolted to rails. White Formica. Dimensions: 24 3/16" x 19½" x 3 1/16". Supports in excess of 200 lbs.

RB	GT	GD	Type	Fits. Ser. 2000	Supp. Channel	Wt.	1-2	3-4	5-7
78F002	78F000	78F001	DT-2960	with 23⅞" d.	21 9/32"	22 lbs.	65.95	59.35	52.75
78F003	78F004	78F005	DT-2962	with 27⅜" d.	24 25/32"	23 lbs.	68.05	61.25	54.45

Series 60 Cabinet Racks

Stock No. Gray	Ht.	Panel Space	Wt. Lbs.	With Plain Sides & Door—OD 22"—Net Each, Lots of Type	1-2	3-4	5-7
92F900	29⅝"	21"	118	60-2300	**210.90**	**189.80**	**168.70**
92F901	40⅛"	31½"	156	60-2301	**232.10**	**208.90**	**185.70**
92F902	50⅝"	42"	173	60-2302	**259.40**	**233.45**	**207.50**
92F903	61⅛"	52½"	197	60-2303	**303.80**	**273.40**	**243.05**
92F904	69⅞"	61¼"	220	60-2304	**330.60**	**297.55**	**264.50**
92F905	78⅝"	70"	235	60-2305	**363.65**	**327.30**	**290.90**
92F906	87⅜"	78¾"	265	60-2306	**374.10**	**336.70**	**299.30**

Stock No. Gray	Ht.	Panel Space	Wt. Lbs.	With Plain Sides & Door—OD 25½"—Net Each, Lots of Type	1-2	3-4	5-7
92F907	29⅝"	21"	156	60-2307	**218.75**	**196.90**	**175.00**
92F908	40⅛"	31½"	176	60-2308	**243.75**	**219.40**	**195.00**
92F909	50⅝"	42"	185	60-2309	**278.90**	**251.00**	**223.10**
92F910	61⅛"	52½"	211	60-2310	**312.90**	**281.60**	**250.30**
92F911	69⅞"	61¼"	240	60-2311	**350.75**	**315.70**	**280.60**
92F912	78⅝"	70"	256	60-2312	**372.00**	**334.80**	**297.60**
92F913	87⅜"	78¾"	267	60-2313	**387.60**	**348.85**	**310.10**

All-welded frame; 14 ga. cold-rolled steel channels. Sides "U" braced with perforated channels for fastening vertical mounting rails and to support brackets, shelves, slides, etc. Sides and rear door, 18 ga. steel. 4" wide vertical channel welded to door. Two pairs of fully adjustable panel mounting rails. Front rails drilled and tapped 10-32 W.E. spacing. Rear rails drilled to universal spacing. Desk tops, turrets, drawers, slides, sloping panel supports, front door easily installed. Relay rack panels in light gray and light blue. Available with louvered door and side; louvered door, plain side; plain door, louvered side.

UPRIGHT CABINET RACKS

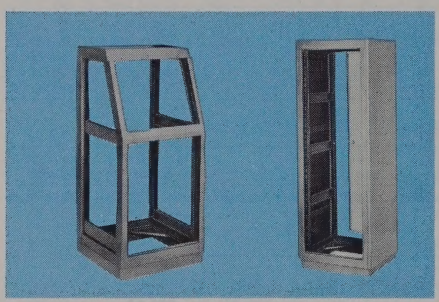
Dimensions: width, $24^{1}/_{16}$"; inside depth, 20½" clear on units with 22" outside depth, 24" on all others; top opening, $18^{5}/_{16}$" wide x 17" deep on units with 22" depth; top opening on all others, $18^{5}/_{16}$" wide, 20½" deep.

INCLINED PANEL CABINET RACKS

Dimensions: height, 50⅝"; width, $24^{1}/_{16}$"; depth, 22"; clear inside depth, 20½"; weight, 165 lbs. Gray textured finish.

Stk. No.	Type	Incline Panel Hgt.	Vert. Panel Hgt.	Top Opening W.xD.	Plain Sides and Door Net Each, Lots of 1-2	3-4	5-7
93F023	60-2330	10½"	29¾"	$18^{5}/_{16}$"x$11^{53}/_{64}$"	**259.05**	**233.15**	**207.25**
93F024	60-2331	15¾"	24½"	$18^{5}/_{16}$"x$10^{1}/_{32}$"	**274.50**	**247.05**	**219.60**
93F025	60-2332	17½"	22¾"	$18^{5}/_{16}$"x$9^{27}/_{64}$"	**274.50**	**247.05**	**219.60**

Stock No.	Type	Top Opening—W.xD.	Incl. Panel	Vert. Panel	1-2	3-4	5-7
99F1029	30-2330	$18^{5}/_{16}$"x$20^{9}/_{16}$"	10½"	29¾"	**310.85**	**279.75**	**248.70**
99F1030	30-2331	$18^{5}/_{16}$"x18¾"	15¾"	24½"	**329.40**	**296.45**	**263.50**
99F1031	30-2332	$18^{5}/_{16}$"x$18^{3}/_{16}$"	17½"	22¾"	**329.40**	**296.45**	**263.50**



SERIES 30 (EXTRA DEEP) UPRIGHT PANEL CABINET RACKS

Width, $24^{3}/_{16}$"; clear inside depth, 29¼".

Stk. No.	Type	Ht.	Wid.	Panel Space	Wt. Lbs.	1-2	3-4	5-7
99F1022	30-2300	29⅝"	$24^{1}/_{16}$"	21"	154	**245.30**	**220.75**	**196.25**
99F1023	30-2301	40⅛"	$24^{1}/_{16}$"	31½"	174	**284.85**	**256.35**	**227.90**
99F1024	30-2302	50⅝"	$24^{1}/_{16}$"	42"	202	**316.65**	**285.00**	**253.30**
99F1025	30-2303	61⅛"	$24^{1}/_{16}$"	52½"	225	**351.50**	**316.35**	**281.20**
99F1026	30-2304	69⅞"	$24^{1}/_{16}$"	61¼"	245	**390.50**	**351.45**	**312.40**
99F1027	30-2305	78⅝"	$24^{1}/_{16}$"	70"	268	**424.40**	**381.95**	**339.50**
99F1028	30-2306	87⅜"	$24^{1}/_{16}$"	78¾"	294	**462.60**	**416.35**	**370.10**

SERIES 60 DESK TOP

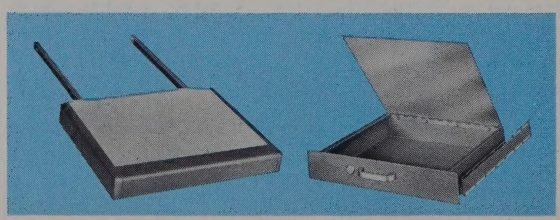
Two pre-drilled full-length supporting channels are quickly bolted to panel mounting rails. Antique white Formica $24^{1}/_{16}$" x 19½" x $3^{1}/_{16}$". Supports 200 lbs. Color: gray.

Stk. No.	Type	Fits "60" Series	Sup. Channel	Lbs.	1-2	3-4	5-7
93F016	60-2360	W/22" d.	21¼"	22	**71.05**	**63.95**	**56.85**
93F039	60-2362	W/25½" d.	24¾"	23	**73.30**	**65.95**	**58.65**

SERIES 60 DESK TOP DRAWERS

Front panel, 3½" x 19". Piano type hinged desk top is Formica bonded to aluminum. Latch on front panel locks and releases drawer, as well as releasing top. Hardware included. Gray textured finish.

Stk.No.	Type	Size Inside	Lbs.	1-2	3-4	5-7
93F050	60-2363	$16^{9}/_{16}$x$2^{31}/_{32}$x14⅞"	19	**109.40**	**98.45**	**87.50**



ADD-A-RACK SERIES

Each assembly consists of frame, top, bottom, rear door and cowlings. Use as add-on to join Series 60 enclosures into a bank of two or more for optimum width and efficiency. One standard rack, plus Add-A-Racks. Gray textured finish.

Stock No.	Type	Wt. Lbs.	Plain Doors For Add-on to Rack No. 60-	Net Each, Lots of 1-2	3-4	5-7
93F077	60-2500	92	2300,	**179.40**	**161.45**	**143.50**
93F078	60-2501	113	2301,	**186.95**	**168.25**	**149.55**
93F079	60-2502	115	2302,	**205.80**	**185.20**	**164.65**
93F080	60-2503	145	2303,	**224.45**	**202.00**	**179.55**
93F081	60-2504	148	2304,	**251.10**	**226.00**	**200.90**
93F082	60-2505	152	2305,	**279.75**	**251.80**	**223.80**
93F083	60-2506	158	2306,	**300.50**	**270.45**	**240.40**
93F084	60-2507	120	2307,	**200.85**	**180.75**	**160.70**
93F085	60-2508	132	2308,	**210.25**	**189.25**	**168.20**

Stock No.	Type	Wt. Lbs.	Plain Doors For Add-on to Rack No. 60-	Net Each, Lots of 1-2	3-4	5-7
93F086	60-2509	138	2309,	**229.50**	**206.55**	**183.60**
93F087	60-2510	142	2310,	**250.70**	**225.65**	**200.55**
93F088	60-2511	164	2311,	**280.20**	**252.20**	**224.15**
93F089	60-2512	168	2312,	**312.00**	**280.80**	**249.60**
93F090	60-2513	172	2313,	**345.30**	**310.75**	**276.25**
93F091	60-2530	119	2330,	**219.20**	**197.30**	**175.35**
93F092	60-2531	119	2331,	**233.75**	**210.40**	**187.00**
93F093	60-2532	125	2332,	**233.75**	**210.40**	**187.00**

Cabinet Racks

BUD

BUD ENCLOSED RELAY RACKS

Made of 16 gauge steel with 7/64" panel mtg. supports which are recessed so that panel will be flush with face of rack. Bottom supports use RC 7756 casters. Stk. No. 91F082. Shipped with necessary assembly hardware.

Black	Gray	Ham. Gray	Type	HxWxD	Panel Space	Lbs.	1-9	10-14	15-19
91F050	91F056	91F062	CR-1772	66 9/16"x22"x17 1/8"	61 1/4"x19"	115	142.85	128.55	114.30
92F051	91F057	91F063	CR-1773	82 9/16"x22"x17 1/8"	77" x19"	135	164.50	148.05	131.60
91F058	91F061	91F078	CR-1771	47 9/16"x22"x17 1/8"	42" x19"	92	114.50	102.65	91.25
91F059	91F060	91F077	CR-1774	42 1/16"x22"x17 1/8"	36 3/4"x19"	82	100.85	90.75	80.70

ENCLOSED RELAY RACK—GRAY HAMMERTONE FINISH

Stk. No.	Type	Ht.	P.S.	Dep.	Lbs.	1-9	10-14	15-19
91F095	CR-2071	47 5/16"	42"x19"	22 1/8"	102	141.55	127.40	113.25
91F096	CR-2072	66 9/16"	61 1/4"x19"	22 1/8"	137	175.60	158.05	140.50
91F097	CR-2073	82 5/16"	77"x19"	22 1/8"	159	203.55	183.20	162.85
91F098	CR-2074	42 1/16"	36 3/4"x19"	22 1/8"	98	121.10	109.00	96.90

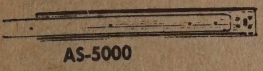
PRESTIGE RELAY CABINET RACKS

Stk. No.	Type	Panel	HxWxD	Lbs.	1-9	10-14	15-19
91F087	CR-2280	61 1/4"x19"	66 9/16"x22"x22"	179	237.80	214.00	190.25
91F088	CR-2281	66 1/2"x19"	71 13/16"x22"x22"	186	243.65	219.30	194.90
91F089	CR-2282	77"x19"	82 5/16"x22"x22"	213	273.85	246.45	219.10

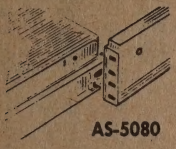
Emc. Relay Rack

Prestige Racks

CHASSIS SLIDES



AS-5000



AS-5080

Unsurpassed for reliability and absence of wear after hundreds of thousands of cycles. Ball bearings of chrome carbon steel are set in special retainers which keep them evenly spaced to give an extremely smooth movement of the slide. Self-cleaning bridged ball retainer. Bright Electro-Zinc finish. High-low temp. grease.

Stk. No.	Type No.	Lt.	Travel	Load Rating	Shpg. Wt.	Per Pair Each	2-4	5-9
91F1607	AS-5000	12"	9.00	108	1.75	16.30	14.80	13.30
91F1608	AS-5001	16"	12.00	95	2.00	18.90	17.20	15.50
91F1609	AS-5002	20"	15.00	82	2.50	20.65	18.75	16.90
91F1610	AS-5020	12"	12.88	175	3.25	35.20	35.20	31.70
91F1611	AS-5021	16"	16.88	160	4.25	39.00	39.00	35.10
91F1612	AS-5022	20"	20.88	142	5.25	42.15	42.15	37.95
91F1613	AS-5040	12"	11.88	120	3.25	46.50	46.50	41.85
91F1614	AS-5041	16"	15.88	108	4.25	50.40	50.40	45.35
91F1615	AS-5042	20"	20.88	92	5.25	53.85	53.85	48.45
91F1616	AS-5060	12"	9.00	108	1.75	14.85	13.50	12.15
91F1617	AS-5061	16"	12.00	95	2.00	16.10	14.65	13.20
91F1618	AS-5062	20"	15.00	82	2.50	16.95	15.40	13.85
91F1619	AS-5080	12"	12.00	80	3.50	42.75	42.75	38.50
91F1620	AS-5081	16"	16.00	70	4.50	43.65	43.65	39.30
91F1621	AS-5082	20"	20.00	60	5.50	48.00	48.00	43.20

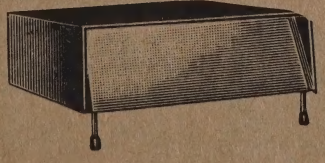
MOUNTING BRACKETS AND BAR NUTS FOR SLIDES

*Bar Nut can be used with all mtg. brackets.

Stk. No.	Type	Mounts	Each	2-4	5-9	10-24
91F1622	BAS-5100	Front	2.50	1.90	1.70	1.50
91F1623	BAS-5101	Back				
91F1624	BAS-5102	Front				
91F1625	BAS-5103	Back				
91F1626	NAS 5110	*				

TILT-A-VIEW CABINET

- 18 Gauge Steel
- Adjustable Tilt



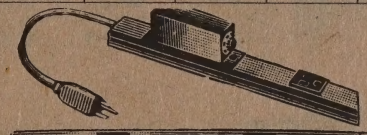
Designed to present selective angles of vision to the viewer who may be observing the action of meters or the position of dials and recorders. Detachable legs change the position of the cabinet. Two piece construction permits immediate access to interior for installation and service. Cabinet fasteners are all positioned on the lower portion of the cabinet so that no fasteners appear on the front or rear panels. Color is gray textured with sand front and rear panels. All models 18 gauge steel.

Stk. No.	Type	Lbs.	H	W	D	Each	2-14	15-24	25-34
90F393	TV2155	8 1/2	4 1/2"	15"	10"	16.05	14.60	13.15	11.70
90F394	TV2156	13	6 1/2"	16"	12"	18.80	17.10	15.40	13.70
90F395	TV2157	17	8 1/2"	17"	14"	24.80	24.80	22.30	19.85

"TEM-STAT" TEMPERATURE CONTROL

Features: Bimetal sensing element, normally open contacts close on temperature rise. Small size—2 5/16" long x 1" wide x 17/32" deep. Temp. range 80° to 170°F. Listed by U.L.

Stk. No.	Type	Each	2-9	10-14	15-19
91F1636	TS-15	9.55	8.70	7.85	6.95



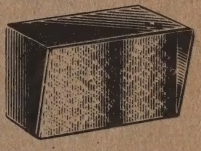
POWER OUTLET STRIPS

- All components are U.L. approved

Double wire contact receptacle and grounding terminal. 3/4" x 19/32" cross section. 6 foot cord. Light gray enamel finish with 15 amp overload breaker & pushbutton reset.

Stk. No.	Type	Outlets	Length	Lbs.	1-9	10-14	15-19
90F396	POS-4	4	17 1/2"	2	39.10	35.20	31.30
90F397	POS-7	7	48"	3 1/2	41.20	37.10	32.95
90F398	POS-9	9	60"	4 1/4	45.30	40.75	36.25
90F399	POS-11	11	72"	4 3/4	49.35	44.40	39.50

COWL TYPE MINIBOX



Has projecting cover which reduces glare on panel from overhead lighting and provides protection for controls and dials. Cover has two box braces to which bottom is attached with sheet metal screws. When assembled this type of construction results in a sturdy, rigid housing. Fabricated of .040 aluminum. Overall dimensions and wt.: SC-2130 and SC-3030. 6x10x7", 1 3/4 lb. SC-2131 and SC-3031, 7x12x8", 2 lbs. SC-2132 and SC-3032, 3x8x5". 1 lb.; SC-2133 and SC-3033, 5x5x5", 3/4 lb.

Gray Hammertone Finish

Stock No.	Type	Each	2-49	50-99	100-149
91F884	SC-2130	12.95	11.75	10.60	9.40
91F885	SC-2131	14.15	12.85	11.55	10.30
91F886	SC-2132	7.45	6.75	6.10	5.40
91F887	SC-2133	7.65	6.95	6.25	5.55

Natural Finish

91F888	SC3030	9.35	8.50	7.65	6.80
91F889	SC-3031	10.10	9.20	8.30	7.35
91F890	SC-3032	5.80	4.85	4.35	3.90
91F891	SC-3033	5.90	5.20	4.70	4.15

UNIVERSAL SLOPING PANEL CABINETS

One piece, detachable back and sides fastened to body with four self tapping screws permits easy access for mounting and servicing components. Available in steel or aluminum. Hammertone gray, finish.

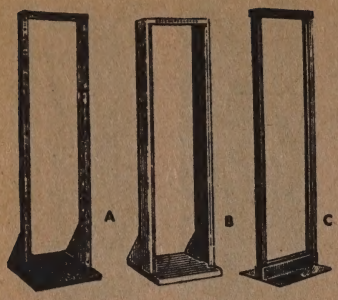
Aluminum

Stk. No.	Type	HxWxD	Lbs.	EACH	2-49	50-99	100-149
91F834	AC1610	4 1/16x4x4 1/16"	3/8	4.80	4.00	3.60	3.20
91F835	AC1611	4 1/16x5x4 1/16"	1/2	4.70	3.90	3.50	3.10
91F836	AC1612	4 1/16x6x4 1/16"	9/16	5.20	4.35	3.90	3.50
91F837	AC1613	4 1/16x7x4 1/16"	5/8	5.70	4.75	4.30	3.80

Steel

91F830	C-1606	4 1/16x4x4 1/16"	1	3.90	3.25	2.95	2.60
91F831	C-1607	4 1/16x5x4 1/16"	1	4.10	3.40	3.05	2.70
91F832	C-1608	4 1/16x6x4 1/16"	1 1/4	4.40	3.65	3.30	2.90
91F833	C-1609	4 1/16x7x4 1/16"	1 1/2	5.20	4.35	3.90	3.50

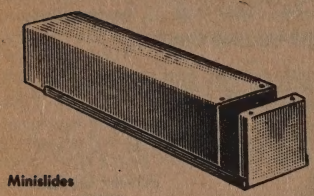
Racks and Accessories



OPEN TYPE RELAY RACKS

For mounting equipment where a complete enclosure is not necessary or advisable. Racks A and B may add casters for mobility. Fig. B has louvered "U" member for ventilation. Gray Hammertone (HG) except Fig. C, Black Rinkletex (BR).

Stk. No.	Type	Fig.	HxWxD	PanelSp.	Lbs.	1-9	10-14	15-19
91F1740	RR1263HG	A	35⅞x19¾x22"	31½x19"	35	45.60	41.05	36.50
91F1741	RR1264HG	A	70⅝x19¾x22"	66½x19"	46	52.10	46.90	41.70
91F054	RR1265BR	C	72¼x20½x13"	66½x19"	36	121.10	109.00	96.90
91F1743	RR1363HG	A	40⅜x19¾x22"	36¾x19"	36	43.85	39.45	35.10
91F1744	RR1364HG	A	75⅜x19¾x22"	71¾"x19"	48	54.80	49.30	43.85
91F1745	RR1366HG	A	81⅛x19¾x22"	77x19"	49	59.85	53.85	47.90
91F1746	RR1367HG	B	64⅜x20⅜x26"	61¼x19"	80	97.20	87.50	77.75
91F1747	RR1368HG	B	73⅛x20⅜x26"	70x19"	89	104.55	94.10	83.65
91F1748	RR1369HG	B	80⅜x20⅜x26"	77x19"	104	116.30	104.65	93.05

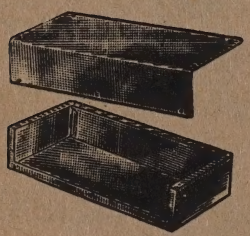


Minislides

MINISLIDES

Used where access to internally mounted parts is necessary. .050 aluminum. Grey hammertone HG except (*) plain.

Stk. No.	Type	LxWxH	Lbs.	Each	2-49	50-99	100-149
91F862	MS-2150	13x3⅛x2⅜"	1	8.55	7.75	7.00	6.20
91F863	MS-2151	13x5⅛x2⅜"	1½	9.55	8.70	7.85	6.95
91F864	MS-2152	17x3⅛x2⅜"	1¼	9.30	8.45	7.60	6.75
91F1600	MS-3050	13x3⅛x2⅜"	1	6.35	5.75	5.20	4.60
91F1601	MS-3051*	13x5⅛x2⅜	1½	7.70	7.00	6.30	5.60
91F1602	MS-3052*	17x3⅛x2⅜	1¼	7.55	6.85	6.15	5.50



CONVERTA-BOX

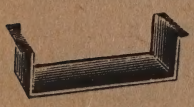
This new box enclosure consists of a welded base and a two sided cover. Box may be easily mounted to any type of surface. Converta-Box is made of 20 gauge steel. Hardware furnished: 4 self-tapping screws. The box has a cadmium-plated finish.

Stk. No.	Type	HxWxD	Lbs.	Each	2-24	25-49	50-99
91F554	CU-341	1½x4x3"	½	4.80	4.00	3.60	3.20
91F555	CU-452	2x5x4"	¾	4.70	3.90	3.50	3.10
91F556	CU-482	2x8x4"	1¼	5.00	4.20	3.80	3.35
91F557	CU-592	2½x9½x5"	1¾	5.30	4.45	4.00	3.55
91F558	CU-622	2½x12x6"	2¼	5.80	4.85	4.35	3.90
91F559	CU-712	2½x15x7"	3	7.15	6.50	5.85	5.20

DESK TYPE OPEN RELAY RACKS

Chassis type base for mounting heavy components. Supporting angles assure steady support. Panel mounting rails are recessed so that any standard 19" panel will fit flush with the front. Available in Black Rinkletex (BR) or Light Gray Hammertone (HG).

Black		Ham. Gray							
Stk. No.	Type	Stk. No.	Type	Hgt.	Space	Lbs.	1-14	15-24	25-34
91F030	RR-1248BR	91F677	RR-1248-HG	24"	21"	14¼"	20.95	18.85	16.75
91F031	RR-1249BR	91F678	RR-1249HG	31"	28"	16¾"	24.70	22.25	19.75



VERTICAL PANEL CHASSIS

Panel mounting chassis for vertical installation where depth is limited or front service is desired. Made of .060" aluminum alloy 5005 H-14 in natural finish. Front flange has standard notching. Fits standard 19" panel space.

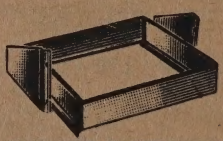
Stk. No.	Type	Ht.	Wt. Lbs.	Each	2-24	25-49	50-99
91F493	CB1370	1¾"	¾	5.50	4.60	4.15	3.70
91F494	CB1371	3½"	1¼	5.70	5.20	4.70	4.15
91F495	CB1372	5¼"	1½	6.45	5.85	5.25	4.70
91F496	CB1373	7"	2	7.15	6.50	5.85	5.20
91F497	CB1374	8¾"	2¼	8.75	7.95	7.15	6.35
91F498	CB1375	10½"	2¾	10.10	9.20	8.30	7.35
91F499	CB1376	12¼"	3	11.30	10.25	9.25	8.20
91F479	CB1377	14"	3¼	12.40	11.25	10.15	9.00

PRECISION DIE CAST UTILITY BOXES

For applications requiring a sturdier structure than a sheet metal utility cabinet. LM-380 aluminum lightweight & easy to machine. Suitable for instrument and meter cases, filter networks, junction boxes, switches, audio and radio frequency distributors, etc.

Stk. No.	Type	Thickness	Wt. lbs.	LxWxH"*	Each	2-24	25-49	50-99
91F1603	CU-124	.063	½	4.38x2.38x1.06	3.10	2.60	2.35	2.10
91F1604	CU-234	.094	¾	4.69x3.69x2.06	4.80	4.00	3.60	3.20
91F1605	CU-247	.094	1¼	7.39x4.70x2.06	7.15	6.50	5.85	5.20
91F1606	CU-347	.094	1½	7.39x4.70x3.06	7.80	7.10	6.40	5.70

(*) Height less cover.



SLIDING DRAWER ASSEMBLY

Used in mounting record players, portable typewriters, instruments, drawer space and many other purposes. Chassis and slide are light gray hammertone. Brackets are 11GA-steel. Will support 30 lbs. Fits standard relay rack. Size: 16¾x14x3".

Stk. No.	Type	Description	Lb.	1-2	3-4	5-7	8-10
91F826	SD-1717	Assembly	5	27.40	24.65	21.90	20.55
				Each	2-2	3-4	5-7
91F827	TP-1718	Drawer Plate	1½	7.25	6.60	5.95	5.30

STEEL HANDY BOXES

Two-piece steel cases. Provides the maximum degree of accessibility, adequate shielding as well as complete protection from mechnical injury and dust particles. Formed of 22 gauge steel. Finished in black Rinkletex (BR)

Stk. No.	Type	HxWxL	Wt.	Each	2-49	50-99	100-149
91F541	HB-1621	1½x2¼x4¼"	¼	3.50	2.90	2.60	2.30
91F542	HB-1622	2¾x2x4"	½	3.50	2.90	2.60	2.30

SWIVEL TRUCK CASTERS

Type RC-7756. Heavy-duty casters for use on relay racks. Four casters will carry a load of 400 pounds. Wheels are high grade hard rubber composition. Ball-bearing mounted. With screws.

Type RC-7758. Truck Casters.

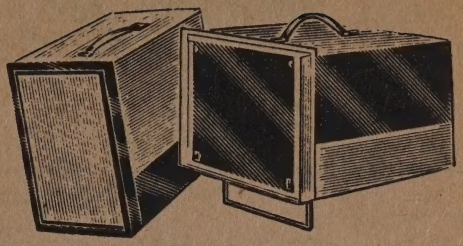
Stock No.	Type	Height	Wt. (4)	Each	2-24	25-49	50-99
91F082	RC-7756	2¾"	1¾ lbs.	2.30	1.90	1.70	1.50
91F094	RC-7758	3¼"	6 lbs.	5.60	5.10	4.60	4.10

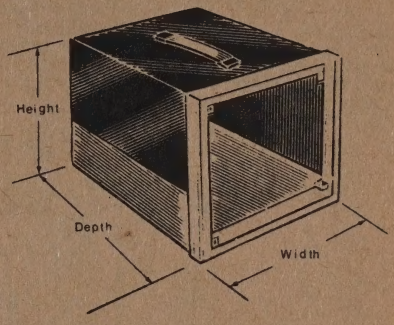
Show Case Enclosures

BUD

PORTABLE ENCLOSURES

Use as desk top instrument cases, in systems, in racks, as portable enclosures. Function plus design gives your products the competitive edge...the value edge. Lightweight, but sturdy. Top, sides, rear panel and base are .050 aluminum; front panel is .090. For added strength, gussets have been engineered into the sides of the unit. Strong, flexible handles, recessed and secured firmly into the sides of the unit. Front and rear panels and fold-away bail are standard equipment and are included. Two standard color combinations: black textured (BT) and white, royal blue (RB) and white. Also available in an accessory aluminum chassis which adds to the unit's function and versatility.



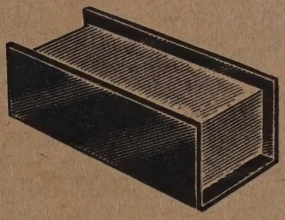


Stock No. BT	Stock No. RB	Type	HxWxD	Lbs.	1-14	15-24
93F670	93F671	BB-1800	6-7/16"x5½"x11"	2½	49.75	44.80
93F672	93F673	BB-1801	6-7/16"x8-5/16"x11"	3	51.75	46.60
93F674	.....	BB-1802	8-3/16"x5½"x11"	3	51.25	46.15
93F675	.....	BB-1803	8-3/16"x8-5/16"x11"	3¼	53.70	48.35
93F676	93F677	BB-1804	8-3/16"x11-1/16"x11"	4	55.85	50.25
93F678	.....	BB-1805	9-15/16"x5½"x11"	3¼	51.85	46.65
93F679	.....	BB-1806	9-15/16"x8-5/16"x11"	3¼	54.00	48.60
93F680	93F681	BB-1807	9-15/16"x8-5/16"x15"	4½	57.80	52.00
93F682	.....	BB-1808	9-15/16"x11-1/16"x11"	4¼	56.20	50.60
93F683	.....	BB-1809	9-15/16"x11-1/16"x15"	5	59.60	53.65

ALUMINUM CHASSIS FOR SHOWCASE

Stk. No.	Type	Fits	HxWxD	Lbs.	EACH	2-14
93F684	BBC-1821	BB-1800-02-05	9-31/32'x 4-29/32' x2"	½	4.10	3.40
93F685	BBC-1822	BB-1801-03-06	9-31/32'x 7-11/16' x2"	¾	4.70	3.90
93F686	BBC-1823	BB-1804-08	9-31/32'x10-15/32'x2"	1	5.70	4.75
93F687	BBC-1824	BB-1807	13-31/32'x7-11/16'x2"	1	5.50	4.60
93F688	BBC-1825	BB-1809	13-31/32'x10-15/32'x2"	1¼	6.15	5.60

LINEAR SERIES

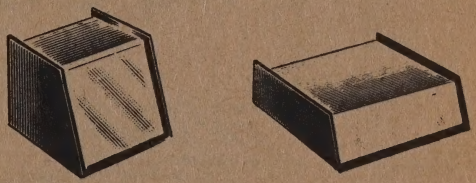


- For Housing Small Elements
- One Piece Aluminum Body
- No Visible Fasteners

Practical for housing small elements and electronic sub-systems. The one piece body of .057 aluminum has a smooth white enamel finish and has knockouts in the rear. The frame is made of ⅛" aluminum with a black textured finish. Two components are easily detached from each other. No visible fasteners are employed and rubber feet are furnished.

Stock No.	Type	O.D. HxWxD	PanelSpace HxWxD	Each	2-24	25-34	35-49
91F235	RC-11100	3¼"x5"x10"	2⅜"x4¼"x9½"	17.15	15.60	14.05	12.50
91F236	RC-11101	8"x12"x10"	7⅛"x11¼"x9½"	34.30	34.30	30.85	27.45

SLOPE SERIES

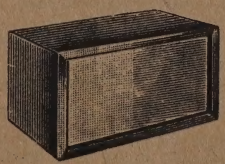


- 20° Front Panel Slope
- Quick Interior Access

Clean vertical and horizontal lines provide quick access to the interior. The frame is of ⅛" aluminum with black textured finish, while the one piece body is .057 aluminum in smooth white enamel finish. The two elements are quickly separated, with knockouts in the rear. Front panel has a 20° slope.

Stock No.	Type	O.D. HxWxD	Panel Space HxWxD	Each	2-24	25-34	35-49
91F237	SC-12100	4½"x5"x5"	4⅛"x4¾"x3-5/64"	11.65	10.60	9.55	8.50
91F238	SC-12101	3¼"x12"x10"	3-1/16"x11¾"x8-7/16"	22.05	22.05	19.85	17.65

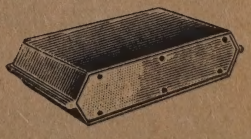
"FUTURA" CABINETS



Versatile housing for small equipment. Made of 20-gauge steel except for front panel, which is 18-ga. Top and sides are one piece, easily removable to expose interior. Front panel is held by flanges (no screws to mar appearance); is vertical, except † rises vertically 2", then has 15° incline. Chassis may be attached to base, rear, or front panels. Has four rubber feet. Dark Blue textured body with light blue textured panel (BBY) or light gray hammertone body, textured panel. (HG)

Gray Stk. No.	Blue Stk. No.	Type	HxWxD	Lbs.	Each	2-14	15-24	25-34
91F1350	91F1356	MD-1960	7x13x8"	6¾	17.80	16.20	14.60	12.95
91F1351	91F1357	MD-1961	8x14x9"	7¾	19.30	17.55	15.80	14.05
91F1352	91F1358	MD-1962	8x16x9"	8½	19.90	18.10	16.30	14.50
91F1353	91F1359	MD-1963†	7x13x8"	7	21.00	19.10	17.20	15.30
91F1354	91F1360	MD-1964†	18x14x9"	8	22.50	20.45	18.40	16.35
91F1355	91F1361	MD-1965†	8x16x9"	8¾	24.10	21.90	19.70	17.50

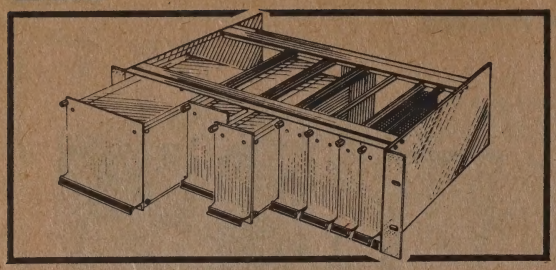
"GRAND PRIX" CABINETS



For audio equipment, medical electronics, or wherever appearance is of importance. Handles are brushed aluminum extrusions that slide over end flanges of the upper and lower body segments and are secured by setscrews; when removed, the upper body segment comes off to permit servicing contents. Made entirely of 20-gauge steel. With four rubber feet to prevent damage to desk tops, etc. Choice of light gray hammertone body with matching panels (HG) or dark gray textured body with light gray panels (GGY).

GGY Stk. No.	HG Stk. No.	Type	HxWxD	Lbs.	1-14	15-24	25-49
91F1362	91F1365	MD-1	4-3/16"x19⅛"x10½"	7¼	31.55	28.40	25.25
91F1363	91F1366	MD-2	7-3/16"x19⅛"x10½"	7¾	33.05	29.75	26.45
91F1364	91F1367	MD-3	4-3/16"x12½"x8¾"	7	25.55	23.00	20.45

BUD Modular Packaging Systems



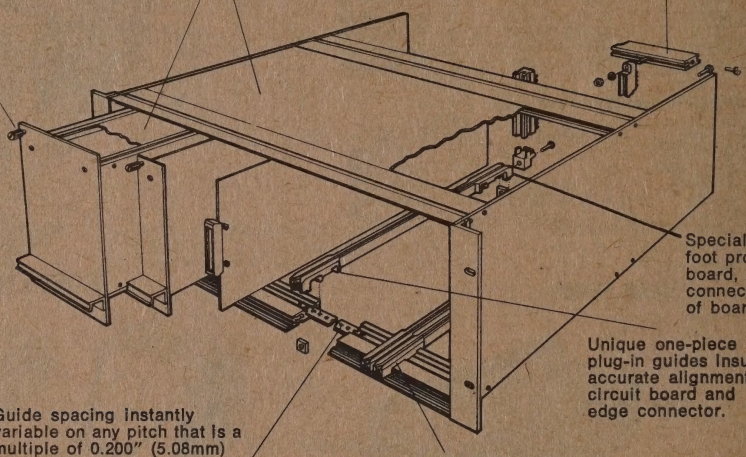
Simple in design, highly functional, easy to use and handsome in appearance. This is the proven System that assures quick and accurate alignment of circuit boards and connectors. Since guides do not carry the weight of boards or sub-unit chassis, there's no guide distortion. Circuit boards go directly into the connectors securely mounted at the end of the guides. Shipped in easy-to-assemble kits.
Size by code:
Height: 2U, 3.50" (88.90mm); **3U,** 5.25" (133.35mm); **4U,** 7.00" (177.80mm); **5U,** 8.75" (222.25mm).
Overall depth: C, 11.4" (290mm); **D,** 14.1" (358mm).
Overall width: 19" (483mm).

DESIGN FEATURES

Top and bottom cover plates for sub-racks and dust covers for sub-units fitted without increasing overall height and without reducing usable internal height—no mounting screws necessary.

Other types and sizes of connectors can be accommodated by use of CMR-21201 Connector Mounting Rails.

Patented floating screw lock. Panel mounting screws and screw-lock are outside of board area giving more usable front panel space.



Specially designed end-foot provides lead-in for board, also allows edge connector to be full height of board—no profiling.

Unique one-piece plug-in guides insure accurate alignment of circuit board and edge connector.

Guide spacing instantly variable on any pitch that is a multiple of 0.200" (5.08mm) up to a maximum of 42 stations on 0.400" (10.16mm) pitch.

Guides can be removed and installed without dismantling sub-rack. Grounding facility not interrupted by guides. Circuit boards or sub-units run directly on the horizontal members.

Bud Sub-Racks

Stock No.	Type	Sub-Rack Height	Sub-Rack Depth	Each	Discount Key
83F417	SR-20101	2U	C	24.80	A
83F418	SR-20102	2U	D	26.35	A
83F300	SR-20103	3U	C	27.10	A
83F310	SR-20104	3U	D	28.65	A
83F351	SR-20105	4U	C	29.85	A
83F360	SR-20106	4U	D	32.15	A
83F419	SR-20107	5U	C	31.15	A
83F420	SR-20108	5U	D	33.55	A
83F302	G-20601	.....	C	.35	C
83F359	G-20602	.....	D	.40	C
83F367	N-9234	.....	.....	.02	D
83F318	N-9226	.....	.....	.02	D
83F313	TBC-20801	.....	C	3.45	C
83F327	TBC-20802	.....	D	5.20	C
83F421	OFP-21101	3U	.....	5.55	C
83F422	OFP-21102	4U	.....	6.90	C
83F423	OFP-21103	5U	.....	8.10	C
83F424	FL-22700	.....	.....	.85	D
83F363	CMR-21201	.....	.....	3.50	C
83F345	S-9089	.....	.....	.04	D
83F324	N-9233	.....	.....	.02	D
83F309	W-9556	.....	.....	.01	D
83F425	RDP-21301	3U	C	3.50	C
83F426	RDP-21302	3U	D	4.35	C
83F427	RDP-21303	4U	C	4.70	C
83F428	RDP-21304	4U	D	5.75	C
83F429	RDP-21305	5U	C	5.35	C
83F430	RDP-21306	5U	D	6.55	C

OPTIONAL EXTRAS FOR SUB-RACKS

GUIDES

Type G—Used on top and bottom of sub-rack to guide sub-units and circuit cards into position. Nuts **N-9234** are used on front for locks, **N-9226** on back for connector or panel mounting. Order nuts separately.

TOP OR BOTTOM COVERS

Type TBC—No mounting screws are required—simply slip into grooves and depress lugs. Order by rack depth.

OVERALL FRONT PANELS

Type OFP—Order by rack height. 4 **FL-22700** floating locks required per panel, order separately.

CONNECTOR MOUNTING RAILS

Type CMR-21201. To be used only when connectors are not mounted direct to guides, 2 needed. Supplied with screws to mount to side plates. Order hardware separately: screw—**S-9089,** nut—**N-9233,** washer—**W-9556** for mounting connectors to connector mounting rail, 2 of each required per connector.

DIVIDER PANELS

Type RDP. Divider Panels are used for dividing the width of Sub-Rack in sections. By mounting additional pairs of horizontal members or connector mounting rails (cut to proper length), different height circuit boards, connectors or sub-units can be used in the same Sub-Rack. No hardware required. Held in place by guides.

Modular Units and Accessories

BUD

SUB-UNIT KITS

Slide into racks on mounting guides and lock in place. 30 different sizes to choose from. Order guides separately, see previous page, 4 needed for each sub-unit.

OPTIONAL EXTRAS

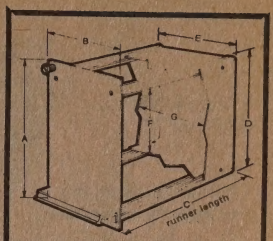
Type UCP. SUB-UNIT COVER PANELS. These slide into grooves on top and bottom of sub-unit runners before rear panel is fitted, no hardware necessary.

Type USP. SCREEN PLATES. Circuit boards may be replaced by screen plates on one or both sides of unit. Supplied with screws and washers, nuts are supplied as part of the sub-unit kits. Choose by height and depth.

Type UDP. DECK PLATES. Can be used on top and bottom. Supplied with screws and washers, nuts are supplied as part of sub-unit kit.

Type SMP. SOCKET MOUNTING PANELS. These panels are used to provide matching plug or socket on sub-rack for the sub-unit to mate with. Hardware supplied. Mounted on guides, if the sub-unit is not the same width, order extra guides. Choose by height.

Type JL-22800. JACKING LOCKS. Jacking locks can be used instead of supplied floating locks.



Note: C Depth—7.85″
D Depth—10.5″

Stock No.	Kit No.	Sub-Rack Height	Sub-Rack Depth	Sub-Unit Width	Each	Discount Key
83F323	SU-22101	3U	C	2.4″	17.60	B
83F329	SU-22102	3U	D	2.4″	18.05	B
83F334	SU-22103	4U	C	2.4″	18.05	B
83F339	SU-22104	4U	D	2.4″	18.95	B
83F372	SU-22105	5U	C	2.4″	18.45	B
83F373	SU-22106	5U	D	2.4″	19.40	B
83F349	SU-22107	3U	C	2.8″	17.70	B
83F364	SU-22108	3U	D	2.8″	18.65	B
83F358	SU-22109	4U	C	2.8″	18.10	B
83F370	SU-22110	4U	D	2.8″	19.05	B
83F374	SU-22111	5U	C	2.8″	19.05	B
83F375	SU-22112	5U	D	2.8″	20.00	B
83F347	SU-22113	3U	C	4.2″	18.75	B
83F341	SU-22114	3U	D	4.2″	19.55	B
83F319	SU-22115	4U	C	4.2″	19.45	B
83F337	SU-22116	4U	D	4.2″	19.80	B
83F376	SU-22117	5U	C	4.2″	20.00	B
83F377	SU-22118	5U	D	4.2″	21.00	B
83F368	SU-22119	3U	C	5.6″	20.10	B
83F354	SU-22120	3U	D	5.6″	20.95	B
83F343	SU-22121	4U	C	5.6″	20.55	B
83F312	SU-22122	4U	D	5.6″	21.15	B
83F378	SU-22123	5U	C	5.6″	21.45	B
83F379	SU-22124	5U	D	5.6″	22.50	B
83F380	SU-22125	3U	C	8.4″	21.25	B
83F381	SU-22126	3U	D	8.4″	22.40	B
83F382	SU-22127	4U	C	8.4″	22.15	B
83F383	SU-22128	4U	D	8.4″	23.25	B
83F384	SU-22129	5U	C	8.4″	23.60	B
83F385	SU-22130	5U	D	8.4″	24.75	B

Stock No.	Type	As applicable Height	As applicable Depth	As applicable Width	Each	Discount Key
83F304	UCP-22901	.....	C	2.4″	1.30	C
83F315	UCP-22902	.....	D	2.4″	1.65	C
83F321	UCP-22903	.....	C	2.8″	1.45	C
83F325	UCP-22904	.....	D	2.8″	1.75	C
83F330	UCP-22905	.....	C	4.2″	1.60	C
83F335	UCP-22906	.....	D	4.2″	1.90	C
83F340	UCP-22907	.....	C	5.6″	1.80	C
83F353	UCP-22908	.....	D	5.6″	2.20	C
83F386	UCP-22909	.....	C	8.4″	2.25	C
83F387	UCP-22910	.....	D	8.4″	4.35	C
83F361	USP-23001	3U	C	.....	2.05	C
83F344	USP-23002	3U	D	.....	2.25	C
83F365	USP-23003	4U	C	.....	2.55	C
83F355	USP-23004	4U	D	.....	2.70	C
83F348	USP-23005	5U	C	.....	3.05	C
83F342	USP-23006	5U	D	.....	3.20	C
83F388	UDP-22501	.....	C	2.4″	1.45	C
83F389	UDP-22502	.....	D	2.4″	1.75	C
83F390	UDP-22503	.....	C	2.8″	1.60	C
83F391	UDP-22504	.....	D	2.8″	1.90	C
83F392	UDP-22505	.....	C	4.2″	1.75	C
83F393	UDP-22506	.....	D	4.2″	2.10	C
83F394	UDP-22507	.....	C	5.6″	1.90	C
83F395	UDP-22508	.....	D	5.6″	2.45	C
83F396	UDP-22509	.....	C	8.4″	2.50	C
83F397	UDP-22510	.....	D	8.4″	2.95	C
83F398	SMP-23101	3U	.....	2.4″	2.70	C
83F400	SMP-23102	4U	.....	2.4″	2.95	C
83F401	SMP-23103	5U	.....	2.4″	3.25	C
83F305	JL-22800	.....	.....	.....	.85	D

CIRCUIT BOARDS AND EDGE CONNECTORS

Circuit Boards

.062″ thick, single-sided copper, circuit boards with contact fingers for edge connectors. Use with handles or printed board units.

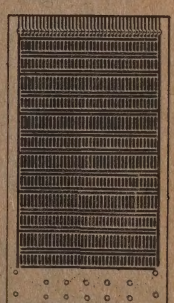
Edge Connectors

Mount on the mounting guides used for the circuit boards. With single or double row pins, in mini-wrap or solder form. End feet needed.

Stock No.	Type	Sub-Unit Hght	Sub-Unit Dpth	No. Contacts	Each	Disc Key
83F402	CB-21401	2U	C	24	13.65	B
83F403	CB-21402	2U	D	24	15.50	B
83F301	CB-21403	3U	C	40	17.80	B
83F311	CB-21404	3U	D	40	20.25	B
83F320	CB-21405	4U	C	58	14.80	B
83F328	CB-21406	4U	D	58	17.20	B
83F404	CB-21407	5U	C	76	19.45	B
83F405	CB-21408	5U	D	76	22.30	B

CBH-21501. Circuit Board Handles with hardware.
83F 406 NET 30

Stock No.	Type	Unit Hght	No. Rows	Pin Type	Pins /Row	Each
83F407	C-20901	2U	1	Solder	24	3.10
83F408	C-20902	2U	1	Wrap	24	3.10
83F409	C-20903	2U	2	Solder	24	3.65
83F410	C-20904	2U	2	Wrap	24	3.65
83F314	C-20905	3U	1	Solder	40	4.80
83F322	C-20906	3U	1	Wrap	40	4.80
83F326	C-20907	3U	2	Solder	40	5.60
83F332	C-20908	3U	2	Wrap	40	5.60
83F338	C-20909	4U	1	Solder	58	6.80
83F350	C-20910	4U	1	Wrap	58	6.80
83F357	C-20911	4U	2	Solder	58	8.00
83F346	C-20912	4U	2	Wrap	58	8.00
83F411	C-20913	5U	1	Solder	76	8.70
83F412	C-20914	5U	1	Wrap	76	8.70
83F413	C-20915	5U	2	Solder	76	10.25
83F414	C-20916	5U	2	Wrap	76	10.25

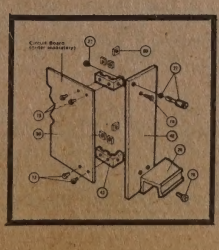


CEF-21001. Connector End Feet used to mount edge connectors to mounting guides. Supplied in pairs with hardware.
83F 303 DISCOUNT KEY C 50

PRINTED BOARD UNITS

Consists of a handle, finished front panel, floating lock, and all necessary hardware needed to attach a printed circuit board. Compatible boards listed above.

Stock No.	Type	Rack Height	Width	Each	Discount Key
83F306	PBU-24101	3U	1.2″	5.95	C
83F316	PBU-24102	4U	1.2″	6.10	C
83F415	PBU-24103	5U	1.2″	6.40	C
83F352	PBU-24104	3U	1.8″	6.15	C
83F369	PBU-24105	4U	1.8″	6.35	C
83F416	PBU-24106	5U	1.8″	6.75	C



DISCOUNT KEY

A=1 to 3, as shown
4 to 6, less 10%

B= 1 to 9, as shown
10 to 14, less 10%

C= 1 to 24, as shown
25 to 49, less 10%
50 to 99, less 20%

D= 1 to 49, as shown
50 to 99, less 10%

Complete information on the Bud Modular Packaging System is covered in a 6-page folder MPS-76. Call or write your nearest NEWARK facility.

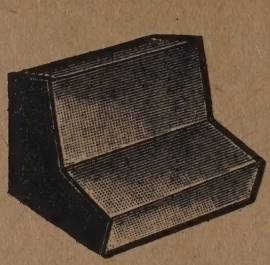
Cabinets & Accessories

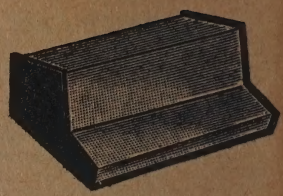
VALU/LINE CABINETS

- **Contemporary styling**
- **Completely assembled**

Classic and contemporary styling together with innovative engineering techniques result in a ruggedly built enclosure. Completely assembled with separate detachable rack mounting brackets and rubber feet. Adhesive paper covering on ⅛" brushed aluminum front panel provides an excellent surface for indicating position when drilling or punching panel. ⅞" diameter knockout in rear. Base, rear and top are .057" aluminum with white, smooth enamel finish. Sides are ⅛" aluminum with white, textured enamel finish. Handles are clear, anodized 6063-T5 aluminum extrusions. Bails are available as extras.

Stock No.	Type	D x W x H	1-3	4-7	8-10
99F1010	HC-14100	13" x 12¾" x 3½"	78.25	70.45	62.60
99F1011	HC-14101	13" x 17" x 3½"	82.60	74.35	66.10
99F1012	HC-14102	13" x 12¾" x 5¼"	80.90	72.80	64.70
99F1013	HC-14103	13" x 17" x 5¼"	85.15	76.65	68.10
99F1014	HC-14104	13" x 17" x 7"	89.35	80.40	71.50
99F1015	HC-14105	13" x 17" x 8¾"	93.70	84.35	74.95
99F1016	HC-14106	13" x 17" x 10½"	97.95	88.15	78.35
99F1017	HC-14107	15" x 17" x 10½"	102.20	92.00	81.75
99F1018	HC-14108	15" x 17" x 12¼"	106.40	95.75	85.10
99F1019	HC-14109	15" x 17" x 14"	114.90	103.40	91.90





COMPUCAB SERIES

Practical and adaptable to many types of instruments. Keyboard look matches today's advanced digital technology concept. All aluminum construction combines beauty, utility and sturdiness. Base and sides are ⅛" aluminum with black textured enamel finish. Cover and back are .057" aluminum with smooth, white enamel finish. SC-13100 rear panel has one ⅞" knockout. SC-13101 rear panel has two ⅞" knockouts and 4 sets of louvers. Shipped completely assembled.

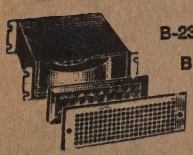
Stock No.	Type	W x D x H	1-5	6-9	10-19
91F1730	SC-13100	10" x 8 1/16" x 5 1/32"	23.70	21.35	18.95
91F1731	SC-13101	14" x 10¾" x 9 5/64"	48.35	43.50	38.70

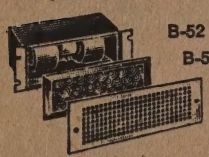
INSTRUMENT AND RECEIVER CABINETS

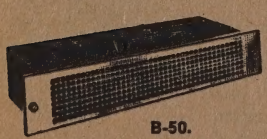
For table mounting of test instruments and receivers. Each cabinet has an evenly recessed hinged cover with convenient finger lift. The panel on front of cabinet is readily attached with self-tapping screws. Louvers provide ample ventilation. Available in black Rinkletex (BR) only.

Stk. No.	Type	HxWxD	Lbs.	1-24	25-49	50-99
91F630	C-973	7x8x8"	4¾	11.20	10.20	9.20
91F631	C-993	7x10x8"	5	13.60	12.35	11.10
91F632	C-994	7x12x8"	6	13.95	12.70	11.45
91F633	C-995	7x14x8"	7	14.90	13.55	12.20
91F634	C-1190	8x16x8"	8½	20.95	19.05	17.15
91F635	C-975	9x15x11"	12¼	23.15	23.15	20.85
91F636	C-999	12x18x12"	18¼	25.20	25.20	22.70

TRANS-AIRE-BLOWERS







Designed for cooling electronic equipment. All are 115 volts, 50/60 Hz. single phase.

Model B-27A. Two speed packaged blower for top CFM. Air delivery: 515 CFM high speed, 280 CFM low speed. Motor: 1350/1150 RPM, 550/350 watt shaded pole motor.

Model B-23A. Low silhouette two speed, requiring just 3½" of panel space. Produces 180 CFM on high, 130 CFM on low speed. Motor: 1450/1250 RPM, 125/100 shaded pole motor.

Model B-25A. Two speed 350/160 CFM blower, delivers a turbulent air distribution pattern to eliminate hot spots. Motor: 1420/1075 RPM, 375/200 shaded pole motor.

Model B-52. Produces 150 CFM, equipped with two extra wide, small diam. centrifugal blower wheels. Motor: 3000 RPM, fan cooled, 80 watts.

Model B-54. Dual wheels deliver 300 CFM of clean, cool filtered air. Motor 1550 RPM, rubber mounted. 60-watt shaded pole motor.

Model B-50. Requires only 3½" of panel ht., produces 150 CFM, 12½" wide air stream. Motor: 3150 RPM, 80 watts, shaded pole. Gray finish on all.

BLOWER

Stk. No.	Type	Dim. HxWxD	1-9	10-14	15-19
91F1630	B-27A	7x19x14½"	159.55	143.60	127.65
91F1631	B-23A	3½x19x12"	130.05	117.05	104.05
91F1632	B-25A	5¼x19x14½"	148.45	133.60	118.75
91F1633	B-52	5¼x19x9"	127.90	115.10	102.30
91F1634	B-54	7x19x10 3/16"	159.90	143.90	127.90
91F1635	B-50	3½x19x6 3/8"	126.40	113.75	101.10

USE FILTER

Stk. No.	Type	1-24	25-49	50-99
91F905	BF-28	4.00	3.00	2.70
91F904	BF-24	3.10	2.35	2.10
91F638	BF-26	3.50	2.65	2.40
80W723	BF-53	3.50	2.65	2.40
80W724	BF-55	3.70	2.80	2.50
.....	.....	.....	.....	.....

TRANSICASE

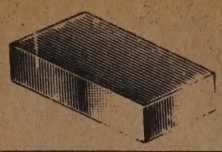
A portable instrument case. Made of .040 aluminum with a flush fitting panel. Transicase has two slide-off bright nickel plated hinges for easy removal of top and has two bright nickel toggle catches. Also, bright nickel handle. Two types of finishes are available, dark blue textures (BB) or dark gray textured (GG). Rubber feet on base and back. Clear int. space above panel: 1 15/32".

Stk. No. Blue	Stk. No. Grey	Type	W x D x H	Panel Size	Clear Int. Space Below Panel	Internal Aperture	Lbs.	1-9	10-14	15-19
91F911	91F916	TC-300	10 1/16x7x6"	8 15/16x5 15/16"	4 13/32"	8x5 3/32"	2½	40.60	36.55	32.50
91F912	91F917	TC-301	11½x8¼x6"	10 3/8x7¼"	4 13/32"	9 1/16x7 3/32"	3¼	41.85	37.65	33.50
91F913	91F918	TC-302	13x9x7½"	11⅞ x7 15/16"	5 23/32"	10 1/16x7 3/32"	4	44.65	40.20	35.70
91F914	91F919	TC-303	16½x9x7½"	15⅜x7 15/16"	5 23/32"	17 5/16x7 3/32"	4¾	45.35	40.80	36.30
91F915	91F920	TC-304	20⅛x8x9"	19x7"	7 1/32"	18 1/16x7 1/32"	6¾	47.85	43.05	38.30

Chassis & Cabinets

BUD

ALUMINUM CHASSIS



Unsurpassed range of standard sizes. Made of one piece of 5005-H-14 aluminum alloy. Reinforced, welded corners to insure utmost strength and long lasting qualities. Folded over on bottom for extra strength.

Stock No.	Type No.	Dimen.	Wt. Lbs.	1-24	25-49	50-99
91F1319	AC-1401	2½" x 4½" x 1"	⅛	2.40	2.00	1.80
91F1320	AC-1402	3½" x 4½" x 1"	⅛	2.50	2.10	1.90
91F1321	AC-1403	3½" x 5½" x 1"	⅛	2.50	2.10	1.90
91F1322	AC-1404	4" x 5" x 2"	¼	3.00	2.50	2.25
91F1323	AC-1405	4" x 6" x 1½"	¼	2.60	2.15	1.95
90F940	AC-430	4" x 6" x 3"	⅓	3.20	2.65	2.40
90F941	AC-431	4" x 6" x 2"	¼	2.90	2.40	2.15
91F1324	AC-1406	4" x 8" x 2"	¼	3.50	2.90	2.60
90F942	AC-432	4" x 17" x 3"	1	5.60	4.70	4.25
91F1325	AC-1407	4½" x 8" x 1½"	¼	3.20	2.65	2.40
90F943	AC-402	5" x 7" x 2"	⅓	3.10	2.60	2.35
90F944	AC-429	5" x 7" x 3"	½	3.40	2.85	2.55
91F1326	AC-1408	5" x 9" x 1½"	⅓	3.20	2.65	2.40
91F1327	AC-1409	5" x 9½" x 1½"	⅓	3.20	2.65	2.40
90F945	AC-403	5" x 9½" x 2"	½	3.30	2.75	2.50
90F939	AC-401	5" x 9½" x 2½"	½	3.90	3.25	2.95
90F946	AC-421	5" x 9½" x 3"	⅝	4.00	3.35	3.00
90F947	AC-404	5" x 10" x 3"	⅝	4.00	3.35	3.00
90F948	AC-422	5" x 13" x 3"	¾	4.60	3.85	3.45
90F1328	AC-1410	5" x 13½" x 2½"	¾	4.30	3.60	3.25
91F1329	AC-1411	5½" x 5½" x 1"	⅛	2.90	2.40	2.15
91F1330	AC-1412	5½" x 9½" x 1½"	⅓	3.20	2.65	2.40
91F1331	AC-1413	6" x 8" x 2"	⅓	3.30	2.75	2.50
91F1332	AC-1414	6" x 14" x 3"	1½	5.80	4.85	4.35
90F949	AC-433	6" x 17" x 3"	1¼	6.15	5.60	5.05
90F950	AC-405	7" x 7" x 2"	½	3.30	2.75	2.50
90F951	AC-406	7" x 9" x 2"	½	3.40	2.85	2.55
90F952	AC-407	7" x 11" x 2"	⅝	4.00	3.35	3.00
90F953	AC-408	7" x 12" x 3"	⅞	4.80	4.00	3.60
90F954	AC-409	7" x 13" x 2"	¾	4.10	3.40	3.05
91F1333	AC-1415	7" x 15" x 2"	1	5.90	5.35	4.80
90F955	AC-411	7" x 15" x 3"	1¼	6.15	5.60	5.05
91F1334	AC-1416	7" x 17" x 2"	1⅛	5.90	4.95	4.45
91F1335	AC-1417	7" x 17" x 2½"	1¼	5.70	5.20	4.70
90F956	AC-423	7" x 17" x 3"	1½	6.15	5.60	5.05
91F1336	AC-1418	8" x 10" x 2½"	1	5.00	4.20	3.80
91F1337	AC-1419	8" x 12" x 2½"	1⅛	5.80	4.85	4.35
90F957	AC-424	8" x 12" x 3"	1¼	5.70	4.75	4.30
90F958	AC-425	8" x 17" x 2"	1½	5.90	4.95	4.45
90F959	AC-412	8" x 17" x 3"	1¾	6.35	5.75	5.20
91F1338	AC-1420	8½" x 15" x 3"	1½	5.90	5.35	4.80
91F1339	AC-1421	9" x 15" x 3"	1½	6.70	6.10	5.50
90F960	AC-413	10" x 12" x 3"	1¼	6.35	5.75	5.20
90F961	AC-414	10" x 14" x 3"	1½	6.35	5.75	5.20
90F962	AC-415	10" x 17" x 2"	1½	6.15	5.60	5.05
90F963	AC-416	10" x 17" x 3"	1¾	7.00	6.35	5.70
90F969	AC-427	10" x 17" x 4"	2½	9.90	9.00	8.10
91F1340	AC-1422	10" x 17" x 5"	2¼	14.35	13.05	11.75
91F1341	AC-1423	10" x 23" x 3"	2¾	10.65	9.70	8.75
90F964	AC-426	11" x 17" x 2"	2	7.70	7.00	6.30
90F965	AC-417	11" x 17" x 3"	2¼	8.90	8.10	7.30
91F1342	AC-1424	12" x 12" x 3"	1½	6.45	5.85	5.25
91F1343	AC-1425	12" x 17" x 2"	1⅜	8.00	7.25	6.55
90F966	AC-418	12" x 17" x 3"	2¼	9.10	8.25	7.45
90F967	AC-419	13" x 17" x 2"	2⅜	7.90	7.20	6.50
90F968	AC-420	13" x 17" x 3"	2¾	9.45	8.60	7.75
90F970	AC-428	13" x 17" x 4"	3¼	11.50	10.45	9.40
91F1344	AC-1426	13" x 17" x 5"	3½	15.80	14.35	12.90
91F1345	AC-1427	14" x 17" x 3"	2¾	11.20	10.20	9.20
91F1346	AC-1428	15" x 17" x 4"	3¼	15.80	14.35	12.90
91F1347	AC-1429	15" x 17" x 6"	4⅛	21.80	19.80	17.80
91F1348	AC-1430	17" x 17" x 3"	3¼	13.30	12.10	10.90
91F1349	AC-1431	17" x 17" x 4"	3⅞	18.80	17.10	15.40

SHADOW CABINET

Extremely versatile housing since front, rear and bottom may be removed for installation or servicing. One inch recessed front panel prevents accidental movement of controls, knobs, and switches attached to it. Body made of 18 gauge steel and panels of 16 gauge steel. Four rubber feet attached to base eliminates scratching. Finished in gray hammertone.

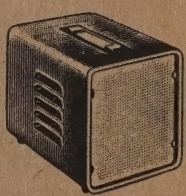
Stk. No.	Type	WxHxD	Lbs.	1-24	25-49	50-99
91F892	SB-2140	14¼x8x10"	11½	18.55	16.85	15.15
91F893	SB-2141	13¼x7½x9"	9¾	14.80	13.45	12.10
91F894	SB-2142	17x9½x11"	15¼	22.40	22.40	20.15
9TF895	SB-2143	15½x6x9"	9½	13.95	12.70	11.45

ALUMINUM BOTTOM PLATES

Widest variety of standard sizes. Fit all BUD chassis. Made of 5005-H-14 aluminum alloy. Natural finish. Plates have four embossed feet to prevent damage to surface. Fit snugly on bottom of chassis.

Stock No.	Type No.	Dimen.	Wt. Lbs.	1-49	50-99	100-149
91F1406	BPA-1501	2½"x 4½"	1/16	1.40	1.15	1.05
91F1407	BPA-1502	3½"x 4½"	1/16	1.50	1.25	1.15
91F1408	BPA-1503	3½"x 5½"	⅛	1.50	1.25	1.15
91F1409	BPA-1504	4" x 5"	⅛	1.50	1.25	1.15
91F1410	BPA-1505	4" x 6"	⅛	1.60	1.35	1.20
91F1411	BPA-1506	4" x 8"	⅛	2.00	1.65	1.50
91F1413	BPA-1532	4" x17"	¼	2.00	1.65	1.50
91F1412	BPA-1507	4½"x 8"	3/16	2.10	1.75	1.60
90F860	BPA-1589	5" x 7"	⅛	1.70	1.40	1.25
91F1414	BPA-1508	5" x 9"	3/16	1.70	1.40	1.25
90F861	BPA-1590	5" x 9½"	⅛	1.70	1.40	1.25
90F862	BPA-1591	5" x10"	¼	1.70	1.40	1.25
91F1415	BPA-1509	5" x13"	¼	2.80	2.35	2.10
91F1416	BPA-1510	5" x13½"	¼	2.80	2.35	2.10
91F1417	BPA-1511	5½"x 5½"	⅛	1.70	1.40	1.25
91F1418	BPA-1512	5½"x 9½"	3/16	2.00	1.65	1.50
91F1419	BPA-1513	6" x 8"	3/16	2.10	1.75	1.60
91F1420	BPA-1514	6" x14"	5/16	2.80	2.35	2.10
91F1421	BPA-1515	6" x17"	⅜	3.30	2.75	2.50
90F863	BPA-1592	7" x 7"	3/16	1.70	1.40	1.25
90F864	BPA-1593	7" x 9"	¼	2.00	1.65	1.50
90F865	BPA-1594	7" x11"	¼	2.10	1.75	1.60
90F866	BPA-1595	7" x12"	5/16	2.40	2.00	1.80
90F867	BPA-1596	7" x13"	½	2.80	2.35	2.10
91F1422	BPA-1516	7" x15"	½	3.00	2.50	2.25
91F1423	BPA-1517	7" x17"	½	3.00	2.50	2.25
91F1424	BPA-1518	8" x10"	¼	2.90	2.40	2.15
91F1425	BPA-1519	8" x12"	⅜	3.50	2.90	2.60
91F1426	BPA-1520	8" x17"	½	3.60	3.00	2.70
91F1427	BPA-1521	8½"x15"	½	4.30	3.60	3.25
91F1428	BPA-1522	9" x15"	½	4.50	3.75	3.40
91F1429	BPA-1523	10" x12"	½	3.50	2.90	2.60
91F1430	BPA-1524	10" x14"	½	3.50	2.90	2.60
90F868	BPA-1597	10" x17"	⅝	3.50	2.90	2.60
91F1431	BPA-1525	10" x23"	⅞	5.10	4.25	3.85
91F1432	BPA-1526	11" x17"	¾	3.70	3.10	2.80
91F1433	BPA-1527	12" x12"	⅝	3.70	3.10	2.80
91F1434	BPA-1528	12" x17"	¾	4.70	3.90	3.50
90F869	BPA-1598	13" x17"	⅞	5.00	4.20	3.80
91F1435	BPA-1529	14" x17"	15/16	4.90	4.10	3.70
91F1436	BPA-1530	15" x17"	1	6.15	5.60	5.05
91F1437	BPA-1531	17" x17"	1 1/16	6.25	5.70	5.15

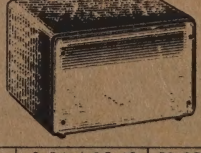
PORTACAB



Desirable as housing for instrumentation requiring high stylized appearance. Body is one piece aluminum with contoured corners. Panel is also aluminum. Flexible recessed handle permits easy portability as well as vertical stacking. Louvers point inward permitting side-to-side placement without loss of space. Welded back has opening. Front panel recessed ½". Four detachable rubber feet provided. Gray hammertone finish.

Stk. No.	Type	Lbs.	Dimensions D	W	H	1-24	25-49	50-99
91F615	WA-1540	2	8"	6⅛"	8"	18.10	16.45	14.80
91F616	WA-1541	3½	12"	8⅛"	9"	22.55	22.55	20.30
91F617	WA-1542	3¾	8"	10⅛"	8"	21.10	19.20	17.30
91F618	WA-1543	5½	18"	11⅛"	11"	27.50	27.50	25.10
91F619	WA-1544	8	18"	14⅛"	12"	32.05	32.05	28.85

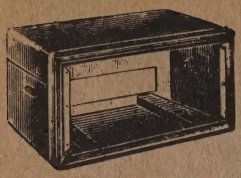
CONTOUR UTILITY CABINETS



Housing and flanged panels have rounded corners. Solid front and louvered rear panels are removable. Four rubber feet attached to base prevent scratching. Dark gray textured body and light gray textured panel. All parts are 20 gauge steel.

Stk. No.	Type	Overall Size	Lbs.	1-24	25-49	50-99
91F896	CU-463	4 3/32x6 7/32x3¾"	1¾	10.85	9.85	8.85
91F897	CU-465	4 3/32x6 7/32x5¾"	2¼	12.30	11.20	10.10
91F898	CU-585	5 3/32x8 7/32x5¾"	3	15.80	14.35	12.90
91F899	CU-587	5 3/32x8 7/32x7¾"	3¾	17.45	15.85	14.25
91F900	CU-7125	7 7/32x12 7/32x5¾"	5	16.05	14.60	13.15
91F901	CU-7127	7 7/32x12 7/32x7¾"	6	16.90	15.35	13.80

BUD Cabinets and Cases

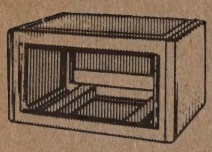


PRESTIGE CABINET

"PRESTIGE" CABINETS

Stock cabinets of 16 gauge steel for housing quality instruments, etc. Hinged covers . . . solid or perforated. Grommeted finger holes for easy cover lifting. Cover closes by pressure fasteners. Chassis supporting channels and embossed feet. Width 21⅝, Depth 14¾. Finished in gray hammertone.

Stock No.	Type No.	Cover	Overall Height	Panel Space	Lbs.	1-14	15-24	25-34
91F064	C-1440	Solid	9⅞	7"	25	63.90	57.50	51.10
91F065	C-1441	Solid	11⅞	8¾"	26	67.20	60.50	53.75
91F066	C-1442	Solid	13⅞	10½"	28½	70.15	63.15	56.10
91F067	C-1550	Perf.	9⅞	7"	23½	68.95	62.05	55.15
91F068	C-1551	Perf.	11⅞	8¾"	25	71.80	64.60	57.45
91F069	C-1552	Perf.	13⅞	10½"	27½	75.90	68.30	60.70

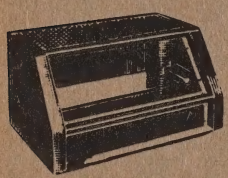


PRESTIGE VERSA CABINET

PRESTIGE VERSA CABINETS

Has sturdy framework with ball cornered sides. Unit also has solid bottom plate and two supporting channels. All of these parts are removable. Unit uses standard 19" panels. Cabinets are made to be stacked, or may be fastened side by side. Grey Hammertone finish.

Stk. No.	Type	Overall Height	Panel Space	Rear Panel	Lbs.	Net Each, Lots of 1-9	10-14	15-19
91F906	PC-1700	8¾"	5¼"	3½"	27	63.60	57.25	50.90
91F907	PC-1701	10½"	7"	5¼"	28¼	66.95	60.25	53.55
91F908	PC-1702	12¼"	8¾"	7"	32	68.65	61.80	54.90
91F909	PC-1703	14"	10½"	8¾"	33	77.55	69.80	62.05
91F910	PC-1704	15¾"	12¼"	10½"	34¾	81.85	73.65	65.50



SLOPING PANEL PRESTIGE CABINET

SLOPING PANEL PRESTIGE CABINETS

Cabinet has ventilated top, full top opening, recessed handle, shielded handles in sides. Top panel swept back for easy viewing, rear opening for easy cable or control access. Panel trim bar removable. Provides for installation or removal of panels. Grey hammertone finish. Rear opening is 2½" × 18", panel offset: 1¼" overall width: 22" pnl. ht. vert: 3½".

Stock No.	Type	Ht. x Depth	Pan. Ht. Slope	Lbs.	1-14	15-24	25-34
91F743	C-1555	11⅞x14⅜"	7"	25	72.55	65.30	58.05
91F744	C-1556	13¼x15⅛"	8¾"	27	77.30	69.55	61.85
91F745	C-1557	14¾x16⅛"	10½"	30	82.90	74.60	66.30

STREAMLINED

STREAMLINED CABINETS

Ideal cabinets for electronic devices. They have recessed hinged cover with convenient finger lift. Grey hammertone HG finish or black Rinkletex BR. Overall ht. is 8" and overall depth is 8¼". Complete with panel.

Stk. No. Black	Stk. No. Ham. Grey	Type	Wid.	Panel	Top Opening	Lbs.	Each	2-24	25-49
91F680	91F775	CD-1480	10½"	8x 8"	5⅜x 7⅛"	6¼	15.05	13.70	12.35
91F681	91F776	CD-1481	12½"	8x10"	5⅜x 9⅛"	6¾	15.24	13.85	12.45
91F682	91F777	CD-1482	14½"	8x12"	5⅜x11⅛"	7½	16.30	14.80	13.30
91F683	91F778	CD-1483	16½"	8x14"	5⅜x13⅛"	7¾	17.55	15.95	14.35
91F684	91F779	CD-1484	18½"	8x16"	5⅜x15⅞"	9¼	18.55	16.85	15.15
91F685	91F780	CD-1485*	20⅜"	12x18"	10½x15½"	17½	33.05	33.05	29.75

*Has 12" overall depth.

CARRYING CASES

Portable cases for transceivers, test units and other types of compact equipment. Front and back panels are fastened by self-tapping screws. Have easy grip handle. Black Rinkletex finish. Steel construction.

Stk. No.	Type	HxWxD	Lbs.	Each	2-24	25-49
91F608	CC-1095	9x6x5"	3	7.15	6.50	5.85
91F609	CC-1092	7x12x6"	5	10.00	9.10	8.20
91F610	CC-1100	10x10x8"	7	11.50	10.45	9.40
91F611	CC-1091	6x9x5"	3	7.15	6.50	5.85
91F612	CC-1096	12x7x6"	5¼	10.00	9.10	8.20
91F613	CC-1097	15x7¾x7"	7¼	11.30	10.25	9.25
91F614	CC-1093	9x15x7"	8	13.95	12.70	11.45

MARK-T

Unique triangular 16 gauge steel welded cabinet. Features include: Removable front panel & rear door; recessed carrying handles; 4 rubber feet; dark gray textured body, light gray textured panel & door. All models 6⁷⁄₃₂" H.

Stock No.	Type	W	Panel	Weight	1-14	15-24	25-34
90F384	MT-214	16"	5¾x14"	9¾	52.35	47.10	41.90
90F385	MT-219	21"	5¾x19"	12¼	57.35	51.60	45.90
90F386	MT-224	26"	5¾x24"	14¼	67.45	60.70	53.95

UNIVERSAL METER CASES

Can accommodate either a 2" or 3" meter. Center hole is punched for 2" meter and has an easily removed knock-out ring which increases size of hole to fit 3" meter. One piece, detachable back and sides fastened to the body of case with four self tapping screws. Two ⅜" knock-out holes in top for installation of feed through insulators if required. Available in steel or aluminum gray hammertone. 4¼"H. x 4"W. x 4"D. †CMA-1930. 4¼x6x4".

Stk. No.	Type	Lbs.	Each	2-49	50-99
91F598	CM-1935 Steel	¾	3.50	2.90	2.60
91F599	CMA-1936 Alum.	¼	4.20	3.50	3.15
91F597	†CMA-1930 Alum.	½	6.35	5.75	5.20

MAKE NEWARK YOUR ONE STOP SOURCE FOR ALL BUD RADIO CABINETS AND ACCESSORIES FAST DELIVERY FROM ON-THE-SHELF STOCKS.

Cabinets & Miniboxes

BUD

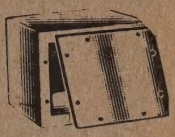
STEEL UTILITY CABINETS

Black Stk. No.	Black Type	Grey Ham. Stk. No.	Grey Ham. Type	HxWxD	Lbs.	Each	2-49	50-99
91F620	CU-883	91F640	CU-883HG	4x4x2"	¾	3.00	2.50	2.25
91F621	CU-728	91F641	CU-728HG	4x5x3"	1	3.60	3.00	2.70
91F622	CU-729	91F642	CU-729HG	6x5x4"	1¾	4.50	3.75	3.40
91F623	CU-1098	91F643	CU-1098HG	6x6x6"	2¼	5.60	5.10	4.60
91F624	CU-1099	91F644	CU-1099HG	9x6x5"	3	6.35	5.75	5.20
91F625	CU-880	91F645	CU-880HG	10x10x8"	6¼	10.00	9.10	8.20
91F626	CU-882	91F646	CU-882HG	15x9x7"	8¼	10.10	9.20	8.30
91F627	CU-879	91F647	CU-879HG	10x8x7"	3¼	8.65	7.85	7.05
91F628	CU-881	91F648	CU-881HG	12x11x8"	8½	11.10	10.10	9.10
91F629	CU-1124	91F649	CU-1124HG	12x7x6"	5	8.65	7.85	7.05

Steel utility cabinets for electronic equipment, monitors, frequency meters, etc. Ideal for the amateur, experimeter. Accurately formed of sheet steel for rugged use. Have two removable sides. Black rinkletex (BR) and light grey hammertone finish. (HG).

ALUMINUM UTILITY CABINETS

Stk. No.	Type	HxWxD	Lbs.	Each	2-49	50-99
91F543	AU-1028	4x5x3"	½	4.00	3.35	3.00
91F544	AU-1029	6x5x4"	¾	4.50	3.75	3.40
91F545	AU-1039	6x6x6"	1	6.15	5.60	5.05
91F546	AU-1040	9x6x5"	1½	6.80	6.20	5.60
91F547	AU-1083	4x4x2"	¼	3.80	3.15	2.85
91F716	AU-1083HG	4x4x2"	¼	4.50	3.75	3.40
91F717	AU-1028HG	4x5x3"	½	5.10	4.25	3.85
91F718	AU-1029HG	6x5x4"	¾	5.40	4.50	4.05
91F719	AU-1039HG	6x6x6"	1	6.55	5.95	5.35
91F720	AU-1040HG	9x6x5"	1½	8.25	7.50	6.75

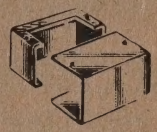


Ideal for mounting amplifiers, meters, test instruments, etc. Removable front and back may be fastened to cabinet with self-tapping screws provided. Available in natural or light gray hammertone finish (HG). Rugged and attractive. Aluminum alloy 500S H14.

MINIBOXES

Grey Hammertone Stk. No.	Type	Each	2-49	50-99	LxHxW	Wt. Lbs.	Natural Aluminum Stk. No.	Type	Each	2-49	50-99
91F700	CU-2100A	1.80	1.50	1.35	2¾x2⅛x1⅝"	¼	91F572	CU-3000A	1.50	1.25	1.15
91F701	CU-2101A	1.80	1.50	1.35	3¼x2⅛x1⅝"	¼	91F573	CU-3001A	1.50	1.25	1.15
91F702	CU-2102A	1.90	1.60	1.45	4x2⅛x1⅝"	¼	91F574	CU-3002A	1.70	1.40	1.25
91F703	CU-2103A	2.10	1.75	1.60	4x2¼x2¼"	¼	91F575	CU-3003A	1.90	1.60	1.45
91F704	CU-2104A	2.30	1.90	1.70	5x2¼x2¼"	¼	91F576	CU-3004A	1.90	1.60	1.45
91F705	CU-2105A	2.90	2.40	2.15	5x4x3"	½	91F577	CU-3005A	2.10	1.75	1.60
91F706	CU-2106A	2.50	2.10	1.90	5¼x3x2⅛"	¼	91F578	CU-3006A	2.10	1.75	1.60
91F707	CU-2107A	3.60	3.00	2.70	6x5x4"	¾	91F579	CU-3007A	2.90	2.40	2.15
91F708	CU-2108A*	4.10	3.40	3.05	7x5x3"	¾	91F580	CU-3008A*	3.60	3.00	2.70
91F709	CU-2109A*	5.30	4.45	4.00	8x6x3½"	1	91F581	CU-3009A*	4.60	3.85	3.45
91F697	CU-2110A*	5.80	4.85	4.35	10x6x3½"	1¼	91F582	CU-3010A*	5.00	4.20	3.80
91F698	CU-2111A*	7.25	6.60	5.95	12x7x4"	1¾	91F583	CU-3011A*	6.35	5.75	5.20
91F535	CU-2112A*	7.25	6.60	5.95	17x5x4"	2¼	91F584	CU-3012A*	6.35	5.75	5.20
91F536	CU-2113A*	3.00	2.50	2.25	10x2x1⅝"	½	91F585	CU-3013A*	2.80	2.35	2.10
91F537	CU-2114A*	4.00	3.35	3.00	12x2⅛x2¼"	¾	91F586	CU-3014A*	3.50	2.90	2.60
91F538	CU-2115A	2.10	1.75	1.60	4x2x2¾"	¼	91F587	CU-3015A	1.90	1.60	1.45
91F539	CU-2116A	2.10	1.75	1.60	4¼x2¼x1½"	¼	91F588	CU-3016A	1.90	1.60	1.45
91F540	CU-2117A	2.10	1.75	1.60	3¼x2⅛x1⅛"	¼	91F589	CU-3017A	1.70	1.40	1.25

*Made of .050" aluminum.

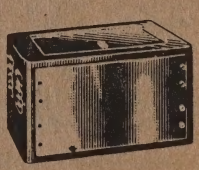


Two-piece aluminum design insures maximum degree of accessibility, adequate shielding as well as complete protection from mechanical injury and dust particles. Formed of .040 gauge aluminum. Comb. snap lock and screw type fastening. Excellent for constructing amplifiers, shielded oscillators, etc.

DELUXE METAL CABINET RACKS COMPLETE WITH PANELS

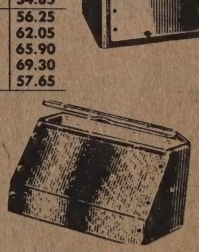
Will accommodate standard 19" panels. Five larger sizes only have hinged rear door. All sizes have top door for easy servicing or inspection. "No scratch" metal feet are embossed on bottom to minimize marring. Available in black Rinkletex (BR), gray Rinkletex (GR), or light gray hammertone (HG) finish.

Black	Grey	Type	HG Fin.	Type	DxWxH	Panel	Wt. Lbs.	1-9	10-14	15-19
91F687	91F688	CR-1726	91F689	CR-1726HG	14¾x22x8$^{29}/_{32}$"	7"	28	39.40	35.45	31.50
91F650	91F656	CR-1741	91F671	CR-1741HG	14¾x22x10$^{9}/_{16}$"	8¾"	30	41.85	37.65	33.50
91F662	91F664	CR-1740	91F668	CR-1740HG	14¾x22x12$^{5}/_{16}$"	10½"	34	49.10	44.20	39.30
91F651	91F657	CR-1742	91F672	CR-1742HG	14¾x22x14$^{1}/_{16}$"	12¼"	37	50.50	45.45	40.40
91F652	91F658	CR-1739	91F673	CR-1739HG	14¾x22x15$^{13}/_{16}$"	14"	40	68.55	61.70	54.85
91F653	91F659	CR-1743	91F669	CR-1743HG	14¾x22x19$^{5}/_{16}$"	17½"	47	70.30	63.25	56.25
91F654	91F660	CR-1744	91F670	CR-1744HG	14¾x22x28$^{1}/_{16}$"	26¼"	58	77.55	69.80	62.05
91F666	91F667	CR-1728	91F674	CR-1728HG	14¾x22x33$^{9}/_{16}$"	31½"	68	82.40	74.15	65.90
91F655	91F661	CR-1745	91F675	CR-1745HG	14¾x22x36$^{13}/_{16}$"	35"	78	86.65	78.00	69.30
91F663	91F665	CR-1727	91F676	CR-1727HG	14¾x22x22$^{13}/_{16}$"	21"	51	72.05	64.85	57.65



SLOPING PANEL CABINETS

Black Stk. No.	Black Type	HG Fin. Stk. No.	HG Fin. Type	HxWxD	Lbs.	Each	2-24	25-49
91F782	C-1584	91F791	C-1584HG	6½x7$^{1}/_{16}$x7$^{5}/_{32}$"	2¾	8.55	7.75	7.00
91F783	C-1587	91F792	C-1587HG	8x8$^{1}/_{16}$x8"	4	11.20	10.20	9.20
91F784	C-1585	91F793	C-1585HG	6½x9$^{1}/_{16}$x7$^{5}/_{32}$"	2½	9.35	8.50	7.65
91F785	C-1588	91F794	C-1588HG	8x10$^{1}/_{16}$x8"	4½	12.40	11.25	10.15
91F786	C-1586	91F795	C-1586HG	6½x11$^{1}/_{16}$x7$^{5}/_{32}$"	3¼	10.75	9.75	8.80
91F787	C-1894	91F796	C-1894HG	8x14$^{1}/_{16}$x8"	6	12.95	11.75	10.60
91F788	C-1892	91F797	C-1892HG	8x13$^{1}/_{16}$x8$^{13}/_{32}$"	5½	14.50	13.20	11.90
91F789	C-1896	91F798	C-1896HG	9x18$^{1}/_{16}$x8$^{13}/_{32}$"	9¾	18.35	16.70	15.05
91F790	C-1893	91F799	C-1893HG	10x18$^{1}/_{16}$x10$^{13}/_{32}$"	12½	18.90	17.20	15.50



The entire front panel of this cabinet is removable if so desired. This cabinet is also provided with a hinged top for easy accessibility to components that are mounted on the chassis without necessitating removal of the front panel. These cabinets are finished in black Rinkletex (BR) or light grey hammertone (HG) enamel.

MINIATURE UTILITY CABINETS

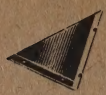
Stk. No.	Type	HxWxD	Wt. Lbs.	Each	2-49	50-99
91F487	C1793	4x4x2"	¾	3.50	2.90	2.60
91F488	C1794	4x5x3"	1¼	4.00	3.35	3.00
91F489	C1795	5x4x3"	1	4.40	3.65	3.30
91F490	C1796	6x5x4"	2	4.60	3.85	3.45
91F491	C1797	5x6x4"	2	4.90	4.10	3.70
91F492	C1798	6x6x6"	2¾	5.80	5.25	4.75

Has two removable panels. The front panel has a chassis attached. An ideal housing for constructing electronic devices using miniature components. Black Rinkletex (BR) finish only. Steel.

BUD Cabinet Accessories

Surface Shield

Shelf Assembly


Triangular Brackets

Rack Shelves

Chassis Brackets

"SURFACE SHIELD" RACK PANELS

Each panel is covered on both sides with sturdy pressure sensitive white paper for indicating size and position of drilling or milling. Panels have standard notching. Made of aluminum alloy.

⅛" Panels 19" Wide

Stk. No.	Type	Height	lbs.	Each	2-49	50-99	100-149
91F265	SFA-1831	1¾"	⅜	2.80	2.35	2.10	1.90
91F266	SFA-1832	3½"	¾	4.70	3.90	3.50	3.10
91F267	SFA-1833	5¼"	1⅛	5.60	5.10	4.60	4.10
91F268	SFA-1834	7"	1¾	6.90	6.25	5.65	5.00
91F269	SFA-1835	8¾"	2	8.00	7.25	6.55	5.80
91F270	SFA-1836	10½"	2½	10.40	9.45	8.50	7.55
91F271	SFA-1837	12¼"	2¾	11.95	10.85	9.75	8.70
91F272	SFA-1838	14"	3¼	13.40	12.20	11.00	9.75
91F273	SFA-1839	15¾"	3⅜	15.25	13.85	12.45	11.10
91F274	SFA-1840	17½"	4	16.70	15.20	13.70	12.15
91F275	SFA-1841	19¼"	4¼	18.55	16.85	15.15	13.50
91F276	SFA-1842	21"	5	20.20	18.35	16.50	14.70

3/16" Panels 19" Wide

Stk. No.	Type	Height	Lbs.	Each	2-49	50-99	100-149
91F277	SFA-3161	1¾"	¾	5.40	4.50	4.05	3.60
91F278	SFA-3162	3½"	1¼	7.00	6.35	5.70	5.10
91F279	SFA-3163	5¼"	1¾	9.10	8.25	7.45	6.60
91F280	SFA-3164	7"	2½	11.40	10.35	9.30	8.30
91F281	SFA-3165	8¾"	3	13.40	12.20	11.00	9.75
91F282	SFA-3166	10½"	3¾	15.75	14.30	12.85	11.45
91F283	SFA-3167	12¼"	4½	19.85	18.05	16.25	14.45
91F284	SFA-3168	14"	5	20.55	20.55	18.50	16.45
91F285	SFA-3169	15¾"	5¾	23.05	23.05	20.75	18.45
91F286	SFA-3170	17½"	6¼	25.45	25.45	22.90	20.35
91F287	SFA-3171	19¼"	7	28.05	28.05	25.25	22.45
91F288	SFA-3172	21"	7¼	30.30	30.30	27.25	24.25

STEEL RACK PANELS

Made of ⅛" steel. 19" widths. Have standard notched edges which are able to fit the normal mounting screw spacing of all standard relay racks and telephone type relay racks.

White	Sand	Grey	Ham Grey	Textured Blue	Textured Grey	Type	Lbs.	Height	Each	2-49	50-99	100-149
91F1574	91F1575	91F230	91F435	....	91F412	PS-1250	1¼	1¾"	2.80	2.35	2.10	1.90
91F1576	91F1577	91F321	91F436	....	91F413	PS-1251	2¼	3½"	3.30	2.75	2.50	2.20
91F1578	91F1579	91F322	91F437	91F402	91F414	PS-1252	3¼	5¼"	4.10	3.40	3.05	2.70
91F1580	91F1581	91F323	91F438	....	91F415	PS-1253	4½	7"	4.40	3.70	3.35	2.95
91F1582	91F1583	....	91F439	....	91F416	PS-1254	6	8¾"	5.50	5.00	4.50	4.00
91F1584	91F1585	91F325	91F440	91F405	91F417	PS-1255	7	10½"	6.45	5.85	5.25	4.70
91F1586	91F1587	....	91F441	91F406	91F418	PS-1256	8¼	12¼"	7.15	6.50	5.85	5.20
91F1588	91F1589	....	91F442	....	91F419	PS-1257	9½	14"	8.25	7.50	6.75	6.00
91F1590	91F1591	....	91F443	....	91F420	PS-1258	10¾	15¾"	8.90	8.10	7.30	6.50
91F1592	91F1593	91F329	91F444	....	91F421	PS-1259	11¾	17½"	9.90	9.00	8.10	7.20
91F1594	91F1595	....	91F445	....	....	PS-1260	13	19¼"	10.85	9.85	8.85	7.90
91F1596	91F1597	91F331	91F446	....	91F423	PS-1261	14¼	21"	12.50	11.35	10.20	9.10

ALUMINUM—RACK—PANELS—1/8 PANELS (5005 H-36)

91F1700	91F1701	91F360	91F388	91F240	91F252	PA-1101	⅜	1¾"	3.30	2.75	2.50	2.20
91F1702	91F1703	91F361	91F389	91F241	91F253	PA-1102	¾	3½"	4.60	3.85	3.45	3.10
91F1704	91F1705	91F362	91F390	91F242	91F254	PA-1103	1⅛	5¼"	5.50	5.00	4.50	4.00
91F1706	91F1707	91F363	91F391	91F243	91F255	PA-1104	1¾	7"	7.00	6.35	5.70	5.10
91F1708	91F1709	91F364	91F392	91F244	91F256	PA-1105	2	8¾"	7.80	7.10	6.40	5.70
91F1710	91F1711	91F365	91F393	91F245	91F257	PA-1106	2½	10½"	10.10	9.20	8.30	7.35
91F1712	91F1713	91F366	91F394	91F246	91F258	PA-1107	2¾	12¼"	11.65	10.60	9.55	8.50
91F1714	91F1715	91F367	91F395	91F247	91F259	PA-1108	3	14"	13.30	12.10	10.90	9.70
91F1716	91F1717	91F368	91F396	91F248	91F260	PA-1109	3¼	15¾"	14.80	13.45	12.10	10.75
91F1718	91F1719	....	91F397	91F249	91F261	PA-1110	3⅜	17½"	16.30	14.80	13.30	11.85
91F1720	91F1721	....	91F398	....	91F262	PA-1111	4¼	19¼"	17.75	16.10	14.50	12.90
91F1722	91F1723	....	91F399	91F251	91F263	PA-1112	5	21"	19.65	17.85	16.05	14.30

¼" PANELS, 2024 T-3

Ham Gray	Textured Blue	Textured Grey	Type	Lbs.	Hgt.	Each	2-49	50-99	100-149
90F284	....	....	PA-1131	⅜	1¾"	4.10	3.40	3.05	2.70
90F285	....	90F309	PA-1132	¾	3½"	5.30	4.45	4.00	3.55
90F286	....	90F310	PA-1133	1⅛	5¼"	6.55	5.95	5.35	4.75
90F287	90F299	90F311	PA-1134	1¾	7"	8.35	7.60	6.85	6.10
90F288	90F300	....	PA-1135	2	8¾"	9.30	8.45	7.60	6.75
90F289	90F301	90F313	PA-1136	2½	10½"	11.95	10.85	9.75	8.70
90F290	....	90F314	PA-1137	2¾	12¼"	13.70	12.45	11.20	9.95
90F291	90F303	90F315	PA-1138	3¼	14"	15.90	14.45	13.00	11.55
90F292	....	90F316	PA-1139	3⅜	15¾"	17.15	15.60	14.05	12.50
90F293	....	....	PA-1140	4	17½"	18.50	16.80	15.10	13.45
90F294	....	....	PA-1141	4¼	19¼"	19.90	18.10	16.30	14.50
90F295	....	90F319	PA-1142	5	21"	20.90	20.90	18.80	16.70

3/16" PANELS, 5005 H-36

90F224	90F236	90F248	PA-3101	¾	1¾"	5.10	4.25	3.85	3.40
90F225	90F237	90F249	PA-3102	1¼	3½"	6.55	5.95	5.35	4.75
90F226	90F238	90F250	PA-3103	1¾	5¼"	8.75	7.95	7.15	6.35
90F277	90F239	90F251	PA-3104	2½	7"	10.75	9.75	8.80	7.80
....	....	90F252	PA-3105	3	8¾"	12.15	11.50	10.35	9.20
90F230	....	....	PA-3107	4½	12¼"	18.35	16.70	15.05	13.35

CHASSIS SUPPORTING ANGLES

7/64" steel. Black. Supplied in pairs.

Stk. No.	Type	Length	Width	Lbs.	Each	2-24	25-49	50-99
91F090	SA-1349	14½"	3"	3½	5.90	5.35	4.80	4.30
91F091	SA-1350	12"	3"	3	5.90	5.35	4.80	4.30

SHELF ASSEMBLY

Slides welded to shelf bottom. Mtg. brackets slip into slides, fastened with two screws. Ht. is 7⅛".

Black	Gray	HG	Type	Size	Lbs.	1-2	3-4	5-7	8-10
91F878	91F880	91F882	SA-1719	16x22"	13¼	21.95	19.75	17.55	16.45
91F879	91F881	91F883	SA-1720	20x22"	15¼	22.20	20.00	17.75	16.65

CHASSIS MOUNTING BRACKETS

Black enamel. (*) For 4" chassis. Sold in pairs.

Stk. No.	Type	Dimensions	Lbs.	Each	2-49	50-99	100-149
91F070	MB-458	6½x8"	1¼	3.50	2.90	2.60	2.30
91F071	MB-448	6½x10"	1¾	3.50	2.90	2.60	2.30
91F072	MB-459	6½x11"	2	4.00	3.35	3.00	2.70
91F073	MB-449	6½x12"	2	4.50	3.75	3.40	3.00
91F074	MB-460	6½x13"	2½	4.30	3.60	3.25	2.90
91F075	MB-450*	8½x10"	2¼	5.20	4.35	3.90	3.50
91F076	MB-451*	8½x13"	3	5.40	4.50	4.05	3.60

TRIANGULAR TYPE CHASSIS MOUNTING BRACKETS

Black enamel 16 gauge steel with ¾" flanges. Sold in pairs.

Stock No.	Type	Ht.	Dep.	Wt. Lbs.	Each	2-49	50-99	100-149
91F484	MB1266	5"	5"	½	2.80	2.35	2.10	1.90
91F485	MB1267	7"	7"	1	3.40	2.85	2.55	2.30
91F486	MB1268	9"	9"	1½	4.20	3.50	3.15	2.80

RACK SHELVES

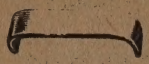
Stk. No.	Type	Size	Lbs.	Each	2-14	15-24	25-34
91F092	CB-1976	19x1x15"	6	8.65	7.85	7.05	6.30
91F093	CB-1977	19x1x12"	5	6.80	6.20	5.60	4.95

Handles

BUD

Handles are fabricated from steel, brass or cast aluminum. Durable, attractive finish will provide long wear. Material and finish specifications for each handle described below. They have unlimited applications in the electronic, electrical, and many other fields. Necessary mounting hardware furnished.

Type H-9100 All models of this type have 1" hand clearance. All are made from solid brass and are Chrome plated. H-9100 and H-9101 are 1"x¼".H-9102 and H-1903 are 5/9x¼". Hardware supplied on all models: two 6-32 by ½" screws; 9102, 9103. Four screws; 9100, 9101

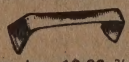


Stock No.	Type	Mtg. Cen.	Net Each	2-99	100-199	200-499
90F700	H-9100	4x½"	5.90	5.35	4.80	4.40
90F701	H-9101	8x½"	9.65	8.75	7.90	7.00
90F702	H-9102	4"	5.30	4.45	4.00	3.55
90F703	H-9103	6"	5.90	5.35	4.80	4.30

Type UH-70A. Useful for attaching to any small housing or speaker enclosure to achieve portability. Handle made from aluminum and given an etched finish. Aver. Shpg. wt., 3 oz.

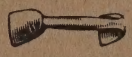
Stock No.	Type	Len.	Mtg. Cen.	Each	2-49	50-99	100-149
91F079	UH-70A	5⅛"	4⅝"	1.40	1.05	.95	.85
91F1680	UH-71A	3¾"	3¼"	1.20	.90	.80	.70

Type H-9151 Made from die cast aluminum. Silver anodized. 1⅜" hand clearance. Hardware: four 10-32x½" screws. **Type H-9152.** Similar to H-9151. Has 1⅛" hand clearance. Also silver anodized. Hardware: two 10-32x⅜" screws. Aver. Shpg. Wt. 3 oz.



Stock No.	Type	Mtg. Ctrs.	Net Each	2-99	100-199	200-499
90F711	H-9151	5½x⅜"	8.20	7.45	6.70	5.95
90F712	H-9152	3⅜"	5.60	5.10	4.60	4.10

Type H-9150. Made of die cast aluminum and finished in silver anodize. Has 1¼" hand clearance. Hardware: four 10-32x½" screws. Aver. shpg. wt. 3 oz.



Stock No.	Type	Mtg. Ctrs.	Net Each	2-99	100-199	200-499
90F710	H-9150	4x⅜"	4.60	3.85	3.45	3.10

Type H-9120 Handle made of die cast aluminum. Silver anodize finish. Has hand clearance of 1". Hardware: four 6-32x½" screws. Shpg. wt. 5 oz:
Type H-9121 Similar to H-9120 except made of die cast alloy and is chrome plated.
Type H-9123 Similar to H-9120 except hardware: two 10-32x½" screws.

Stk. No.	Type	Mtg. Ctrs. Ins.	Mtg. Ctrs. Outs.	Net Each	2-99	100-199	200-499
90F705	H-9120	4⅜"	5⅜"	5.60	5.10	4.60	4.10
90F706	H-9121	4⅜"	5⅜"	4.45	6.75	6.10	5.40
90F707	H-9123	4½"	.....	3.80	3.15	2.85	2.50

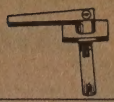
Type H-9131. Made of die cast aluminum. Silver anodize finish. Size: 4x2⅞". Hardware: two ¼ 28x¾" raised countersunk screws and nuts. Useful as cabinet handle replacement. Average shpg. wt. 3 oz.

Stock No.	Type	Mtg. Ctrs.	Net Each	2-99	100-199	200-499
90F713	H-9131	2¼"	5.50	4.60	4.15	3.70

Type H-9140 This handle made of die cast aluminum with silver anodized finish. Has hand clearance of ¾". This solid design handle provides modern look to your cabinets or racks. Hardware provided for this model—two 10-32½" screws. Shpg. wt. 6 oz.

Stock No.	Type	Mtg. Ctrs.	Each	2-99	100-199	200-499
90F709	H-9140	3½"	3.20	2.65	2.40	2.10

LEVER TYPE DOOR HANDLES 9223



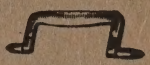
Satin chrome plated, die cast handle and face plate. Corrosion resistant steel spindle and cam. Easily and quickly attached to Super Deluxe Relay Racks.

Stock No.	Type	Desc.	Net Each	2-49	50-99	100-149
90F401	H3360	Non-Locking	8.20	7.45	6.70	5.95
90F402	HL3361	With lock & Key	12.50	11.35	10.20	9.10

FLUSH TYPE HANDLE AND CATCH
Combination handle and catch is standard on Bud Cabinet Racks. Fits flush with top of cabinet. All exposed parts are chrome plated.

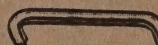
Stock No.	Type	Net Each	2-49	50-99	100-149
91F1683	H-9347	2.90	2.20	2.00	1.75

Type H-9122. Handle made of die cast aluminum with a silver anodized finish. This handle has hand clearance of 1½" and is hinged on ¼" diameter pins with two hinge blocks. Hardware provided: four 10-32x⅜" screws. Shpg. wt., 5 oz.



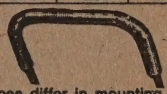
Stk. No.	Type	Mtg. Ctrs. Inc.	Mtg. Ctrs. Outs	Net Each	2-99	100-199	200-499
90F704	H-9122	6½"	7¼"	10.30	9.35	8.40	7.50

Types H-9115 and H-9116. These handles made of ⅜" steel rod, chrome plate finish. Have hand clearance of 1⅜". Ideal for use where a thin, durable handle is necessary or desirable. Hardware provided: two ¼-28 nuts. Av. shpg. wt. 3 oz.



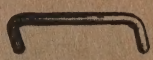
Stk. No.	Type	Mtg. Ctrs.	Net Each	2-99	100-199	200-499
90F746	H-9115	4"	3.10	2.60	2.35	2.10
90F732	H-9116	6"	3.30	2.75	2.50	2.20

Types H-9160, H-9161, H-9162, H-9163B, H-9164, H-9165. All have chrome plated finish and are made of ⅜" diameter steel. All have 1"⅛" hand clearance. All are provided with two ¼-28 hex nuts as hardware. Types differ in mounting centers only which are listed below.



Stk. No.	Type	Mtg. Ctrs.	Net Each	2-99	100-199	200-499
90F733	H-9160	3½"	3.30	2.75	2.50	2.20
90F734	H-9161	5¼"	3.30	2.75	2.50	2.20
90F735	H-9162	7"	3.60	3.00	2.70	2.40
90F736	H-9163	8¾"	3.90	3.25	2.95	2.60
90F737	H-9164	10½"	4.10	3.40	3.05	2.70
90F738	H-9165	12¼"	4.40	3.65	3.30	2.90

Types H-9166, and H-9168. Both are made of ¼" diameter brass and both have a chrome plated finish. These handles each have 1" hand clearance and are provided with the same hardware: two 6-32x½" screws. They differ only in mounting centers which are listed below.



Stk. No.	Type	Mtg. Ctrs.	Net Each	2-99	100-199	200-499
90F739	H-9166	1"⅛"	1.80	1.50	1.35	1.20
90F740	H-9168	3"	1.80	1.50	1.35	1.20

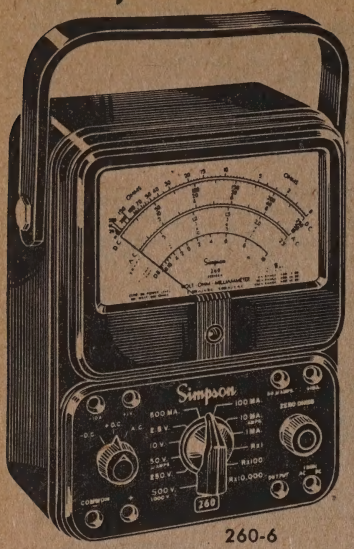
Types H-9110-14. ⅜" dia. except H-9114, ½" dia. steel, chrome plated. All provided with two 10-32x½" screws except H-9114 two ¼-28x½" screws. Hand clearance 1" except* 1¼" and ** 1½". Shpg. Wt. 3 oz.

Stk. No.	Type	Mtg. Ctrs.	Net Each	2-99	100-199	200-499
90F741	H-9110	6"	3.30	2.75	2.50	2.20
90F742	H-9111	4"	2.30	1.90	1.70	1.50
90F743	H-9112	6"	2.50	2.10	1.90	1.70
90F744	H-9113	8"	2.60	2.15	1.95	1.70
90F745	H-9114	8"	3.90	3.25	2.95	2.60

SAVE WORK! Make Newark your Complete 1-Point Stock Source
SAVE TIME! At Newark—fast, efficient service always!

Simpson Volt-Ohm-Milliammeters

- Taut Band Movement
- 27 Ranges
- External Access Battery and Fuse Compartment
- Varistor Protected
- Clip-type Fuse Holders and Extra Fuse



260-6

260-6RT

260 SERIES VOM

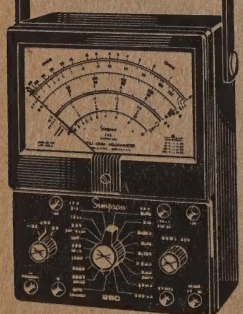
Model 260-6 Volt-Ohm-Milliammeter. Features a varistor protected rugged taut-band movement. Multi-purpose screw-on test leads with combination probe and alligator clips. Requires only two batteries: one 9-volt NEDA 1604 and one 1.5-volt "D" cell NEDA 13F. **Batteries supplied.** Polarity reversing switch allows faster, more convenient DC measurement. Full-wave bridge rectifier provides accurate AC voltage measurements. **Specifications**—20,000 ohms/volt DC, 5000 ohms/volt AC, Scale length: 4.2", Dimensions 5¼" x 7" x 3". **Ranges**—DC volts: 0-0.25; 0-1; 0-2.5; 0-10; 0-50; 0-250; 0-500; 0-1000. AC volts: 0-2.5; 0-10; 0-50; 0-250; 0-500; 0-1000. DC microamperes: 0-50 (250 mV drop). DC milliamperes: 0-1; 0-10; 0-100; 0-500. DC amperes: 0-10 (250 mV drop). DB scale (1 mW 600 ohm reference): −20 to +10; −8 to +22; −6 to +36; +20 to +50. Resistance: Rx1; Rx100; Rx10K. **With batteries, test leads and manual included.**

62F300. NET 77.00

260-6M. As above with mirrored scale.
62F305. NET 80.00

260-6RT. As above with roll-top case.
62F303. NET 85.50

260-6MRT. With mirrored scale and roll-top case.
62F2269. NET 88.50



260-6XL VOM FOR SOLID STATE

- Four Color, Color-Keyed Scales
- Low Power Ohms Capabilities
- Shock and Drop Resistant Const
- 33 Ranges

All the features of the Model 260-6, with additional capabilities to make it more useful in servicing solid state systems. Additional voltage and current ranges permit making measurements with higher resolution. Low power resistance measurements protect against damage of solid state components. Panel and case are molded of high impact material to provide more resistance to shock. Large meter face features color-keyed scales in four colors to facilitate rapid reading of measurements. In addition to the ranges available on the **260-6,** the **260-6XL** has the following ranges: DC Volts: 0-25 and 0-100. AC Volts: 0-25 and 0-100. DC milliamperes: 0-5 and 0-50. DC amperes: 0-5 (250 mV drop). dB scale: −1 to +29 and +11 to +41. Resistance ranges are: Standard Power: Rx1 (6 ohm center scale); Rx100 (600 ohm center scale); Rx1K (6000 ohm c.s.) Rx10K (60K ohm c.s.). Low Power: Rx1 (20 ohm c.s.) Rx10 (200 ohm c.s.) Max. open circuit voltage on low-power is 100 mV and max. measuring power is 0.125 mW. **Complete with batteries, test leads and manual.**

62F1786. NET 90.00

OVERLOAD PROTECTED TAUT BAND VOM

Model 260-6P. Offers the same ranges and specifications as the 260-6 series of VOM with the added feature of electronic circuit protection which senses overload conditions and trips a protective relay. Entire tester is protected, providing an extra measure of protection for experienced personnel exploring unfamiliar equipment. Meter cannot be reset, even momentarily, until the overload has been removed. Particularly useful for labs, schools, shops or wherever mortality rate of VOM's is apt to be high. **Sold complete with batteries, test leads, and manual.**

62F1191. NET 116.50

Model 260-6PM. As above with mirrored scale.
62F2242. NET 119.50

Model 260-6PRT. As above with roll-top case.
62F2270. NET 125.50

ACCESSORIES FOR VOM 260-6 SERIES VOM

Model 150 Amp-Clamp. Increases range and versatility of 250, 255, 260, 261 and 270 series VOM's by allowing measurement of AC current (can be used with any VOM having a 2.5 or 3 volt AC scale).
62F2377. NET 31.00

Type 00432. 40 kV Probe.
62F1703. NET 35.00

Type 00735. Low-Power Ohms Probe (not for XL).
62F2243. NET 30.95

Type 00118. Grip-Tip Extension Probe.
62F1410. NET 5.50

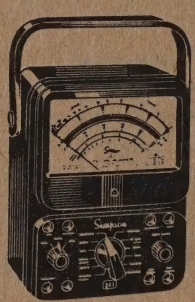
Type 00812. Ruggedized Case.
62F302. NET 21.50

Type 00805. Vinyl Ever-Ready Case.
62F301. NET 21.50

Type 01818. Vinyl Sheath Case.
62F2246. NET 17.60

Type 00506. 5 kV DC Probe.
62F2247. NET 5.50

Type 00505. 5 kV AC Probe.
62F2248. NET 5.50

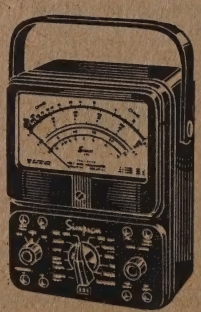


HIGH ACCURACY VOM's

Designed for VOM applications requiring high accuracy. All the features of the **260-6M,** including external access battery, mirror scale, varistor-protected self-shielding movement, and Adjust-A-Vue handle. Special calibration circuits and components, combined with strict manufacturing controls, produce outstanding accuracy. Use all 260 accessories, including plug-in Add-A-Tester adapters. **Complete with operator's manual, test leads and batteries.**

Model 261-2. ±1.5% accuracy DC; ±3% AC; ±2% of arc on Rx1; and ±1.5% of arc on Rx100 and Rx10K.
62F309. NET 87.00

Model 270-4. ±1.25% DC; ±2% AC; ±1.5% of arc on Rx1, ±1° of arc on Rx100 and Rx10K.
62F380. NET 96.50



VOM WITH 50mV DROP

Model 250. Contains all the built-in features of the model 260-6. Has provision for using the entire line of "Add-A-Tester" adapters, high voltage probes and other accessories used with the 260-6. Self-shielding, diode-protected, taut-band meter movement. Features 1-ampere, fused input and 50 millivolt drop on DC current ranges . . . specifically for solid state circuits. Ranges—DC Volts: 0-50 and 0-250 mV; 0-2.5; 0-10; 0-50; 0-250; 0-500; and 0-1000 Volts. AC Volts: 0-0.25; 0-10; 0-10; 0-50; 0-250; 0-500; and 0-1000. DC μA: 0-50 (both 50 and 250 mV drops). DC milliamperes 0-1; 0-10; 0-100; and 0-500 (50 mV drop). DC amperes: 0-50 (50 mV drop). dB Scales (1 mW 600 ohms): −20 to +10; −8 to +22; +6 to +36; +20 to +50. Resistance: Rx1, 0-2000 ohms (12 ohm center); Rx100, 0-200K ohms (120 ohm center); Rx10K, 0-20 Megohms (120 K ohm center). 2% accuracy.

62F1692. NET 85.00

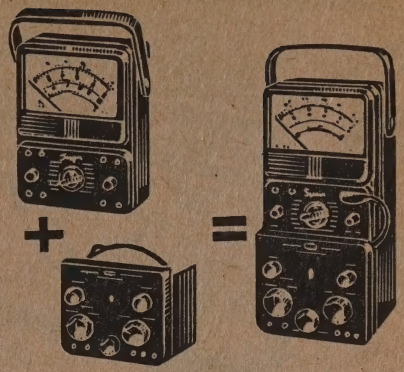
VOM's

Simpson

ADD-A-TESTER ADAPTERS

Stk. No.	Type	Description & Range	Accuracy	Net
62F382	650	Transistor Tester, Beta: 0-5, 50, 250, Ico: 0-100 μA	Beta; ±5%# Ico: ±3%#	52.00
62F383	651	DC VTVM, Volts: 0-0.5, 1.0, 2.5, 5, 10, 25, 50, 100, 250, 500. Input Imp. 10 megohms.	±3% F.S.#	57.50
62F384	652	Temp. Tester, −50°F to 100°F to 250°F. Sensing Element: Thermistor included	±2°F from −30° to +220°F. ±4°F over remainder of range	57.50
62F385	653	AC Ammeter. 0-0.25, 1.0, 2.5, 12.5, 25 Amps Freq: 50-3000 cycles.	±3% F.S.	37.50
62F386	654	Audio Wattmeter. Load Ranges 4, 8, 16, 600 ohms. Wattage: 25 W (8,600), 50 W (4, 16) continuous intermittent duty; 50 and 100 W.	±10% (±7% with 261 and 270).	40.00
62F2371	655	Microvolt Atten. 2.5 to 250,000 μV in decade steps. Freq: DC to 20 kc.	±1 dB	33.00
62F393	657	Milliohmmeter. 0-0.1 (150 Ma. max. output), 0.25 (103 Ma.), 0.5 (90 Ma.) 1.0 (80 Ma.)	±2% F.S. (±1½% with 261 and 270).	60.00
62F1194	661	DC Ammeter, DC Amperes: 0-1.0, 2.5, 5, 10, 25.	±2% F.S. (±1½% with 261 and 270)	37.50

#1% or better accuracy when used with 261 or 270.



Fit 260 and 270 Series VOM's for increased Versatility

AMP, CLAMP ADAPTERS FOR AC AMPERE MEASUREMENTS

Model 150. Clamp-on AC ammeter adapter for analog VOM's. Plug into 160, 260, 260XL, 261, 270, 250 or 255 VOM. Ranges: 0-5, 10, 25, 50, 100, and 250 AC amperes. Readout is on VOM's 0-2.5 VAC scale. May be used with any VOM having 0-2.5, 0-3 and 0-5 VAC range. When used with 0-3 VAC adapter, the ranges are 0-6, 0-12, 0-30, 0-60, 0-120, and 0-300 AC amperes. When used with a 0-5 VAC adapter, ranges are from 0-10 to 0-500 AC amperes. Rugged construction and easy to use. Accuracy: ±3% of full scale. **Complete with Test Lead and operator's manual.**

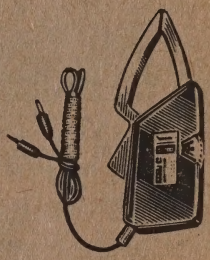
62F2377. NET 31.00

Test Lead. Type No. 00533.

62F1683. NET 2.90

Model 154. For digital VOM's and multimeters. Plugs into 360-2, 460-3 or 464. Readout is on 0.2V, 2V, or 20 V AC VOM scale. Ranges: 2A, 20A, or 200A. **Complete with test lead and operator's manual.**

62F1687. NET 29.50



VOM SPECIFICATIONS

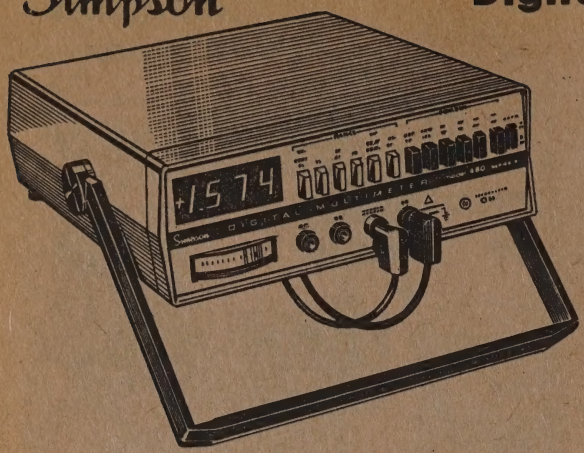
ACCURACIES	250	255	260-6, 260-6RT	260-6M, 260-6MRT	260-6P, 260-6PM,†† 260-6PRT	260-6XL, 260-6XLM††	260-6XLP, 260-6XLPM††	261-2	270-4
0-50 MV; 0-250 MV; 0-1 to 0-1000 VDC	±2% F.S.	±2% F.S.	±2% F.S.	±2% F.S.	±2% F.S.	±2½% F.S.	±2% F.S.	±1.5% F.S.*	±1.25% F.S.
0-5000 VDC	—	—	—	—	—	—	—	±2.5% F.S.	—
0-50 μA				±1.5% F.S.				±1.0% F.S.	±0.75% F.S.
0-0.5 MA to 0-500 MA	—	—	—	—	—	±2% F.S.	±2% F.S.	—	—
0-1 MA to 0-10 ADC	±2% F.S.	±2% F.S.	±2% F.S.	±2% F.S.	±2% F.S.	—	—	±1.5% F.S.	±1.25% F.S.
RX1 (L.P.); RX10 (L.P.)	—	—	—	—	—	±2.5° or arc	±2.5° to arc	—	—
RX1 Conventional	±2.5° of arc	±2.5° of arc	±2.5° of arc	±2.5° of arc	±2.5° of arc	±2.5° of arc	±2.5° of arc	±2.0° of arc	±1.5° of arc
RX100 Conventional	±2.0° of arc	±2.0° of arc	±2.0° of arc	±2.0° of arc	±2.0° of arc	±2.0° of arc	±2.0° of arc	±1.5° of arc	±1.0° of arc
RX1000 Conventional	—	—	—	—	—	±2.0° of arc	±2.0° of arc	—	—
RX10,000 Conventional	±2.0° of arc	±2.0° of arc	±2.0° of arc	±2.0° of arc	±2.0° of arc	±2.0° of arc	±2.0° of arc	±1.5° of arc	±1.0° of arc
0-2.5 to 0-100 VAC	±3% F.S.	±3% F.S.	±3% F.S.	±3% F.S.	±3% F.S.	—	—	±3% F.S.	±2% F.S.
0-1 to 0-1000 VAC	—	—	—	—	—	±3% F.S.	±3% F.S.	—	—
0-5000 VAC	—	—	—	—	—	—	—	±4% F.S.	—
Movement	Taut Band Self-Shielding Annular								
Amp Clamp Direct Reading	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Movement Protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Resettable Circuit Protection	No†	No†	No†	No†	Yes**	No	Yes**	No†	No†
Mirror Scale	No	No	No	Yes	No	No	No	No	No

*261-2 Accuracy 0-25 to 0-1000 VDC
** Except on 500 VDC, 1000 VDC, and 5 ADC
† Amp fuse limits maximum current
†† Has mirror scale

RANGES	250	255	260-6, 260-6M, 260-6RT, 260-6MRT, 260-6P, 260-6PM, 260-6PRT	260-XL, 260-6XLM, 260-XLP, 260-6XLPM	261-2	270-4
DC Volts	0-0.050; 0-0.250; 0-2.5; 0-10; 0-50; 0-250; 0-500; 0-1000	0-0.050; 0-0.250; 0-1; 0-2.5; 0-10; 0-50; 0-250; 0-500; 0-1000	0-0.250; 0-1; 0-2.5; 0-10; 0-50; 0-250; 0-500; 0-1000	0-0.250; 0-1; 0-2.5; 0-10; 0-25; 0-100; 0-250; 0-500; 0-1000	0-0.250; 0-2.5; 0-10; 0-50; 0-250; 0-1000; 0-5000	0-0.250; 0-1; 0-2.5; 0-10; 0-50; 0-250; 0-500; 0-1000
AC Volts	0.25; 0-10; 0-50; 0-250; 0-500; 0-1000	0-2.5; 0-10; 0-50; 0-250; 0-1000	0-2.5; 0-10; 0-50; 0-250; 0-500; 0-1000	0-2.5; 0-10; 0-25; 0-100; 0-250; 0-500; 0-1000	0-2.5; 0-10; 0-50; 0-250; 0-1000; 0-5000	0-2.5; 0-10; 0-50; 0-250; 0-500; 0-1000
DC Microamperes	0-50 (Both 50 and 250 MV Drop)		0-50 (250 MV Drop)			
DC Milliamperes	0-1; 0-10; 0-100; 0-500 (50 MV Drop)		0-1; 0-10; 0-100; 0-500	0-0.5; 0-5 (250 MV Drop); 0-50 (252 MV Drop) 0-500 (400 mV Drop)	0-1; 0-10; 0-100; 0-500	
DC Amperes	0-10 (50 MV Drop)	None	0-10 (250 MV Drop)	0-5 (250 MV Drop)	0-10	
AC Amperes	Up to 250 AC Amps with Optional Amp-Clamp Adapter, Model 150					
dB Scale (1 MW 600Ω)	−20 to +10; −8 to +22; +6 to +36; +20 to +50	None	−20 to +10; −8 to +22; +6 to +36; +20 to +50	−20 to +10; −9 to +21; −1 to +29; +11 to +41; +19 to +49	−20 to +10; −8 to +22; +6 to +36; +20 to +50	
Output	None		0.1 mfd capacitor in series with all AC voltage ranges through 250 volts			
Conventional Resistance	RX1 0-2000 Ω (12 Ω center); R100, 0-200K Ω (120 Ω center); RX10K, 0-20 Meg Ω (120K center)			RX1, 0-1K (6 Ω center); RX100, 0-100K (600 Ω center) RX1K, 0-1M16K Ω center); RX10K, 0-10M (60K Ω center)	RX1, 0-2000 Ω (12 Ω center) RX100 0-200K Ω (1200 Ω center) RX10K; 0-20 Meg Ω (120K Ω (1120K Ω center)	
Low-Power Resistance	None		None	RX1 (L.P.) 0-1K (20 Ω center) RX10 (L.P.) 0-10K (200 Ω center)	None	
Temperature	None	+100°F to +1050°F	None	None	None	

Simpson

Digital Instruments



460-3A PORTABLE DMM

32 ranges, including low-power ohms. Overload protection on all ranges. 0.43" LED readout. Analog meter for nulling, peaking, scanning trends. MOS-LSI IC for reliability, low power drain. High-impact case with adjustable tilt-view handle. Pushbutton selection of range. Over-range indication. Accuracy (% of reading)—DCV: ±(0.1% +1 digit); ACV: ±(0.5% +2 digits); DC current: ±(0.25% +1 digit), except 2000 mA and 10 A ranges ±(1.0% +1 digit); AC current: ±(0.7% +2 digits); Resistance: ±(0.25% +1 digit), except on 2000 K Ω and 20 M Ω, ±(0.5% +2 digits). Oper. Temp. 0 to +55°C. Wt.: 3 lbs. With test leads, line cord and operator's manual.

Model 4603A. 120/240VAC (50-400 Hz) operation.
62F1700. NET 295.00

Model 460-3D. Ni-cad batt. or 120/240VAC oper. (Less batteries).
62F1701. NET 322.00

AC/DC VOLTS (AC 40Hz-20kHz)

Range	Maximum Indication	Input Res.
200 mV	±199.9 mV	10M/75pF AC
2 V	±1.999 V	10M/75pF AC
20 V	±19.99 V	10M/75pF AC
200 V	±199.9 V	10M/75pF AC
1000 V	±1000 V* (Max In)	10M/75pF AC

*600 V Max. AC
Overload Prot: 1100VDC, 350V RMS AC

AC/DC CURR. (AC 40Hz-20kHz)

Range	Maximum Indication	Overload Prot. to
200 µA	199.9 µA	2.5 A†
2 mA	1.999 mA	2.5 A†
20 mA	19.99 mA	2.5 A†
100 mA	199.9 mA	2.5 A†
10 A	10 A (Max In)	10 A (50V max)

†Fuse Protected.
Full Range Voltage Drop: 200 mV except 10A range, 100 mV.

RESISTANCE: Low-Power

Range	Maximum Indication	Test Current
200 Ω#	199.9 Ω	1 mA
2k Ω#	1.999k Ω	100 µA
20k Ω	19.99k Ω	10 µA
200k Ω	199.9k Ω	1 µA
2000k Ω	1999 k Ω	100 nA

Full Scale Voltage: 200mV
Overload Prot: 250V RMS, except #135V RMS.

RESISTANCE: Hi-Power

Range	Maximum Indication	Test Current
2k Ω#	1.999k Ω	1 mA
20k Ω	19.99k Ω	100 µA
200k Ω	199.9k Ω	10 µA
2000k Ω	1999k Ω	1 µA
20M Ω	19.99M Ω	100 nA

Full Scale Voltage: 2 V

MODEL 464A DMM

Similar to Model 460-3, but with fewer ranges and without the analog meter. Conforms to applicable A NSI C39.5 requirements.

Model 464A. 120/240VAC (50-400 Hz) operation.
62F400. NET 210.00

Model 464D. 120/240VAC or Nicad Battery operation. Test leads, line cord, manual (less batteries).
62F401. NET 247.00

DC VOLTS

Range	Maximum Indication	Input Res.
200 mV	±199.9 mV	10 M
2 V	±1.999 V	10 M
20 V	±19.99 V	10 M
200 V	±199.9 V	10 M
1000 V	±1000 V	10 M

Overload Prot.: ±1100 V.

AC VOLTS (40Hz-10 kHz)

Range	Maximum Indication	Input Res.
200 mV	199.9 mV	10 M @75pF
2 V	1.999 V	10 M @75pF
20 V	19.99 V	10 M @75pF
200 V	1199.9 V	10 M @75pF
600V	600 V	10 M @75pF

Overload Prot.: 650 V RMS.

AC/DC CURRENT

Range	Maximum Indication	Full Range Volt. Drop
#200 µA	199.9 µA	200 mV
#2 mA	1.999 mA	200 mV
20 mA	19.99 mA	200 mV
200 mA	199.9 mA	200 mV
2000 mA	1999 mA	200 mV
10 A	10.00 A	100 mV

Overload Prot.: 2.5 A, except 10A to 10A.

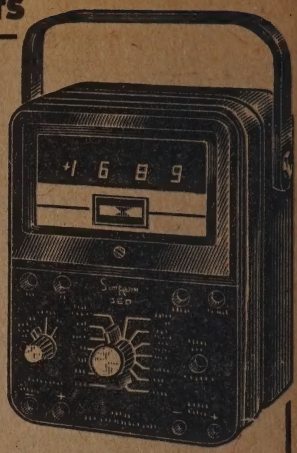
RESISTANCE

Range	Maximum Indication	Test Current
#200 Ω	199.9 Ω	1 mA
#2k Ω	1.999k Ω	1 mA
20k Ω	19.99k Ω	100 µA
200k Ω	199.9k Ω	1 µA
2000k Ω	1999k Ω	1 µA
20M Ω	19.99M Ω	100 nA

Overload Prot.: 250V RMS, except #135V RMS.

MODEL 360-2 PORTABLE DMM

- 3½ Digit, Auto-Polarity
- 0.43" LED Display
- MOS/LSI Circuitry
- Analog Meter
- 29 ranges
- AC Line or Battery
- Overrange Indication



Analog output provision permits monitoring input signal with chart recorder. Accuracy (% of reading)—DCV: ±(0.25% +1 digit); ACV: ±(0.5% + 1 digit) 40Hz—1 kHz; ±(1.0% + 1 digit) 1 kHz-10 kHz; ±(2.0% +2 digits) 10 kHz-20 kHz except 200V range: ±(5% +2 digits); DC Current: ±(0.5% +1 digit) except 2A and 10A ranges: ±(1.0%+ 1digit); AC Current: ±(1.0% +1 digit) except 2A and 10A: ±(2.0% +2 digits); Resistance: ±(0.5% +1 digit) except 2M and 20M ranges: ±(1.0% +2 digits). Conversion rate: 3 times per second, nominal. Complete with test leads, line cord and manual (less batteries).
62F259. NET 257.00

No. 00816. Carrying Case.
62F1702. NET 25.00

No. 00432. High-voltage Probe. 40 kV DC.
62F1703. NET 35.00

No. 00433. RF Probe.
62F1744. NET 25.00

Model 154. AC Amp Clamp.
62F1687. NET 29.50

DC VOLTAGE

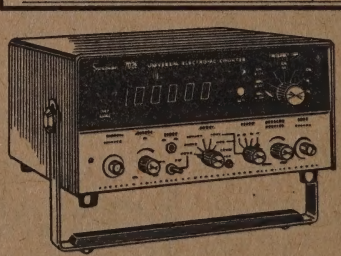
Range	Maximum Indication	Overload Protection
200 mV	119.9 mV	350 V
2 V	1.999 V	350 V
20 V	19.99 V	1100 V
200 V	199.9 V	1100 V
1000 V	1000 V	1100 V

AC VOLTAGE

Range	Maximum Indication	Overload Protection
200 mV	199.9 mV	350V RMS
2 V	1.999 V	350V RMS
20 V	19.99 V	650V RMS
200 V	199.9 V	650V RMS
600 V	600 V	650V RMS

RESISTANCE

Range	Maximum Indication	Short Circuit Current	Full Scale Voltage	Overload Protection
200 Ω	199.9 Ω	1mA	200mV	150V RMS
2k Ω	1.999k Ω	1mA	2V	150V RMS
20k Ω	19.99k Ω	10µA	200mV	250V RMS
200k Ω	199.9k Ω	10µA	2V	250V RMS
2M Ω	1.999M Ω	1µA	2V	250V RMS
20M Ω	19.99M Ω	100mA	2V	250V RMS



Model 7026 UNIVERSAL ELECTRONIC COUNTER

- 0.55" Planar Numerical Display
- 5 Hz to 50 MHz
- Overrange Indication

Measures frequencies, periods, ratios of two frequencies, time intervals and events. Standard features include: display storage selection, automatic decimal point location, variable display time, manual reset, gate time indication, high input Z and input overload protection. Can be interfaced with a high frequency prescaler to extend range. Temp. Stability: ±10ppm max. 0 to +45°C. Aging Rate ±5ppm max./yr. Gate Times: 10 µsec, 100 µsec, 1 msec., 10 msec., 100 msec., 1 sec., 10 sec. Accuracy ±1 count, ± time base accuracy. Oper. Temp.: 0 to +45°C. With probe, manual.
62F1706. NET 395.00

Model 7026B. Has additional BCD Output.
62F1707. NET 445.00

No. 00238. Replacement Probe.
62F2360. NET 12.60

VOM's and Test Equipment

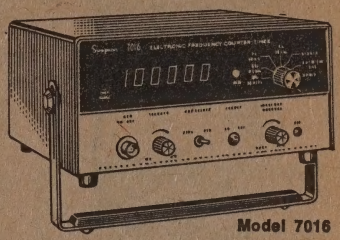
Simpson

MICROWAVE LEAKAGE TESTER

Model 380. A completely self-contained, portable, direct reading microwave leakage tester. Measures the amount of energy emitted from ovens, heaters, dryers and other various industrial equipment generating high power microwaves at frequencies of 2450 MHz, ±10 MHz. Rugged high impact hand held meter and probe with ¼-20 insert for tripod mounting. Shock resistant, taut band suspended, moving coil meter. Slide switch to select the response time best suited for measurements to be made. Durable vinyl carrying case with foam spacer to protect meter and accessories. Easily accessible separate battery compartment, 400 hour minimum battery life. Complies with HEW requirements. Ranges: 0-2.5, 10, 25, 100 mw/cm²; ±1 dB. accuracy. Response Time: Fast, 1.2 seconds maximum; Slow, 3.0 seconds nominal. Temperature: Operating, +10 to +40°C; Storage −40 to +60°C; with batteries removed. 8.18″ long x 3.03″ wide x 1.87″ deep instrument. Probe: 0.5 second time constant; 0-100 mW/cm², 300 mW/cm² overload; 11″ long x ¾″ diameter; cable, 42″ uncoiled. Complete with carrying case, probe, batteries, and instructions. Weight: 1 lb.
62F402 NET **215.00**

ELECTRONIC FREQUENCY COUNTER-TIMER

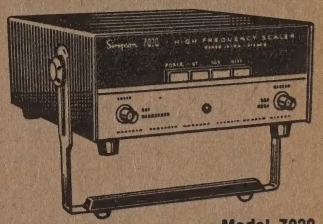
Model 7016. Measures frequencies, elapsed time and events and exhibits them on a 0.55″ planar numerical display. Frequencies from 5 Hz to 50 MHz, elapsed time from 0.01 sec to 19999.99 sec. Features display storage selection, automatic decimal point location, variable display time, manual reset, over-range and gate time indications and input overload protection. AC coupled input with 1 M Ω impedance shunted by 30 pF. Gate time: 10 msec, 0.1 sec, 1.0 sec, 10 sec. Accuracy ±1 count ±time base accuracy. Oper. Temp. 0 to +45°C. 2.0 MHz internal time base temp, stable to ±10 ppm from 0 to 45°C; aging rate ±5 ppm/year; ±10% line variation produces deviation of ±1.0 ppm max. Input sensitivity: 50 mV RMS from 5 Hz to 50 MHz (sinewave). Max. input 240V RMS, derated to 50V RMS at 1 MHz and 10V RMS at 50 MHz. Size 4″H x 8.5″W x 8″D. With probe, line cord, manual.
62F1407 NET **350.00**
Model 7016B. As above with BCD out.
62F1408 NET **400.00**



Model 7016

HIGH FREQUENCY SCALER

Model 7020. Extends measuring capability of low-frequency counters to 512 MHz. Interfaces with Models 7016 and 7026. Switch-selectable direct frequency divisions of 1, 10 and 100. 120/240V (50-400 Hz) operation, approx. 6VA. Specifications—Input: F/1, 10MHz to 100 MHz, sine wave or square wave; F/10, 10MHz to 512 MHz square wave, 40 MHz to 512 MHz sine wave; F/100, 10 MHz to 512 MHz square wave, 40 MHz to 512 MHz sine wave. Sensitivity: 50 mV RMS min., 2V RMS max., protected up to 5V RMS. Impedance: 50 ohms, AC coupled. Voltage standing wave ratio: 2.0 to 1 max. In/Out. Output: 1V p-p amplitude at 50 ohms, AG coupled. Size: 2.5″H x 6″W x 8″D. Weight 2.5 lbs. Complete with power cord, connectors and operator's manual. Coaxial cable not supplied.
62F1409 NET **450.00**



Model 7020

INDUSTRIAL VOM

Model 265. Rugged, self-shielded, taut band movement VOM features simultaneous AC voltage and current measurements. Single switch operation. Specifications—DC Volts: 0.3V, 3V, 12V, 60V, 300V, 600V, ±2% of Full Scale accuracy, 20,000 Ω/V. AC Volts: 3V, 12V, 60V, 300V, 600V, ±3% of Full scale accuracy, 5,000 Ω/V, DC Current: 60μA, 1.2 mA, 12 mA, 120 mA, 0.6 A, 1.2 A, 12 A, ±2% full scale accuracy, voltage drop 250 mV max. AC Current: 120 mA, 1.2A, 12A. Resistance: Rx1, Rx100, Rx1K, Rx10K.
62F261 NET **125.00**

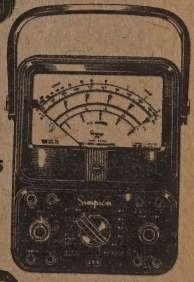
00118. Flexible Probe w/Grip-Tip.
62F1410 NET **5.00**

00511. 30kVDC HI-Voltage Probe.
62F1411 NET **22.00**

Model 265

VOM WITH TEMPERATURE RANGE

Model 255. Designed to meet the specific needs of servicemen in the gas appliance, electrical heating and appliance fields. Has important features of the 260 VOM, plus temperature range of +100°F to 1050°F. Low millivolt drop on DC current ranges for servicing new solid-state controls. Complete with operator's manual, test leads with prods (No. 00115), 5 foot I/C thermocouple lead (No. 00163), and batteries.
62F1693 NET **99.00**



Model 255

THERM-O-METER

Model 388-3L. Wide range tester measures the temperature of practically anything within a range from −50°F to +1000°F (−40°C to +500°C). Has combination °C and °F scale. Sensing Element: Thermocouple (Iron-Constantin). Size 7-15/16″ x 6″ x 2-15/16″. Weight 4 lbs. Can utilize three probes. Supplied with 1-8 ft. probe and operator's manual.
62F350 NET **125.00**

DUAL RANGE THERM-O-METER

Model 389-3L. Temperature tester uses 3 leads to make temperature readings in 3 different locations at the same time; i.e., in a refrigerator, one lead could be connected to the evaporator plate, another to the wall of the food compartment, and the third in the center of the food compartment. Centigrade and Fahrenheit scale. Ranges: −50°F to +100°F (−40°C to +35°C), and +100°F to +250°F (+40°C to +120°C). Accuracy: ±2°F at center scale, ±3°F at other points. Size: 7-15/16″ x 6″ x 2-15/16″. Weight: 4 lbs. Supplied with one No. 00010, 15 ft. lead and thermistor and an operator's manual.
62F391 NET **115.00**

Model 388-3L

TEMPERATURE PROBES AND ACCESSORIES

00180. General Purpose Probe.
62F352 NET **12.35**

00187. Surface Temp. Probe (1000°F).
62F351 NET **16.00**

00496. Service lead (8′).
62F1412 NET **12.35**

05262. Ever-Redy Carrying Case.
62F329 NET **18.90**

00790. Surface Temp. Probe.
62F398 NET **13.40**

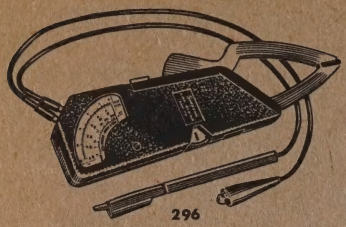
00789. Free Air Temp. Probe.
62F308 NET **17.05**

00010. 15 ft. Lead and Thermistor.
62F396 NET **14.70**

00415. 50 ft. Lead and Thermistor.
62F1413 NET **16.00**

Model 389-3L

Simpson Electronic Multimeters, VOM's, VTVM's



296

AMP-CLAMP® MULTIMETERS

Model 296. A compact, balanced-weight instrument for faster, easier locating of grounds and shorts in motors, relays, transformers and control circuits. Load balance test and AC current measurements are made without equipment shutdown or power line interruption. Specially shaped jaw is just clamped around the conductor. Easy to insert even into crowded wire clusters. Finger operated controls and jaw. Specifications—AC Current: 0-6, 15, 30, 60, 150, 300 Amperes RMS; ±3% of full-scale accuracy at 60 Hz sine wave with conductor centered; Less than 1% of full scale change from 15°C to 35°C. AC Voltage: 0-30, 150, 300, 600 Volts RMS; ±3% of full scale accuracy at 60 Hz sine wave; 0.5% of full-scale change between 15°C and 35°C. Resistance: 0-500 ohms, 25 ohm center scale; ±3% of arc accuracy; 600V RMS Max. (850V peak) rated circuit-to-ground voltage. Complete with test leads, battery, instructions. 10" long x 2.7" wide x 1.4" high. Weight: 14 oz.
62F403. NET **71.50**

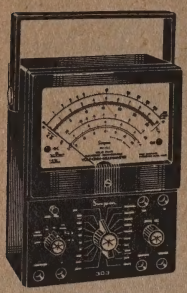
Model 295. AC current and AC voltage only.
62F404. NET **53.00**

Model 294. AC current only.
62F405. NET **45.00**

02227. Probe with holding bracket to fit jaw.
62F406. NET **2.75**

02226. Deluxe black vinyl carrying case.
62F207. NET **17.25**

02228. Low-cost black vinyl carrying case.
62F407. NET **6.80**

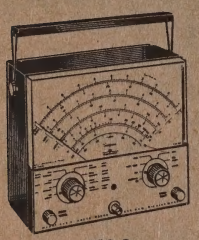


303-3XL

ELECTRONIC VOM

Model 303-3XL. Has high-impact shock resistant case, automatic LED "polarity" and "power on" indication, and 120/220VAC or battery operation. Features both conventional and low-power ohms ranges, switch-selectable zero-center scale, and drift-free performance. Self-contained nickel-cadmium "D" cell provides up to 20 hours of continuous operation. Specifications—AC/DC Voltage: 0-0.03, 0.1, 0.3, 1, 3, 10, 30, 100, and 300 Volts (1000 VAC and 1000 VDC are available through separate jacks). AC/DC Current: 30μA, 1mA, 30mA (1A and 10A ranges are available on separate jacks). Resistance: Rx1, Rx10, Rx100, Rx1k, Rx10k, Rx100k and Rx1M (Low-power and standard). Accuracy: ±2% F.S. DC; 3% 50-400Hz, 4% 20-20kHz, 10% 2-100kHz on AC. Input Impedance: 10 megohms AC or DC. Size: 5.5" x 7.2" x 3.3". With probe, leads, battery, charger/adapter, manual.
62F1791. NET **180.00**

00167. High-Voltage Probe, 30kV.
62F1414. NET **30.45**



313-3

ELECTRONIC VOM

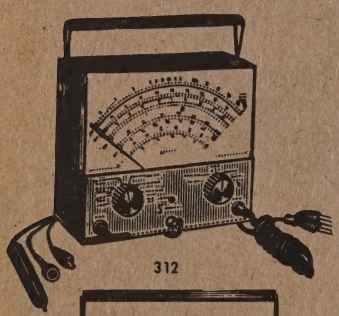
Model 313-3. 7" scale. 11 megohm input impedance. Operates 300 hours, or more, on single set of batteries. Integral "battery check" switch. Specifications—DC Volts: 0-0.3, 1.0, 3, 10, 30, 100, 300, 1000. AC Volts: 0-0.3, 1.0, 3, 10, 30, 100, 300, 1000 RMS. Resistance: Rx1, Rx10, Rx100, Rx1k, Rx10k, Rx100k, Rx1M. DC current: 0-100μA, 1.0mA, 10mA, 1.0A. Accuracy: ±2% F.S. DC, ±3% F.S. AC. dB: −30, −20, −10, 0, +10, +20, +30. Frequency response: ±0.5dB from 20Hz to 100kHz on 0.3, 1.0, 3.0V ranges; ±0.5dB from 20Hz to 20kHz on 10, 30, 100V ranges. With probe, battery, manual.
62F2273. NET **162.00**

00192. 30kV Probe.
62F1415. NET **23.10**

00193. RF Probe.
62F1416. NET **14.45**

00577. Vinyl Case.
62F1684. NET **20.75**

01565. Sponge Lined Case.
62F1417. NET **23.90**



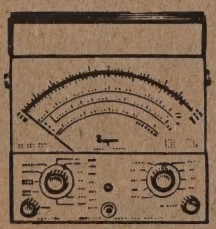
312

EXTRA HIGH IMPEDANCE VTVM

Model 312. 16 megohm input impedance. 40% less circuit loading than conventional VTVM's. 7" Scale. Full scale accuracies of ±3% on all AC and DC ranges with a tracking error of 1% or less. Built-in overload protection. Power requirement: 105/125 V, 50/60 Hz. Specifications—DC Volts: 0-0.5, 1.5, 5, 15, 50, 500, 1500. AC Volts: 0-1.5, 5, 15, 50, 150, 500, 1500 RMS. Resistance: Rx1, Rx10, Rx100, Rx1k, Rx10k, Rx100k, Rx1M. Accuracy: ±3% F.S. AC and DC, and 3° of arc on ohms. Input impedance: 16 megohms DC, 1 megohm AC. Frequency Response: ±3% from 15 Hz to 4 MHz (useable to 250 MHz with RF probe). Dimensions: 7¾" x 6¾" x 4⅝". Weight: 4¾ lbs. Supplied complete with DC/AC-Ohms probe and operator's manual.
62F1688. NET **132.00**

FET VOM

Model 314. Measures low power and conventional ohms. 10 megohm and 100 megohm impedances on voltage ranges. 7" scale with anti-parallax mirror. Specifications—DC Volts: 0-50 mV, 100mV, 300mV, 1V, 3V, 10V, 30V, 100V, 300V, 1000V. AC Volts: 0-10mV, 30mV, 100mV, 300mV, 1V, 10V, 100V, 300V, 1000V, DC/AC current: 0-10μA, 100μA, 1 mA, 10mA, 100mA, 1A. Resistance: Rx1, Rx10, Rx100, Rx1k, Rx10k, Rx100k, Rx1M. Decibels: −40, −30, −20, −10, 0, +10, +20, +30, +40, +50, +60, Accuracy: ±2% of F.S. DC; ±3% of F.S. AC. Input impedance: 10 megohm AC and DC (10 x probe switch for 100 megohm). Frequency response: ±3% from 30Hz-100kHz on 10mV thru 30V ranges; ±3% from 30Hz-20kHz on 100V-1000V ranges. Complete with X1, X10 (DC/AC-Ohms) probe, batteries and manual.
62F2380. NET **245.00**

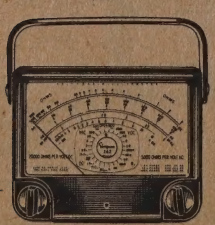


314

7-INCH SCALE VOM'S

Model 269, Series 3. Sensitivity-100,000 ohms/volt. Self-shielding taut-band meter movement combined with a mirror scale and knife-edge pointer. Snap-on compartment for fast battery replacement. Specifications—DC Volts: 0-0.8, 1.6, 8, 40, 160, 400, 800, 1600. AC Volts: 0-3, 8, 40, 160, 400, 800. DC current: 0-16μA, 160μA, 1.6mA, 16mA, 160mA, 1.6A, 8A. Resistance: Rx1, Rx10, Rx100, Rx1k, Rx10k, Rx100k. Accuracy: ±1½% DC, ±2½% AC. With 4000VDC probe ext., test leads manual.
62F330. NET **132.00**

Model 262. Series 3. Sensitivity—20,000 ohms/volt DC, 5,000 ohms/volt AC. Specifications—DC Volts: 0-1.6, 8, 40, 160, 400, 800, 1600. AC Volts: 0-3, 8, 40, 160, 400, 800. DC current: 0-80 μA, 160μA, 1.6mA, 16mA, 160mA, 1.6A, 8A. dB scale: −12 to +45.5dB in four ranges (1 mW across 600 ohms). Resistance: 0-500 ohms, 5000 ohms, 50 kΩ, 500 kΩ, 5 MΩ, 50 MΩ. Accuracy: ±2% DC, ±3% AC, ±2.5° of arc on resistance. Complete with test leads, batteries and operator's manual.
62F331. NET **105.00**



262-3, 269-3

ACCESSORIES

02462. Clamp-on current transformer for Model 2795 Electronic Multimeter. 10, 30, 100, 300, 600 AC amps.
62F2352. NET **102.90**

02463. As above, except high range is 1000 amps.
62F1418. NET **164.30**

07541. Test leads for 2795.
62F1419. NET **5.00**

00152. High-Frequency Probe for Model 312 VTVM.
62F1694. NET **15.50**

00155. High-Voltage Probe for Model 314 FET VOM.
62F1695. NET **24.40**

06531. Current shunt for 2795. 1, 3, 10, 30, 100 DC amps.
62F2300. NET **42.20**

Test Equipment

Simpson

HANDI-VOM

Model 160. Weighs only 12 ounces, yet has ±2% accuracy DC, ±3% AC. Self-shielding taut-band meter movement. **Sensitivity:** 20,000 ohm/volt DC, 5,000 ohm/volt AC. Built-in overload protection. **Scale length:** 3 inches. **Ranges—DC Volts:** 0-0.25, 1.0, 2.5, 10, 50, 250, 500, 1000. **AC Volts:** 0-2.5, 10, 50, 250, 500, 1000. **DC Current:** 0-50 μ A, 1mA, 10mA, 100 mA, 250 mA, 500 mA. **Decibels:** -20 to +10, -8 to +22, +6 to +36, +20 to +50 (O dB at 1 mW into 600 ohms). **Resistance:** R x 1 (30Ω center scale), R x 10, R x 100, R x 1k, R x 10k. **Dimensions:** 4⅝" x 3⅝" x 1¾". Complete with alligator clip test leads, batteries, and operator's manual. Weight: 12 oz.

62F1723. NET **68.00**

AC/DC VOM

Model 230-2. Contains sufficient ranges to do a complete servicing job. Designed for telephone, teletype and marine use. Excellent troubleshooter. 1,000 ohms per volt AC-DC. **Ranges:** DC: 10v, 50v, 250v, 1,000v. AC: 10v, 250v, 1,000v. DC: 10ma, 50ma, 250ma. **Resistance:** 0-1,000Ω, 0-100KΩ

62F2379. NET **52.00**

OHMMETER

Model 372-2. Provides wide range of resistance measurements in a small package. Ideal for use in schools, on test benches or at inspection facilities. **Ranges:** 0-500, 0-5000, 0-50,000, 0-500,000 ohms; 0-5, 0-50 megohms. **Center Scales:** 5, 50, 500, 5,000, 50,000, 500,000 ohms

62F318. NET **50.00**

AC VOLTMETER

MODEL 371. Designed primarily for testing line voltages applied to motors, heating equipment and many other industrial applications. **Ranges:** 0-150, 0-300, 0-600 volts. **Accuracy:** ±3% of full scale.

62F360. NET **47.50**

DC MILIAMMETER

Model 373. General purpose tester. Valuable in a number of applications. Provides DC current transformer and indicating instrument in one case. **Ranges:** 0-1, 5, 10, 25, 50, 100, 250, 1,000 ma. **Accuracy:** ±3% of full scale.

62F323. NET **47.50**

DC MICROAMMETER

Model 374. Can be used with external resistors of multipliers as high sensitivity voltmeter at 20,000 ohms per volt. Can be shorted out of circuit by use of selector knob. **Ranges:** 0-50, 100, 250, 500, 1,000 microamperes. **Accuracy:** ±3% of full scale.

62F361. NET **47.50**

BATTERY TESTER

Model 379. Provides accurate indications of condition of all standard flashlight, hearing aid (mercury cells), radio batteries. Complete with test leads no. 08375 and operator's manual. **Ranges:** 0-1.5, 4.5, 6.0, 7.5, 9.0, 15.0, 22.5, 30.0, 45.0,67.5, 90.0v.

62F366. NET **47.50**

"HAMMETER" VOM

Model 240-4. Designed for general application around labs, classroom, hamshack, etc. 1,000 ohms per volt AC-DC. **Ranges:** DC: 15v, 75v, 300v, 750v, 3,000v; AC: 15v, 150v, 750v, 3,000v. **DC:** 15ma, 150ma, 750ma. **Resistance:** 0-3,000Ω 0-300KΩ

62F313. NET **52.00**

AC AMMETER

Model 370. Ideal for checking small motors, lineloads, etc., where AC current measurements are required. 60 Hertz. Self-contained current transformer. **Ranges:** 0-1, 0-2.5, 0-5, 0-10, 0-25 amperes. **Accuracy:** ±5% of full scale.

62F319. NET **47.50**

LOW-OHMMETER

Model 362-2. Permits highly accurate readings between 0.1 and 25 ohms. For checking motor armatures, switch and relay contact resistances, shorts between windings and grounds in radio chassis wiring, electrical equipment, etc. **Ranges:** 0-5, 0-25 ohms. **Accuracy:** ±3% of linear arc length.

62F368. NET **50.00**

DC AMMETER

Model 375. Provides complete range from a fraction of an amp to 25 amps without external shunts. Ideal unit for use with unmetered power supplies. **Ranges:** 0-1, 2.5, 5, 10, 25 amperes. **Accuracy:** 3% of full scale.

62F362. NET **47.50**

AC MILLIAMMETER

Model 378. Has five separate ranges. Typical applications are transformer vacuum tube tests. Contains current transformer and indicating instrument in one case. **Ranges:** 0-5, 25, 100, 250, 1,000 ma. **Accuracy:** ±5% of full scale.

62F365. NET **47.50**

AC VOLT-AMP-WATTMETER

Model 390. AC/DC volts, AC amps and AC watts with one meter. Useful for practically any appliance. Complete with test cord assembly no. 08418 and operator's manual. **Volts:** 0-150, 300. **Amps:** 0-3, 15. **Watts:** 0-300, 600, 1,500, 3,000. **Accuracy:** ± 5% of full scale.

62F317. NET **95.00**

ACCESSORIES

Type 02055. Probe tip leads for Model 160 Handi-VOM.

62F1686. NET **4.20**

Type 02225. Vinyl carrying case for Model 160.

62F1682. NET **13.40**

Type 02929. Vacuum formed carrying case for Model 160.

62F2385. NET **16.00**

Type 08375. Alligator-clip test leads with elbow pin-terminals. For use with 230, 240, 260 (Series 1 and 2 only), 372, 379.

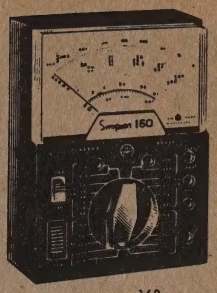
62F1725. NET **3.95**

Type 08376. Alligator-clip test leads with spade lug connectors. For use with models 362-2, 371, 373, 374, 375, 376, 377, 378, 387.

62F343. NET **3.95**

Type 08381. Test leads with elbow pin-terminals and insulated prods. For use with models 23, 240, 260 (series 1 and 2 only), 261, 270.

62F369. NET **4.70**

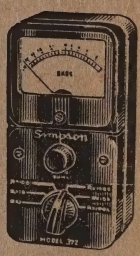


160

230-2

240-4

362-2



372-2

373

378

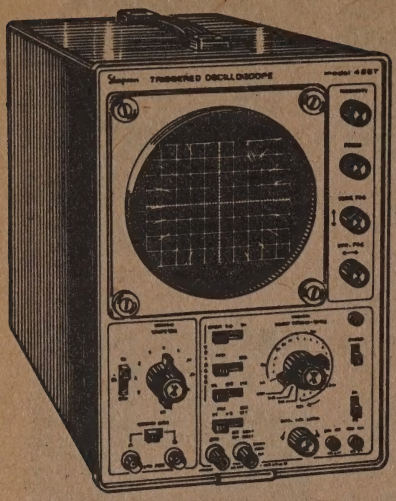
379

390

Contact your NEWARK dealer for the test equipment to meet your specific needs.

Simpson Oscilloscope, Test Equipment Accessories

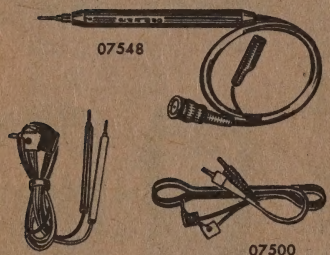
12 MHz, TRIGGERED-SWEEP, 5" OSCILLOSCOPE

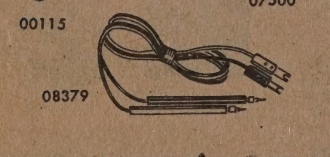


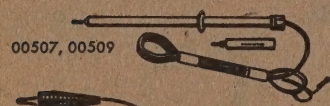
Model 455T. 19 calibrated sweep speeds plus TVH, TVV, VITS. External, internal, line and TV sync. Internal sync separator for TV. 9 steps of voltage-calibrated input. Exclusive gate output for flyback tests. 30 nanosecond rise time. Z-axis intensity modulation input. 1 kHz 0.5 V square wave calibrator. Bright blue trace, x5 magnification. **Specifications—VERTICAL AMPLIFIER: Sensitivity:** 10 mV/cm to 5 V/cm, calibrated in 1-2-5 sequence in nine steps; accuracy within ±5%; uncalibrated continuous control between steps. **Bandwidth:** DC coupled: DC to 12 MHz (−3dB); AC coupled: 2 Hz to 12 MHz (−3dB). **Input impedance:** 1 M, 35 pF (15 pF with optional low capacitance probe listed below). **Max. input voltage:** 500 V (DC, AC peak). **Calibration voltage:** 5 V P-P, ±3% squarewave 1 kHz. **HORIZONTAL AMPLIFIER: Sensitivity:** 300 mV/cm minimum. Variable gain control provided. **Bandwidth at −3dB:** DC or 10 Hz to 800 kHz. **Input Impedance:** 100 kΩ, 50 pF approx. **Max input voltage:** 50 V (DC, AC peak). **SWEEP CIRCUIT: Time/cm range:** 0.5 μsec/cm to 0.5 sec/cm in 1-2-5 sequence in 19 calibrated steps; uncalibrated continuous control between steps. Additional range positions for TV-H, TV-V, and VITS. **Line Sweep:** Variable controls allow adjustment of phase and amplitude. **TRIGGERING: Source:** External, internal, line. **Mode:** Normal (adjustable trigger level), Free (free running or asynchronous). **Coupling:** AC. **Slope:** − or + (of trigger signal waveform). **Internal sensitivity:** 3 mm P-P from 10 Hz to 5 MHz. **TV Sync Sensitivity:** 1 cm P-P from 2 Hz to 12MHz. **External Sensitivity:** 0.3 V P-P from 2 Hz to 12 MHz. **Gate output:** ±7 V P-P for ringing tests. **Z Axis input:** 30 V P-P for blanking. Color TV vector: R-Y and B-Y fed into vertical and horizontal inputs. 30° angle reference marks on graticule. **CRT:** 5DEP31 round flat face, 8 x 10 cm display, blue filter, low-parallax, high-contrast graticule. **Operating Temperature Range:** 0°C to 40°C. **Power Requirements:** 120 VAC or 240 VAC (±10%), 50/60 Hz, 40 VA. With shielded input cable, line cord and operator's manual. Size: 10.375" x 8" x 16.5". Weight: 24 lbs.

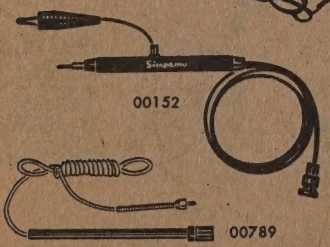
86F676. NET **395.00**

07548. Low cap. 10 to 1 probe.
62F202. NET **18.40**









TEST LEADS

Stk. No.	Type	Description	For Equipment Listed:	Each
62F2834	00115	Combination probe-tip and removable alligator clip.	202, 208, 209, 229-2, 250, 255, 260 (Series 3-6 only),	5.50
62F1410	00118	Retractable grip-tip probe for use with 00115	260XL, 261, 262 (Series 3 only), 263, 265, 267, 268.	5.00
62F370	07500	Alligator-clip leads.	269 (Series 2 & 3 only),	4.45
62F325	07538	Probe-tip leads.	270, 360, 460.	4.70
62F1725	08375	Alligator-clip leads.	230, 240, 260 (Series 1 &	3.95
62F369	08381	Probe-tip leads.	2 only), 372, 379.	4.70
62F343	08376	Alligator-clip leads.	362, 371, 373, 374, 375,	3.95
62F399	08379	Probe-tip leads.	376, 377, 378, 387.	4.70

HIGH VOLTAGE AND RF PROBES

62F3275	00161	10,000 Volt DC Probe.	250, 255, 260 (Series 3, 4, 4M, 5, 5M, 5P, 6, 6M, 6P,	23.10
62F1727	00507	30,000 Volt DC Probe.	6XL, 6XLP), 261, 261 Series 2, 267, 270, 270 (Series 2, 3 4).	20.75
62F1729	00509	10,000 Volt AC Probe.		23.10
62F2832	00505	5,000 Volt AC Probe.	260-6, 260-6M, 260-6P,	5.50
62F2833	00506	5,000 Volt DC Probe.	6XL, 6XLP, 270-4.	5.50
62F1694	00152	High Freqnency (RF) Probe.	312	15.50
62F1695	00155	30,000 Volt DC Probe.		24.40
62F1415	00192	30,000 Volt DC Probe.	313	23.10
62F203	00196	30,000 Volt DC Probe.	314	23.10
62F1414	00167	30,000 Volt DC Probe.	360	30.45

TEMPERATURE TESTER LEADS AND PROBES

62F396	00010	15 ft. lead and Thermistor.	Models 385-3L, 389-3L—	14.70
62F397	00216	30 ft. lead and Thermistor.	Adapter Model 652.	14.70
62F308	00789	Free Air Temperature Probe.		17.05
62F398	00790	Surface Temperature Probe.		13.40

CARRYING CASES

No. 00248. Roll Top Safety Case for 260-6 Family and 270-4.
62F204. NET **16.00**

No. 00805. Ever-Redy Vinyl Case for 250, 260, 260XL, 261, 265, 270, 303.
62F302. NET **21.50**

No. 01565. Leather-covered, sponge-lined case for 312, 313, 314.
62F1417. NET **23.90**

No. 01617. Carrying Case for Models 460-3, 464.
62F205. NET **25.00**

No. 01818. Vinyl case for 250, 260, 260XL, 261, 265, 270.
62F301. NET **17.60**

00248.

05262.

No. 02163. Protective cover for 260 Family of VOM's. Snaps firmly over the face to protect from dust dirt and accidents. Fits 260's and 270's except 260-6XL.
62F206. NET **18.40**

No. 02226. Case for 294, 295, 296.
62F207. NET **17.25**

No. 03413. Leatherette covered case for 391, 392.
62F208. NET **14.70**

No. 04299. Ever-Redy Vinyl Case for all Microtesters.
62F326. NET **13.40**

No. 05262. Ever-Redy Vinyl Case for 262, 263, 267, 268, 388-3L.
62F329. NET **18.90**

TRIPLETT

MODEL 601 FET VOM WITH LOW POWER OHMS

Model 601 Specifications

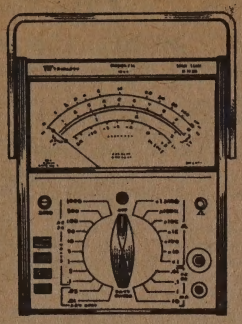
Ranges: AC & DC Volts: 0-.1-.3-1-3-10-30-100-300-1000 (Plus .01-.03 AC). Ohms: 1-10-100-1k-10k-100k-1 meg (10 Ohm center scale). Current: 0-10-100μA-1mA-10mA.

Size: 6½x5½x3⅜".

Meter: Diode overload protected, suspension movement.

Frequency Response: 50 to 50kHz on AC ranges.

Complete with test leads, battery and instruction manual.

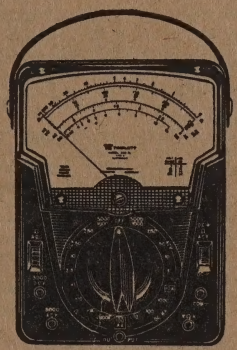


Model 601. Type 2. Portable battery operated solid-state VOM with pushbutton function switches and FET circuitry for 11 megohm impedance on all AC and DC ranges. 601 has accuracy of ±2% of full scale DC and ±3% on AC. Frequency response on AC ranges is 50 to 50kHz. 7 conventional and 7 low power ranges designed to prevent electrical damage to IC's. In-circuit resistance measurements can be made without diode or transistor loading. In use, 75 mV is applied across device under test and max. power applied is .1 mW.
62F1768. NET **205.00**

Model 603. Similar to above, but 6 ranges and 70 mW power source, 20 Hz to 10 kHz. Type I. Automatic polarity.
62F265. NET **173.00**

60-407. AC Current Leakage Adapter. For 601 series meters. 7 ranges, 10 μA f.s. to 30 mA, f.s.
62F266. NET **32.70**

MODEL 630-PL and PLK SERIES



Model 630-PL. Ohms ckt. protected w/1 amp fuse. DC polarity rev. switch. Sensitivity: DC: 20,000 ohms/volt, AC: 5000 ohms/volt. 2% accuracy DC, 3% accuracy AC. Ranges—VDC: 0-2.5-10-50-250-1000-5000. 0-.25 @ 100 μA. VAC: 0-3-10-50-250-1000-5000. dB: −20 to +11, +21, +35, +49, "0" dB at 1 mW on 600 ohm line. DC μA. 0-100 @ 250mV; DC mA: 10-100-1000 @ 250mV. Ohms: 1000, 10,000. Megohms: 0-1-1000. DC Amp.: 0-10 @ 600mV. Jack w/condenser in series with AC ranges. Leads, alligator clips, batteries and instr. book incl. 3¹⁵⁄₃₂ x 5⅛ x 7½". 4¼ lbs.
62F241. NET **82.00**

Model 630-APL. Laboratory type VOM. Mirror scale. Uses ½% res. for accuracy of 1½%DC, 3%AC. Rest same as **630-PL.**
62F242. NET **90.00**

Model 630-PLK. Solid-state switching circuit provides complete protection from overload and burnouts. Added protection for the suspension meter movement is provided by a silicon diode network and for the 1 and 10 amp ranges by 3 and 10 amp fuses respectively. Rest of features same as **Model 630-PL.**
62F1775. NET **128.00**

Model 630-APLK. Same as **Model 630-PLK,** except with mirror scale and greater accuracy made possible thru the use of ½% resistors. Accuracy: DC: 1½%, AC: 3%.
62F1777. NET **136.00**

REPLACEMENT LEADS

79-374. Model 60 Series, safety test lead set, 48".
62F2328. NET **4.90**

79-267. Model 601 gray lead including probe, 48".
62F256. NET **18.80**

79-261. Model 601 and 603 ground lead, black, 48".
62F253. NET **3.40**

79-288. Model 603 red lead including probe, 48".
62F2329. NET **18.80**

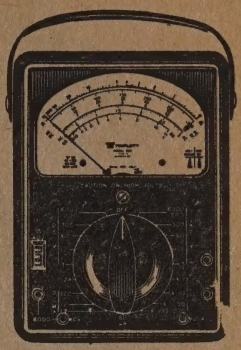
79-127. Model 630 Series, 615 and 666-R test lead set, 48".
62F245. NET **4.70**

79-192. Model 850 gray lead including probe, 48".
62F2330. NET **10.70**

79-214. Model 850 ground lead, black, 48".
62F2331. NET **2.10**

79-354. Model 60 Series, lead for attaching Model 10/10-C Clamp-on Ammeter to VOM.
62F2332. NET **4.70**

MODEL 630-VOM

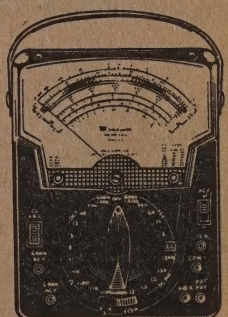


Features 20,000 DC, 5000 AC ohms/volt sensitivity. Single 20 position switch selects both circuit and range. Fuse protected ohmmeter circuit prevents burnout. Suspension movement. DC accuracy of ±2% on all ranges. AC accuracy ±3% on all ranges. Ranges: DC and AC volts: 0-3-12-60-300-1200-6000. DC current: 0-60 μA, 0-1.2-12-120 mA, 0-12 amps. Resistance: 0-1000-10,000 ohms and 0-1-100 megohms. dB: −20 to +51 in 4 ranges. Output volts: 0-3-12-60-300 volts. Jack w/condenser in series with AC ranges. Size: 7½x5½x3¹⁵⁄₃₂". Batteries, alligator clips, 48" test leads, and instruction book included. Shipping weight 5 lbs.
62F212. NET **78.00**

MODEL 630-A TYPE 3

Same as above but with ½% precision resistors for 1½% accuracy on DC readings, 3% accuracy on AC readings. Simplified mirrored scale. Only 4 arcs for all 27 ranges. Diode overload protection with suspension movement. Molded black case. Complete with 48" leads, alligator clips, batteries, and instruction manual. Shipping weight 5 lbs.
62F211. NET **90.00**

MODEL 630-NS and -NA VOM's



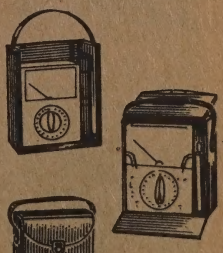
Model 630-NS. 62 ranges. 200,000 ohms/volt DC. 20,000 ohms/volt AC. Suspension meter movement. DC volts: 0-0.6, 0-3, 0-12, 0-60, 0-300, 0-1200 @ 100,000 ohms/volt; 0-0.3, 0-1.5, 0-6, 0-30, 0-150, 0-600 at 200,000 ohms/volt 0-.150 @60μA AC volts: 0-3, 0-12, 0-60, 0-300, 0-1200 @ 10,000 ohms/volt; 0-1.5, 0-6, 0-30, 0-150, 0-600 @ 20,000 ohms/volt. Ohm ranges: 0-1000 (4.4 ohm center scale), 0-10,000, 0-100,000, 0-1 Meg.; 0-10 Meg. 0-100 Meg. dB range: −26 to +51. "0" dB at 1 mW on 600 ohm line. DC μA: 0-60, 600 @ 150 mV. DC μA: 0-5, 120 @ 300 mV. DC mA: 0-6, 60, 600 @ 150 mV. DC mA: 0-1.2, 12, 120 @ 300 mV. DCA: 0-6 @ 150 mV. DCA: 0-12 @ 300 mV. Accuracy: ±1½% DC; ±3% AC. Size; 3¹⁵⁄₃₂ x 5½ x 7½". Weight: 5 lbs.
62F168. NET **134.00**

MODEL 630-NA

As above except 10,000 and 20,000 ohms/volt DC. 5000 and 10,000 ohms/volt AC. 70 ranges and 0-6000 VDC and VAC.
62F228. NET **112.00**

NEWARK can supply all your test equipment and accessory needs. Contact Your Nearest NEWARK Branch.

QUALITY LEATHER CASES

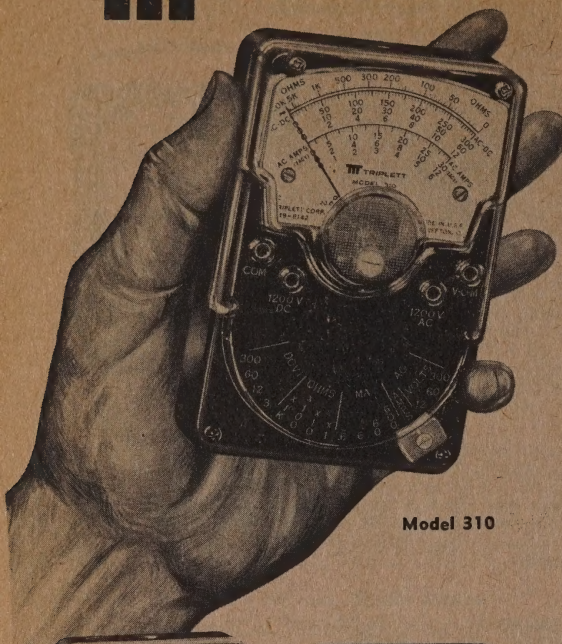


Model 639-OS. For Model 600, 630 Series. Flaps open to permit use of tester in case. Space for tester, leads, Model 10 and Model 101.
62F2333. NET **21.10**

Model 639. For Model 630 Series only. Top opens with space for tester and leads.
62F213. NET **18.20**

Model 639-N. For Model 630 Series only. Flaps open to permit use of tester in case. Space for tester and leads. Includes tester stand.
62F233. NET **18.20**

Hand Size



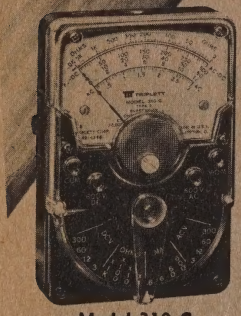
Model 310

MODEL 310 V-O-M TYPE 3

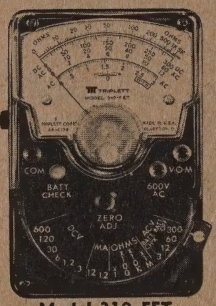
1. **Drop-resistant, hand-size V-O-M with high-impact thermoplastic case.**
2. **20,000 Ohms per volt DC and 5,000 Ohms per volt AC; diode overload protection with fused Rx1 Ohms range.**
3. **Single range switch; direct reading AC Amp range to facilitate clamp-on AC Ammeter usage.**

RANGES

DC Volts: 0-3-12-60-300-1,200 (20,000 Ohms per Volt).
AC Volts: 0-3-12-60-300-1,200 (5,000 Ohms per Volt).
Ohms: 0-20k-200k-2MΩ-20MΩ (200 Ohm center scale on low range).
DC Microamperes: 0-600 at 250 mV.
DC Milliamperes: 0-6-60-600 at 250 mV.
Accuracy: ±3% DC; ±4% AC; (full scale).
Scale Length: 2⅛".
Meter: Self-shielded; diode overload protected; spring backed jewels.
Case: Molded, black, high impact thermoplastic with slide latch cover for access to batteries and fuse, 2¾" w x 1⅝" d x 4¼" h.
Batteries: NEDA 15V 220 (1), 1½V 910F (1); Complete with 42" leads, alligator clips, batteries and instruction manual. Shpg. wt. 2 lbs.
62FX230 NET **$51.00**



Model 310-C



Model 310-FET

MODEL 310-C V-O-M TYPE 3

1. **Hand-size V-O-M with diode overload-protected suspension movement.**
2. **20,000 Ohms per volt DC and 15,000 Ohms per volt AC.**
3. **Single, enclosed range switch minimizes error; DC polarity-reversing switch.**

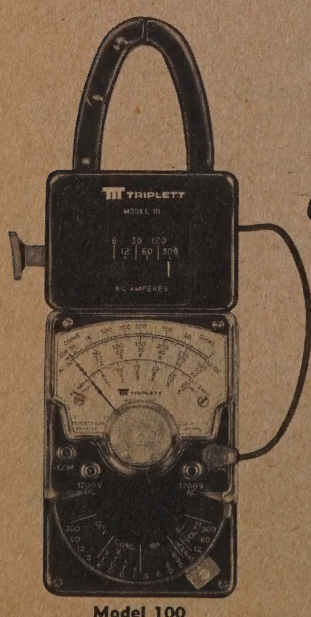
Model 310-C. Similar to Model 310 with diode overload-protected suspension movement, 15,000 ohms per volt AC, enclosed range switch and DC polarity-reversing switch. Maximum AC/DC voltage range 600 volts.
62FX292 NET **$65.00**

MODEL 310-FET—TYPE 1

1. **Hand-size FET V-O-M with 10 megohm DC input resistance and diode overload-protected suspension movement.**
2. **Low voltage range of 300 mV DC; X1 megohm range.**
3. **Single range switch; DC polarity-reversing switch.**

RANGES

DC Volts: 0-0.3-1.2-6-30-120-600. Input resistance 10 megohms.
AC Volts: 0-3-12-60-300-600 (5,000 Ohms per Volt).
Ohms: 0-5k-500k-50MΩ-5,000MΩ (50 Ohm center scale on low range).
DC Milliamperes: 0-0.12-1.2 at 300 mV.
Accuracy: ±3% DC; ±4% AC; (full scale).
Scale Length: 2⅛".
Meter: Self-shielded, diode overload protected suspension movement; DC polarity-reversing switch.
Case: Molded, black, 2¾" w x 1⅝" d x 4¼" h.
Batteries: NEDA 7V, 1501M, (1), 1½V 910A (1). Complete with 42" leads, alligator clips, batteries and instruction manual. Shpg. Wt. 2 lbs.
62FX250 NET **$88.00**

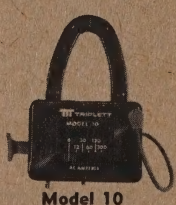


Model 100

Model 379

Model 369

Model 369-S



Model 10

Model 101

ACCESSORIES FOR 310's

Model 10 Clamp-on AC Ammeter—For 310 & 310-FET. Ranges, 0-6-12-30-60-120-300. **62F235** NET **$24.00**

Model 10-C Clamp-on AC Ammeter—For 310-C. Ranges, 0-6-12-30-60-120-300. **62F251** NET **$24.00**

Model 101 Line Separator—Divides two conductor cords direct or increases Model 10 sensitivity 10x and 20x. 000000. NET **$10.50**

Model 311 Lead—42" long lead to separate Model 10 from 310 unit for easy reading in awkward spots. **62F045** NET **$4.70**

Model 369 Carrying Case—For Model 310's. **62F231** NET **$6.10**

Model 369-S Carrying Case—For Model 310's; front opens permitting use of tester in case. **62F046**. NET **$14.40**

Model 379 Carrying Case—For Model 310 and Model 10 in combination, plus Model 101 and leads. **62F239** NET **$11.60**

Model 79-153 Needle Tip Replacement Lead—For Model 310 series. **62F246** NET **$4.70**

Model 79-296 Blunt Tip Replacement Lead—For Model 310 series. **62F1316** NET **$7.30**

HAND SIZE V-O-M CLAMP-ON AMMETERS

1. **Complete maintenance kit with V-O-M and clamp-on AC ammeter.**
2. **Diode overload-protected; 20,000 Ohms per volt on DC.**
3. **AC clamp-on will read up to 300 Amps AC.**

Model 100—Complete set includes Model 310 Type 3, Model 10, Model 101, No. 311 lead and Model 379 case. Shpg. Wt. 7 lbs. **62F249**. NET **$100.00**
Model 100-C—Complete set includes Model 310-C, Model 10-C, Model 101, No. 311 lead and Model 379 case. Shpg. Wt. 7 lbs. **62F252** NET **$110.00**
Model 100-FET—Complete set includes Model 310-FET, Model 10, Model 101, No. 311 lead and Model 379 case. Shpg. Wt. 7 lbs. **62F1315** NET **$130.00**

TRIPLETT

The Triplett Model 60 Series

Drop-proof, Burnout-proof, Super-safe

MODEL 60 V-O-M TYPE 2

1. **Drop-Proof—Virtually indestructible for an accidental drop up to a five foot height with deviation from stated accuracy not exceeding ±4%.**
2. **Burnout-Proof—Protected by diodes and unusual three fuse arrangement, including 1/8 Amp, 1 Amp and 2 Amp/1000V fuses, up to maximum protection level provided by the 2 Amp/1000V (20kW) fuse.**
3. **Super-Safe—Designed to most rigid safety standards to prevent explosive arcs in high energy circuits, up to the 2 Amp/1000V (20kW) fuse capacity; completely insulated unit with newly designed safety leads.**

RANGES

DC Volts: 0-0.3-1-3-10-30-100-300-1000 (Approx. 20,000 Ohms per Volt).

AC Volts: 0-3-10-30-100-300-1000 (Approx. 5,000 Ohms per Volt).

Ohms: 0-1k-10k-100k-1MΩ-10MΩ (12 Ohms center scale on low range).

DC Microamperes: 0-100 at approx. 320mV.

DC Milliammeters: 0-10-100-1000 at approx. 320mV.

Decibels: —20 to +52 ("0" dB at 1mW on 600 Ohm line).

Accuracy: ±2% DC; ±3% AC; (full scale).

Scale Length: 4½".

Meter: Diode overload protected ruggedized suspension movement, easily replaced integral module, DC polarity reversing switch.

Overload Protection: Complete tester protected by a 1/8A/250V, 1A/250V and a 2A/1000V (20kW on DC, 30 kVA on AC) fuse.

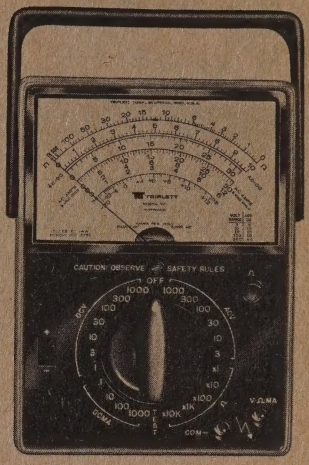
Confidence test: Reassurance check of instrument meter.

Case: Molded, International Safety Orange high impact thermoplastic; easy external access to sealed battery and fuse compartment; molded plastic handle will hold tester at 30° angle; 5¼" W X 7½" H X 3¼" D.

Batteries: NEDA 9V 1604 (1), 1½V 13F (1).

Complete with 48" safety test leads, insulated alligator clips, batteries, spare 1/8A and 1A fuses and instruction manual. Shpg. wt. 4 lbs.

62F170 NET **$96.00**



Model 60

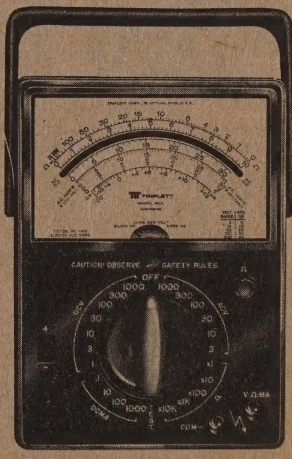
MODEL 60 TYPE 2 APPROVED BY MESA APPROVAL 2G-2880

Model 60-K. Includes the complete Model 60 V-O-M, Model 10 Clamp-on AC Ammeter, Model 101 Line Separator, Model 10/10-C attachment lead and leather case.

62FX042 NET **$153.00**

Model 60-A. Similar to Model 60 with mirror scale and ±1½% DC accuracy.

62FX043 NET **$106.00**



Model 60-A

MODEL 60-NA V-O-M

1. **Drop-Proof—50 ranges with mirror scale and ±1½% DC accuracy—Virtually indestructible for an accidental drop up to a five foot height with deviation from stated accuracy not exceeding ±4%.**
2. **Burnout-Proof—Protected by diodes and unusual three fuse arrangement, including 1/8 Amp, 1 Amp and 2 Amp/1000V fuses, up to maximum protection level provided by the 2 Amp/1000V (20kW) fuse.**
3. **Super-Safe—Designed to most rigid safety standards to prevent explosive arcs in high energy circuits, up to the 2 Amp/1000V (20kW) fuse capacity; completely insulated unit with newly designed safety leads.**

RANGES

DC Volts: 0-0.15-0.5-1.5-5-15-50-150-500 (Approx. 20,000 Ohms/Volt).
X2: 0-0.3-1-3-10-30-100-300-1000 (Approx. 10,000 Ohms/Volt).

AC Volts: 0-3-15-50-150-500 (Approx. 10,000 Ohms/Volt).
X2: 0-6-30-100-300-1000 (Approx. 5,000 Ohms/Volt).

Ohms: 0-1k-10k-100k-1MΩ-10MΩ-100MΩ (6 Ohm center scale on low ranges).

DC Microamperes: 0-50-500 at approx. 150mV.
X2: 0-100 at approx. 300mV.

DC Milliammeters: 0-5-50-500 at approx. 150mV.
X2: 0-1-10-100-1000 at approx. 300mV.

Decibels: —20 to +52 ("0"dB at 1mW on 600 Ohm line).

Accuracy: ±1½% DC; ±3% AC; (full scale).

Frequency Response: ACV through 300 compensated from 20Hz to 20kHz.

Scale Length: 4½".

Meter: Diode overload protected ruggedized suspension movement, easily replaced integral module, DC polarity reversing switch, X2 range doubling switch, mirror scale, ½% resistors.

Overload Protection: Complete tester protected by 1/8A/250V, 1A/250V and 2A/100V (20kW on DC, 30kVA on AC) fuse.

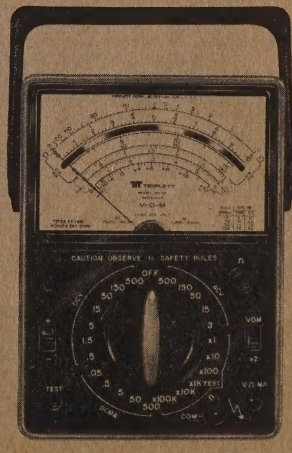
Confidence Test: Reassurance check of instrument meter.

Case: Molded, gray, high impact thermoplastic; easy external access to sealed battery and fuse compartment; molded plastic handle will hold tester at 30° angle; 5¼" W X 7½" H X 3¼" D.

Batteries: NEDA 30V 210 (1), 1½V 13F (1).

Complete with 48" safety test leads, insulated alligator clips, batteries, spare 1/8A and 1A fuses and instruction manual. Shpg. wt. 4 lbs.

62FX044 NET **$130.00**



Model 60-NA

QUALITY LEATHER CASES

Model 639-A. Flaps open to permit use of tester in case. Space for tester, leads, Model 10 and Model 101. For Models 60, 600 and 630.

62F041. Net **$24.00**

Precision Test Equipment

MODEL E310B SINE/SQUARE WAVE GENERATOR

- Regulated Power Supply
- Fast Square Wave Rise Time
- 3-Wire Grounded AC Cord
- Large 3" Vernier Dial

Features step attenuation of both sine and square outputs. Constant-voltage output over each band and band-to-band. Sine wave frequency range: 20 Hz to 2.0 MHz in 5 decade ranges: 20-200 Hz; 200 Hz to 2 KHz; 2-20 KHz; 20-200 KHz; 200 KHz to 2 MHz. Output 0-8 V (RMS) into high-impedance loads; 0-7 V (RMS) into 600 ohms; ±2 dB. Distortion: .25% typical; .5% maximum (100 Hz to 2 MHz); 1% maximum below 100 Hz. Square wave frequency range 20 Hz to 200 KHz in 4 ranges: 20-200 Hz; 200 Hz to 2 KHz; 2K Hz to 20 KHz; 20 KHz to 200 KHz. Rise time less than 100 ns at 20 KHz. Symmetry balanced within 5% or less. Freq. calibration accuracy ±3% 20 Hz to 2 MHz. Attenuators (both sine and square wave outputs): Step, total of 56 dB (6 switches). Accuracy ±5% when terminated in 600-ohm load. Continuously variable control adjusts output from maximum down to less than 0.25 millivolt. Size: 12¾" x 7¼" x 8" deep. Shipping weight 9½ lbs.

63F065. NET **158.00**

MODEL E200D RF GENERATOR

- TV Trap and Bandpass Coil Alignment
- AM/FM Receiver Alignment
- Audio Signal Tracing
- Accuracy of 0.1% Is Available with Built-in Crystal Calibrator

Calibrated meter monitors RF level and % modulation. Wide-range coverage from 100 KHz to 216 MHz in 5 bands. Completely shielded RF output with continuously variable monitored attenuation calibrated to less than 1 microvolt (on fundamentals to 54 MHz). Built-in crystal calibration for assured frequency accuracy. Easy-setting, 2-color 5" vernier dial with anti-backlash 12:1 gear ratio. Accuracy ±1.5%. Output: 100,000 microvolts maximum. Four outputs: Unmodulated RF; modulated RF (400Hz); externally modulated RF; 400 Hz audio signal. FM and TV channels identified on dial. 3-wire grounded AC line cord. Attenuator system: 6 individually shielded step attenuators with a total capability of −96 dB. Outputs as low as 106 dB below 100,000 microvolts can be obtained with fine output level control and calibrated meter, which provides additional −10 dB to +2 dB output level indication (0 dB = 100,000 microvolts into 50 ohms). Shipping Weight: 10 lbs.

63F066. NET **234.00**

SWEEP/MARKER ALIGNMENT GENERATOR

Model 415. 15,750 hz filter enables user to view I-F and chroma response curves without disabling the horizontal output stage of a receiver under test. This can be done with a minimum of horizontal frequency "grass" superimposed on the oscilloscope patterns. Unity gain through instrument into oscilloscope to eliminate intermediate steps for calibration purposes. Built-in low frequency compensation. Sweep freq. rate 60/sec. 105-125 AC, 60 Hz. Wt.: 23 lbs. Size: 9½x17¾"x10¾".

62F566. NET **485.00**

TV ANALYST

Model 1077B. Designed to simplify and speed servicing of black and white and color VHF and UHF, tube type and transistorized TV receivers. Supplies a complete test pattern or other patterns by means of a flying spot scanner system using a positive transparency. RF outputs at all UHF channels-VHF channels-plus IF 20-48 Mhz. Outputs at 4.5 Mhz with 1000 hz audio for TV sound analyzing. Outputs for sync, video, chroma, and audio. For analyzing transistorized and tube type receivers. Calibrated bias supply. Horizontal and vertical signals. Weight approximately 30 pounds. Size 9¾" x 18" x 12".

62F555. NET **496.00**

MODEL 747B TUBE TESTER

Tests all tubes with true dynamic mutual conductance test. Front panel overload reset indicates overload, eliminates need for fuse replacement. Tube chart has over 2,500 listings. Tests multisection tubes. Tests high-voltage and gas regulator types. Perform tests for shorts and leakage, grid emission and extended life. A jet-check section allows rapid checking of the mutual conductance of almost all TV and radio tubes (21 sockets for the most popular types). Diodes and rectifiers are tested for emission. Automatic line voltage compensation insures consistently reliable and repeatable test results. Pin straighteners for all tested types. Operates from 105-125 VAC, 60 Hz. Size: 5.3" x 20.5" x 11.5". Wt.: 13 lbs.

62F530. NET **291.00**

TEST PROBES

Model PR-23. RF Detector/Demodulator Probe. Usable with any electronic voltmeter or oscilloscope models 1403, 1431, 1440, 1460, 1465, 1470 and 1472. Typical freq. res. ±2 dB 15kHz to 125 MHz. Within 6dB at 250 MHz.

62F531. NET **15.00**

Model PR-30. Combination 10:1/Direct Probe. Input Z: 10:1—10 M/12 pF; direct—1 M/120pF. For models 1431, 1440, 1460, 1465, 1470.

59F914. NET **25.00**

Model PR-31. As above for Models 1461, 1471, 1471B and 1472C.

59F917. NET **25.00**

Model PR-35. 10:1/Direct Low-Capacitance Probe. 15 MHz bandwidth. Input Z: 10:1—10 megohms/18 pF; Direct—1 megohm 120 pF. For 1471, 1471B, 1472C.

59F920. NET **30.00**

Model PR-36. As above, except designed for oscilloscopes with bandwidths beyond 30 MHz, such as Model 1474.

59F921. NET **35.00**

SCOPE COVERS

Model LC-31. Protective cover for Model 1431 oscilloscope.

59F908. NET **10.00**

Model LC-74. Protective cover for Model 1461, 1471B, 1472C, and 1474 Oscilloscopes.

59F910. NET **12.00**

HOOK-UP CABLES

Model CC-41. 36" RG/58U hook-up cable with BNC connector both ends.

62F538. NET **7.50**

Model CC-42. As above except with BNC and UHF connector (PL-259).

62F539. NET **6.50**

Model CC-43. As above with BNC connector and banana plugs.

62F540. NET **4.40**

Model CC-44. As above with BNC connector and coax microphone conn.

62F541. NET **6.50**

HOOK-UP CABLES

Model CC-45. As above with BNC connector and type N connector.

62F542. NET **8.00**

Model CC-46. As above with UHF connector on each end.

62F543. NET **6.00**

Model CC-47. 36" zip cord with space lugs and cigarette lighter plug.

62F544. NET **3.00**

Model CC-48. 36" audio coax with ¼" phone plug and dual banana plug.

62F545. NET **5.00**

Model CC-49. As above with phono plug and dual banana plug.

62F546. NET **4.00**

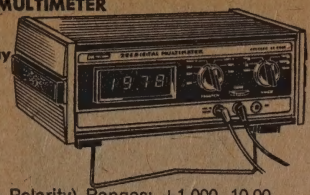
Model CC-50. As above with 3.5 mm miniphone plug and dual banana plug.

62F547. NET **4.00**

Test Equipment

B+K PRECISION

3½ DIGIT MULTIMETER



- High Intensity 3½ digit LED display
- Selectable HI/LO ohms function
- Large, bright 7-segment digits
- DC accuracy, 0.5%
- Automatic polarity
- Full overload protection
- 1 mV resolution

Model 283. DC VOLTAGE (Auto Polarity) Ranges: ±1.000, 10.00, 100.0, 1000V. Maximum DC input: 1500VDC or DC plus AC peak. Accuracy ±.5% of reading, ±1 digit, 1, 10, 100V range. Automatic polarity. AC VOLTAGE Ranges: 0-1.000, 10.00, 100.0, 1000Vrms. Maximum AC Input: 1500V peak or 1500VDC plus AC peak. Accuracy and Response: 1V, 10V, 100V range: ±1% of reading, ±1 L.S.D., 40-400Hz; 1000V range, ±1.5% of reading, ±1 L.S.D., 40-400 Hz. DC CURRENT Ranges: ±0-1.000, 10.00, 100.0, 1000mA. Accuracy: 1, 10, 100mA ranges, ±1% of reading; ±1 L.S.D. 1000mA range, ±1.5% of reading, ±L.S.D. AC CURRENT Ranges: 0-1000, 10.00, 100.0, 1000mA. Accuracy: 1, 10, 100mA ranges, ±1.5% of reading, ±1 LSD 1000mA range, ±2% of reading, ±1 L.S.D. RESISTANCE RANGES: 0-100.0 ohms; 1.000K, 10.00K, 100-0K ohms; 1.000, 10.00 megohms. Accuracy: 1K to 1000K ranges in HI ohms, ±1% of reading, ±1 L.S.D. 10 megohm range, and five lowest ranges in low ohms, ±2% of reading, ±1 L.S.D. Number of Digits: 3½, plus automatic polarity. Accuracy Temperature Coefficient (15°C to 35°C): ±.025% of reading/°C on DCV ranges; ±.05% /°C, all other ranges. Over-range: 100% to 1.999, 19.99, 199.9 and 1999mA. Overload Protection: Protected up to 1000V on ohms ranges: to 3A on current shunts, to 1500V on voltage ranges. Power requirements: 105-125 VAC, 50/60 Hz; With 3-wire grounded detachable AC line cord and test leads. Size: 9"W x 7"D x 3.5"H. Wt. 3 lbs.
62F561. NET **170.00**

OPERATIONAL ACCESSORIES

Model BP-83. Rechargeable Battery Pack.
59F916. NET **50.00**
Model PR-21. Isolation/Direct Probe with switchable 100k resistor to prevent capacitive loading when measuring DC in RF circuits.
59F912. NET **10.00**
Model LC-83. Leatherette case for Model 283.
59F904. NET **15.00**

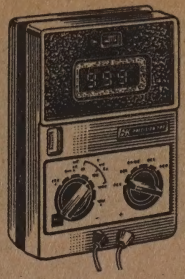
VACUUM TUBE VOLTMETER

Model 177. This VTVM has a total of 37 ranges with a special 0.5 volt DC scale for transistors. 100-microamp meter. Special dB scale for amplifier gain measurements. Zero center scale for FM alignments. Large 7" mirrored meter. 1% precision resistors in all critical circuits. DC polarity reversal switch. **Specifications: DC Volts:** ±0-0.5, 1.5, 5, 15, 50, 150, 500, 1500. **AC Volts: RMS:** 0-1.5, 5, 15, 50, 150, 500, 1500. **AC Volts, Peak-to-Peak:** 4, 14, 40, 140, 400, 1400, 4000. **AC Response:** ±1 dB, 40 Hz to 4 MHz (600 ohm source, 5 volt range). **Resistance, Full-Scale:** 1K, 10K, 100K ohms; 1, 10, 100, 1000 megohms: **Resistance, Mid-Scale:** 10, 100, 1K, 10K, 100K ohms; 1, 10 megohms. **Input Resistance:** 11 megohms (1 megohm in probe). **Accuracy: DC:** ±3% of full scale: **AC:** 5%. Power: 105-125 VAC, 50-60 Hz. Size: 7¼" x 7¼" x 3⅝". Net wt. 6 lbs. Complete with the B & K PR-43 DC/AC Ohms test probe with switch and ground lead. Speeds signal-tracing and circuit-checking.
62F598. NET **124.00**
Model PR-43. Test Probe for Model 177.
62F581. NET **9.00**

SOLID-STATE ELECTRONIC MULTIMETER

Model 290. Ranges: DC: 0-50, 150, 500 mV; 1.5, 5, 15, 50, 150, 500, 1500 V; 0-50, 150, 500 μA; 1.5, 5, 15, 50, 150, 500 mA; 1.5A; **AC:** 0-50, 150, 500 mV RMS; 1.5, 5, 15, 50, 500, 1500 V RMS; 0-50, 150, 500 μA; 1.5, 5, 15, 50, 150, 500 mA; 1.5A. **Accuracy:** ±1.5% F.S. for DC Volts; ±3% F.S. @ 60 Hz; ±5%, 500 and 1500 V ranges for AC Volts; ±3% F.S., except ±4% on 1.5 A range for DC Current; ±4 F.S. @ 60 Hz; ±5% on 50μA and 1.5A ranges for AC Current. **Resistance: Low-Power Ranges** (33mV source); Rx0.1, Rx.1, Rx10, Rx100, Rx1K, Rx10K, Rx100K, Rx1M. **High-Power Ranges** (1.25 V source): Rx1, Rx10, Rx100, Rx1K, Rx10K, Rx1M. **Mid-Scale Reading:** 1 ohm, Rx0.1; 10 ohms, Rx1 range. **Accuracy:** ±3° of arc. **Power requirements:** 105-125 VAC, 50/60 Hz. Size: 7¼" x 8" x 3⅝". Net Wt. 4¼ lbs.
62F558. NET **165.00**

THREE DIGIT PORTABLE MULTIMETER



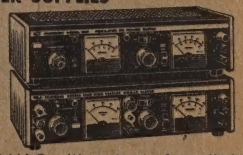
- Low Price
- Fully Overload Protected
- Large LED Readout
- Completely Portable
- Battery Operated
- 1 mV, 1 μA, 0.1 ohm resolution
- 10 MΩ input impedance

Model 280. DC VOLTAGE Ranges: ±0-1000mV, 10V, 100V, 1000V. Input Impedance: 10 Megohms, Circuit Protection: ±1000VDC or AC RMS, all ranges. **AC VOLTAGE** Ranges: 0-1000mV, 10V, 100V, 1000V. Input Impedance: 10 megohms.
DC AND AC CURRENT Ranges: 0-1000microA, 10mA, 100mA, 1000 mA. Nominal Voltage Drop: 100 to 300mV. RESISTANCE RANGES: 0-100, 1000, 10K, 100K, 10M. Circuit Protection: 1000k ohms and 10M ohm-continuous ±1000VDC or AC. 10Kohm and 100Kohm-continuous ±400VDC or AC; withstands Momentary overloads to ±1000VDC or AC. 100 ohm and 1000 ohm-continuous ±125 VDC or AC; withstands momentary overloads to ±1000VDC or AC. **GENERAL** Readout: 3 LED digits. Power Source: Four "C" size batteries-NI-Cad, alkaline or carbon-zinc, with provision for AC adapter charger. Size (HWD) 16x11x5 cm (6.4x4.4x2"). Net Weight: 2 lbs.
62FX554. NET **99.95**
Model BC-28 AC adapter/battery charger. Wt. 1 lb.
62F549. NET **8.00**
Model LC-28 carrying case. Wt. 1 lb.
62F548. NET **6.00**
Model MS-28 wire tilt stand. Wt. 1 lb.
59F918. NET **3.00**
Model PR-28. Probe for Model 283. Usable to 40KVDC.
59F919. NET **24.00**
Model LC-32. Carrying case for PR-28.
62F580. NET **12.00**

SOLID-STATE ELECTRONIC VOM

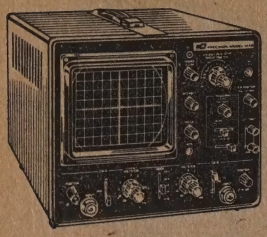
Model 277. General. Multipliers: 1% precision-type, frequency compensated. **Meter:** 4½"; 50-microampere movement; mirrored scale. **DC Volts:** 0-.1, .3, 1, 3, 10, 30, 100, 300 1000 V. DC zero center capability on all ranges. **Accuracy:** ±2% F.S. **Input Resistance:** 15 megohms. **AC Volts:** 0-.1, .3, 1, 3, 10, 30, 100, 300, 1000 V RMS. **Peak-to-Peak Ranges:** 0-.28, .88, 2.8, 8.8, 28, 88, 280, 880, 2800 V. **Accuracy:** ±3% F.S. **Input Impedance:** 10 megohms shunted by approximately 100 pF. **Frequency Response:** Flat to 150 kHz. **DC Current:** 0-1, 10, 100 μA, 1, 10, 30, 100, 300 mA, 1.A. **Accuracy:** ±3% F.S. **Resistance: Low-Power Ranges:** Rx1, Rx10, Rx100, Rx1K, Rx10K, Rx100K, Rx1 megohm (.068 test volts). **High-Power Ranges:** As above, but 1.5 test volts. **Mid-Scale Reading:** 10 ohms (on Rx1 range). **Decibels:** From −20 dB to ±60 dB. **Accuracy:** ±3% F.S. **Reference:** dB = 1 mV into 600 ohms. **Size:** 5 13/16" x 7¼" x 3⅝" deep. **Net wt.** 2 lbs. Requires one 1.5V "D" cell and one 9V NEDA 1604 cell. With PR-21 probe, less batteries.
62F559. NET **110.00**

LABORATORY POWER SUPPLIES



Model 1601. Input Voltage: 105-125 VAC, 60Hz. Output Voltage: 0-50 VDC, continuously variable. Two meter ranges, 0-25 and 0-50 VDC. Output Current: 0-2A in four ranges-0-50mA, 0-0.2A, 0-0.5A, 0-2A. Load Regulation: Minimum: 0.05%; maximum; 0.1%; typical; 0.07%. Line Regulation: 0.02% typical from 105 to 125 VAC with output of 50 VDC and 2A. Ripple: 5mV peak-to-peak. Size (HWD): 3.88 x 14.13 x 10". Net weight 11 lbs. complete with leads and instruction manual.
62F111. NET **195.00**
Model 1602. Input Voltage: 105-125VAC, 60Hz. 400VDC Supply-Output Voltage: 0-400VDC, continuously variable. Output Current: 0-200mA. Load Regulation: 0.1%. Line Regulation: 0.1% for 105-125VAC line. Noise and Ripple: Less than 10mV peak to peak. Protection: 0-200mA adjustable shutdown. BIAS SUPPLY (100 VDC) Output Voltage: 0 to 100VDC continuously variable, floating. Output Current: 0-2mA Load Regulation: 1%; Line Regulation: 1%; Noise and ripple: Less than 10mV peak-to-peak; Protection; Current limiting resistance. Size (HWD): 3.88" x 14.13" x 10". Net Wt.: 11 lbs.
59F911. NET **195.00**

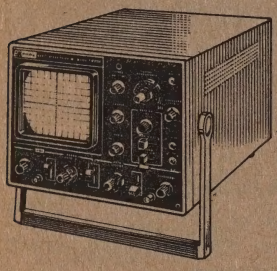
DUAL-TRACE 5" 15MHz TRIGGERED SWEEP SCOPE



Model 1472C. Maximum Input Voltage: 300VDC + AC peak or 600V p-p. **Operating Modes:** CH-A only; CH-B only; Dual (A and B)—trace automatically chopped at all sweep times of 1mSEC/cm and slower, alternate mode automatically selected for all faster sweep times. **Chop Frequency:** 200 KHz. **Horizontal Amplifier: Deflection Factor:** 0.01V/cm to 20V/cm ±5% in 11 ranges, each with fine adjustment. **Frequency Response:** DC, 1MHz (−3dB). **Input Impedance:** 1 M ohm shunted by 27 pF (±3%). **Input Protection:** 300V, DC + AC peak or 600V p-p. X-Y Operation: With Sweep Time/CM switch in CHB position, the CHB input becomes the X input (horizontal) and the B position control becomes the horizontal position control. **Other Specifications: Calibration Voltage:** 1KHz square wave, 1V p-p (±5%). **Probes:** Two PR-35's. **Size:** 7.8 x 9.8 x 14.5". **Net Weight:** 19.6 lbs.

59F905 ..... **630.00**

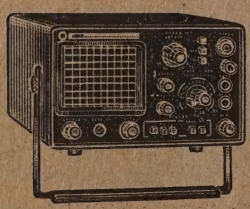
DUAL-TRACE 10 MHz SCOPE



Model 1471B. Specifications: Vertical Amplifier Deflection Factor: 0.01V/cm to 20V/cm, ±5%, in 11 ranges, each with fine adjustment. **Frequency Response:** DC, DC−5MHz (−3dB) AC, 2Hz-5MHz (−3dB), **Risetime:** 35 pSEC. **Overshoot:** 3% or less. **Input Impedance:** 1 megohm (approx.) shunted by 27pF (±3pF). **Tilt:** Less than 5%. **Maximum Input Voltage:** 300V, DC + AC peak or 600V p-p. **Operating Modes:** Channel A only; Channel B only; Dual Trace (A and B)—trace automatically chopped at all sweep times of 1mSEC/cm and slower, alternate mode automatically selected for all faster sweep times; **Chop Frequency:** 200kH approx. **Channel Separation:** Better than 60dB. **SWEEP SYSTEM (Common to Channel A and Channel B) Type:** Automatic and triggered; in automatic mode, sweep is obtained without input signal. **Sweep Time:** 0.5μSEC/cm to 0.5SEC/cm. **HORIZONTAL AMPLIFIER (Input through Channel B vertical input) Deflection Factor:** 0.01V/cm to 20V/cm, ±5%, in 11 ranges, each with fine adjustment. **Frequency Response:** DC-1 MHz (−3dB). **Input Impedance:** 1 megohm (nominal) shunted by 27pF (±3pF). **Input Protection:** 300V, DC + AC peak, or 600V p-p. **OTHER SPECIFICATIONS Calibration Voltage:** 1kHz square wave, 1V p-p (±5%). **Intensity (Z-Axis) Modulation:** 20V p-p minimum; 470K nominal input resistance. **Probes:** Two PR-T35's required, not supplied. **Power Required:** 100, 115 or 230 VAC, 50/60Hz, 23W; CSA-approved three-wire line cord; also available for 230 VAC, 50/60Hz. **Size:** (HWD) 19 x 25 x 36 cm (7.8 x 9.8 x 14.5"). **Net Weight:** 8.8 kg. (19.6 lbs.)

62F562. NET **495.00**

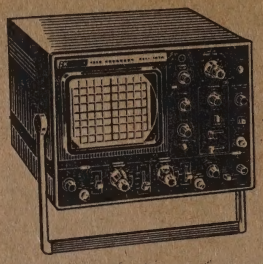
3" PORTABLE OSCILLOSCOPE



Model 1431. Specifications. Vertical Amplifier: Sensitivity: 10 mv./div. to 20 v/div., ±5%, divided into 11 calibrated ranges, each with fine adjustment. **Freq. Response:** DC, DC to 10 MHz (−3 dB); AC, 2 Hz to 10 MHz (−3 dB). **Risetime:** 35 nanoseconds. **Overshoot:** 3% or less. **Input Imp.:** 1 megohm, shunted by 35 pF. **Max. Input Voltage:** 600 volts p-p. **Sweep Circuit: Sweep System:** Automatic and triggered. **Sweep Time:** 0.5 μsec div. to 0.5 sec/div. (±5%), divided into 19 calibrated ranges (1, 2, 5 steps), each with fine adjustment. Special TV-H position displays two horizontal lines and TV-V position displays two vertical fields. **Magnification:** 5 times, at all speeds; increases max. sweep to 0.1 μsec/div. **Linearity:** 0.5 sec/div. to 2 μsec/div. ranges: 3% or less, 1.0 usec/div. to 0.5 μsec/div.; 5% or less. **Horizontal Amplifier: Sensitivity:** 300 mv./div. **Response:** DC-1 MHz (−3 dB). **Input Imp.:** 1 megohm, shunted by 30 pF. **Calibration Voltage:** 1 kHz square wave, .8 volts p-p (±5%). **Intensity Modulation:** 30 volts p-p, minimum. **Dimensions:** 5" x 8" x 11¾" deep. **Net wt.:** Approx. 8 lbs. **Power Requirement:** 105-125 VAC, 50-60 Hz. Less probe.

62F574 ..... **399.00**

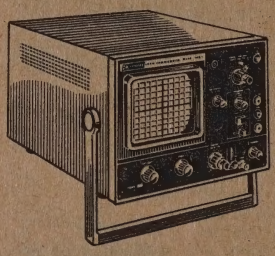
DUAL-TRACE 30MHz TRIGGERED OSCILLOSCOPE



Model 1474C. SPECIFICATIONS. VERTICAL AMPLIFIER **Deflection Factor:** 5 mV/cm to 5 V/cm, ±3% in 10 ranges, each with fine adjustment. **Frequency Response:** DC, DC-30 MHz (−3 dB); AC, 10 Hz-30 MHz (−3 dB). **Rise Time:** 11.7 nS or less. **Overshoot:** 3% or less. **Input Impedance:** 1 M ohm ±2%, 22pF (±3 pF). **Tilt:** less than 5%. **Maximum Input Voltage:** 300 VDC + AC Peak or 600V p-p. **Operating Modes:** CH-A, CH-B, Dual, Add. ALT 0.2 microS/cm—0.5mS/cm. **Chop:** 1 mS/cm—0.5 S/cm. Chop Freq: 200 KHz ±20%. **Signal Delay:** Fixed-12 nS. **CH B Polarity:** Norm; Inv. **HORIZONTAL AMPLIFIER Deflection Factor:** 5 mV/cm to 5 V/cm, ±5%, in ten ranges, each with fine adjustment. Freq. Resp: DC-1 MHz (−3 dB). **Input Impedance:** 1 megohm (nominal), shunted by 22 pF (±3 pF). **Input Protection:** 300 VDC + AC peak, or 600V p-p. X-Y Operation: With SWEEP TIME/CM switch in CH, B position, the CH. B input becomes the X input (horizontal) and the CH. B position control becomes the horizontal position control. OTHER SPECIFICATIONS. **Calibration:** 0.5 V p-p ±1%. **Intensity Modulation:** More than +5V (TTL compatible). DC-5 MHz. **Probes:** Two PR-36 probes required, not supplied. **Power requirements:** 117/234 VAC, 50/60 Hz, 25W. Size: (HWD) (9.8x14.5x17.8"). Wt.: 19.6 lbs.

59F900. NET **820.00**

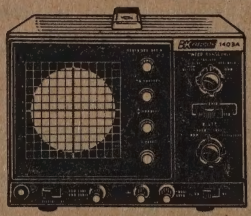
10 MHz, TRIGGERED SWEEP SCOPE



Model 1461. VERTICAL AMPLIFIER: Sensitivity: 10mV/cm-20V/cm ±5%, divided into 11 calibrated ranges, each with fine adjustment. **Frequency Response:** DC, DC-10MHz (3dB); AC, 2Hz-10MHz (−3dB). **Risetime:** 35nSEC. **Overshoot and Ringing:** 3% or less at 100 KHz square wave display. **Input Impedance:** 1 megohm shunted by 22pF (±3 pF). **Maximum Input Voltage:** 300VDC plus AC peak, or 600V p-p. **SWEEP: Sweep System:** Automatic and triggered. **Sweep Time:** 1μSEC/cm-.5 SEC/cm, ±5%, divided into 18 calibrated ranges (1/2/5 step sequence), each with fine adjustment. **Magnification:** 5x at all speeds; increases maximum sweep to .2μSEC/cm. **HORIZONTAL AMPLIFIER. Sensitivity:** 100mV/cm. **Response:** DC-800kHz (−3dB) 100. **Input Impedance:** 100 k ohms (nominal), shunted by 40pF. **Maximum Input Voltage:** 300V (DC + AC Peak) or 600V p-p. **Input Resistance** 10KΩ (nominal). **Power Requirements:** 117 or 230 VAC, ±10%, 50/60 Hz., 20 watts. (3-wire line cord, CSA approved for oscilloscopes.) Calibration accuracy applies over full input voltage range. **Size:** (HWD) 19 x 26 x 36 cm (7 x 10.25 x 14.5"). **Net Weight:** 8 kg. (17.3 lbs.) **Probes** (Not included) Requires PR-31 or PR-35.

59F909. NET **428.00**

3" PORTABLE "MINI-SCOPE"



Model 1403-A. Specifications; Vertical Amplifier: 10 mV/div. or better. **Response:** DC −5 MHz (−3dB) AC 2 Hz—5MHz (−3dB). **Overshoot:** 5% or less. **Maximum Input:** 600 volts, peak-to-peak. **Input:** 1 megohm, shunted by 35 pF. **Attenuator:** 1, 1/10, 1/100 multiplier, ±5%. **Gain Control Range:** Continuously variable range greater than 22 dB. **Horizontal Amplifier: Sensitivity:** 500 mV/div. or better. **Response:** DC to 250 kHz. **Input Impedance:** 1 megohm, shunted by 30 pF. **Sweep System: Type:** Recurrent. **Time Base Ranges:** 10-100 Hz, 100-1 kHz, 1 kHz-10 KHz, 10 kHz-100 kHz; continuously variable between ranges. **Sweep Linearity:** ±5%. **Size:** 6x7.5x12" deep. **Net wt.:** 8½ lbs. **Power Requirements:** 117/234 VAC, 50-60 Hz; 15 watts, 3-wire grounded AC line cord. Leads, spare fuse, instructions.

62F576. NET **209.00**

Model LC-14. Case for 1403.

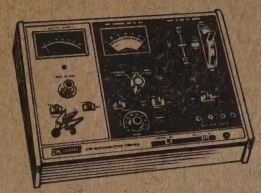
62F577. NET **10.00**

Precision Test Equipment

B+K PRECISION

SEMICONDUCTOR & TRANSISTOR TESTERS

MODEL 530 SEMICONDUCTOR TESTER



Transistor cut-off frequency measurement capability permits high-frequency evaluation of transistors. Audible tone indicates good device—no weak borderline indication. Measures ICES and IDSS. Color coded switch indicates base lead to free hands to connect difficult-to-reach in-circuit transistors. Base diagrams not required. Automatic identification of PNP/NPN types and N or P channel FET. Measures transistor beta using two collector current ranges (low power beta 20-600, high-power beta 20-200). FT: three ranges (0-100 MHz, 0-500 MHz, 0-1500 MHz). Collector: 125 mA @ 4% duty cycle. Base: 250 mA @ 4% duty cycle (HI drive); 1 mA @ 4% duty cycle (LOW drive). Test repetition rate: 10 per second. Voltage for leakage test, Variable from 10-100 VDC. Power required, 105-125 VAC, 60 Hz, 10 watts. Size; 7 x 13 x 3½″. Weight, 5 lbs.

59F915. NET **250.00**

MODEL 520B INDUSTRIAL TRANSISTOR TESTER

Identifies all three transistor leads. Automatic NPN/PNP determination. Positive Si/Ge identification. Tests SCR's FET's, and Darlingtons. Audible "beep" signals a good transistor. LED lamps identify NPN or PNP devices and Ge or Si types. Meter scales; readable from 0.1μA to 5mA for ICE leakage. Applied test currents: Collector: 250 mA at 5% duty cycle. Base: 125 mA at 5% duty cycle. 10 per second test repetition rate. 2.0 V leakage test reverse voltage. Shunt resistance 10 ohms and shunt capacitances up to 15μF. Accessories: Color coded test leads with Mini Lock clips; detailed instruction manual; optional FP-5 Dynaflex three lead, one hand probe for easy in circuit testing available. Power: 105-125 VAC, 50-60 Hz. 8″H x 7″W x 3.5″D. 5 lb.

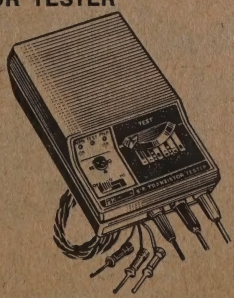
62F553. NET **160.00**

SEMICONDUCTOR MODEL 501-A CURVE TRACER

Tests transistors, unijunctions, Triacs, SCR's, tunnel diodes, Zener diodes, signal diodes, ordinary rectifier diodes, J-FET's, MOSFET's (both depletion and enhancement types). Compatible with all oscilloscopes. Pinpoints BAD devices in circuit. Insures full display of waveforms up to 100V at 100 mA—no IR drops to affect the curve. Sweep gen. range 0-100V. Step generator: 11 current ranges, 1-2-5-10-20-50μA and .1-.2-.5-1-2mA per step, ±3%. 5 voltage ranges: .05-.1-.2-.5-1 V per step, ±5%. Calibration source: ±.05 to 5V P to P; ±3% accuracy. Attenuator range: 1-2-5-10 mA per division vertically, ±3%. Two TO-5 type transistor sockets with each pin paralleled by a banana jack for external cables (3 pins per socket). Output terminals are banana jacks for vertical, horizontal and ground outputs to oscilloscopes. Dimensions: 4″ x 10″ x 9½″. Shipping weight 3 lbs.

62F112. NET **168.00**

MODEL 510 TRANSISTOR TESTER



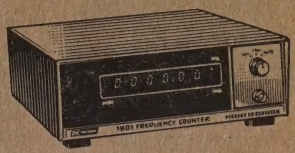
Uses digital high-current, low duty-cycle pulse-testing technique to test semiconductors even with resistive and capacitive shunt impedances. Fast GO/NO-GO in-circuit transistor testing. GOOD/BAD out-of-circuit testing. Tests FET's and SCR's in-circuit or out-of-circuit. Connect any test clip to any component lead. Gives positive emitter-base-collector identification in LO drive, positive base identification in HI drive. Digital stability. FET as N-channel or P-channel. Base drive; 250mA (HI) or 1 mA (LO) at 2% duty cycle. Collector drive; 125 mA at 2%. Test repetition rate; 5 Hz. Carrying case and test leads supplied. Model FP-5 Dynaflex probe (optional) may be used in place of test leads. 3.75″W x 6.63″D x 1.75″H. Wt. 1 lb.

59F901. NET **90.00**

Portable Transistor Tester

CB TEST EQUIPMENT

MODEL 1801 40 MHz AUTORANGING COUNTER

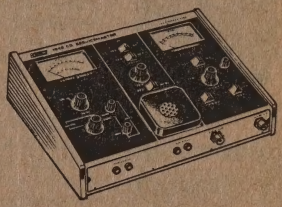


- **1 Hz Resolution**
- **Automatic Ranging**
- **20 Hz-40 MHz Guaranteed**

Discrete, reliable TTL circuitry automatically updates six-digit solid state readout up to five times per second. Auto Gate Time: 10mSEC or 100mSEC (MHz reading) or 1 SEC (kHz reading), chosen automatically. Manual Gate Time: 1 SEC (kHz reading, 1Hz resolution). Accuracy: ± time base, ±1 count. 1Hz resolution. Display: Input signal frequency, automatically positioned decimal point. Units (kHz, MHz) displayed on front panel by illuminated indicator. Temp: better than ±0.001%, 0-50°C. 105-130V, 60Hz, 25W max. Wt. 5.5 lbs. Model PR-25 probe (optional).

62F550. NET **240.00**

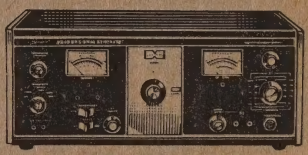
MODEL 1040 CB SERVICEMASTER



RF wattmeter impedance of 50 ohms. Internal load: 50 ohm, 50 watt continuous and 100 watt intermittent. Ranges: 0-10 watts, 0-50W & 0-100W. ±5% accuracy. Freq. 27 MHz band. SWR scale: 1:1 to 5:1 direct reading. **Audio wattmeter:** impedance, 4,8 or 16 ohms switch selectable. 10W continuous load rating. Ranges: 0-100 milliwatts, 0-1 watt and 0-10 watts; auxiliary dB scale reads −20 dB to +3 dB. Accuracy: ±0.5 dB from 30 Hz to 15 kHz. **Distortion Measurement.** Total harmonic-distortion type. 0-30% direct reading scale. ±5% of full scale accuracy. Frequency, 1 kHz, ±100 Hz. Power requirements; 117 VAC, 60 Hz: 3 watts. 13.8 VDC: 150 mA. Reverse polarity protection provided. Size: 4″H x 3.5″W x 11″D. 5 lb. 10 oz. Model 1040 eliminates multiple test instruments once needed for a thorough service analysis on a CB transceiver.

59F907. NET **250.00**

MODEL 2040 CB SIGNAL GENERATOR



Model 2040 is a high performance signal generator. Designed for all class D CB transceivers (AM & SSB). ±5 parts per million (.0005%) accuracy. Delta frequency adjustment allows variation of 0-5 kHz from channel center frequency for SSB performance tests. Built-in EIA noise test signal generator to check automatic noise limiters and blankers. Internal modulation frequencies of 400, 1000 and 2500 Hz. Output attenuator & vernier provide calibrated outputs from 100,000μV to 0.3μV. Double shielding eliminates spurious radiation. 1 microsecond pulse width. Rise/Fall time: less than 10 nanoseconds. 100PPS repetition rate. Output impedance of 50 ohms. 105-125 VAC. 7.3″H x 10.6″W x 17.9″D. 17 lbs.

59F902. NET **475.00**

MODEL 1640 POWER SUPPLY

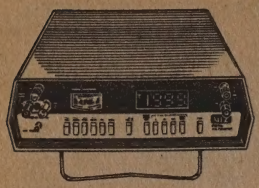
- **Overload Protection**
- **Lab Grade Regulation**
- **3 Amps Continuous**

Designed for mobile equipment. Adjustable output (11-15VDC) evaluates CB transceiver performance over the full range of voltages encountered in 12 volt automotive systems. Delayed shutdown with manual reset for currents greater than 3 amps. 5 amps maximum surge current to protect equipment. 115/230 VAC, 60 Hz input voltage. Output volt: 11-15VDC, continuous variable. Output current: 0-3A continuous, 5A surge limited. L.E.D. overload indicator. Ripple: less than 8mV RMS; 0-3A. 3 1/16″H x 10″W x 8½″D. Wt. 8 lbs.

59F913. NET **100.00**

NOTE: Use #1403A Scope to Complete the CB Test Instrument Group. See Index for CB Service Master Hook-Up Wire.

WD-750A DIGITAL VOLTOHMYST



Provides a "total service capability" approach to digital multimeters. Features automatic zeroing, automatic polarity indication, over-range indication, and "Low Ohms" function. A special feature is the "null/peak" analog panel meter for nulling or peaking adjustments without trying to interpret rapidly changing digital readouts. Impedance: 10 megohms. 3⅛" x 10¾" x 11". Wt. 6 lbs.

54F800. NET.....**267.00**

WV-516A VOLT-OHM MILLIAMMETER

Type WV-516A. Compact, economical, and lightweight unit which measures DC or AC RMS volts from 0.1 to 1000V in four ranges. DC current from 10 mA to 250 mA in three stages. Resistance from 2 ohms to 200K ohms in two ranges. Three color meter scales. Accuracy; ±3% DC, ±4% AC. Sensitivity; AC/DC 2000 ohms/volt. Meter movements protected against burnout. Complete with test leads and 1.5V battery. Size; 2¾" x 4⁹⁄₁₆" x 1⅜". 1 lb.

62F1675.....**18.00**

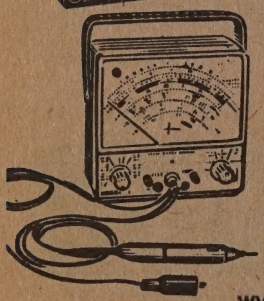
WV-518B VOLT-OHM MILLIAMMETER

Type WV-518B Mirror scale and panel-mounted fuse to protect ohms divider resistors from burnout. DC from .01 to 500V in four stages. AC (RMS) from .05 to 500V in four stages. DC current from 10A to 500 mA in four ranges. Resistance from 1 ohm to 2 megohm. Accuracy; DC ±3%, AC ±4%. Sensitivity; 20K per volt, DC. 10 K per volt AC. With test leads and 2 batteries. Size; 5⅛" x 3½" x 1⅞". Wt. 1½ lbs.

62F1677.....**39.95**

WV-510A MASTER VOLTOHMYST

- **All Solid State**
- **Battery/AC Operation**
- **6½" 2-Color Meter**



Operated from internal batteries (not included) or from 120V AC power line. On battery operation power cord can be removed for complete portability. 0 to 1500V range; 8 stages in DC, 7 stages in AC, DC current from 0 to 1500 mA. Overall accuracy ±3%. Megohm resistance of 21 on all DC ranges. Size; 6½"h x 7"w x 3¾"d. Wt. 6 lbs.

62F1667.....**145.00**

WV-520A VOLT-OHM MILLIAMMETER

High sensitivity: DC; 100K ohms/volt, AC; 10 K ohms/volt 3 color aluminum panels and meters with mirror scales. 1% precision resistors for all ranges. Meter movements protected against burnout. DC range: 0 to 1500V in 8 stages. ±3% accuracy. AC range 0 to 1500V in 6 stages. ±4% accuracy. DC current 0 to 15 μA to 5A in seven stages. Resistance: 1 ohm to 20 megohm in four stages. Complete with test leads and two 1.5 volt batteries. Size: 5¼" x 7½" x 2⅜". Shpg. wt. 3 lbs.

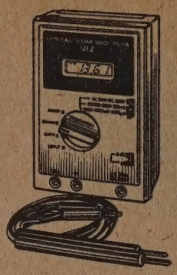
62F1679.....**65.00**

WV-519B VOLT-OHM MILLIAMMETER

Type WV-519B. Three color aluminum panels and meters with mirror scales. Has DC polarity switch. 1% precision resistors for all ranges. DC range from 0 to 1500V in 8 stages. AC range from 0 to 1500V in 6 stages. DC current from 5 μA to 6A in five ranges. Resistance from 1 ohm to 100 megohm in four ranges, and decibels from −20 to 57 dB. Accuracy, DC; ±3%, AC; ±4%. With test leads and two 1.5V +1-22.5V batts. 12 month warranty on parts and labor. Size; 6¾" x 4¼" x 1⅞". 2 lbs.

62F1678.....**47.00**

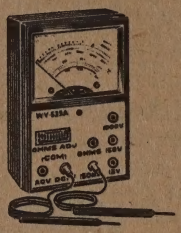
WD-751A DIGITAL VOM



High-quality electronic multi-meter that utilizes a 3½ digit Field Effect type Liquid Crystal for its display. Can be operated from its internal battery supply. The liquid crystal display coupled with its CMOS LSI circuit results in extremely low power consumption (300 mW) and long battery life. One set of four alkaline penlite "AA" cells will render over 30 hours of continuous use. Black numerals against gold background gives sharp strong readings. Unit is semi-auto-ranging for fast, easy operation. Compact size and light weight make it ideal for portable operation.

54F801. NET.....**179.00**

V-539A HANDYMAN VOM



Pocket-size multi-tester. Safe and simple to use meter which measures DC and AC voltage as well as direct current and resistance on an easy to read color coded meter face. Made with 1% precision resistors. Ranges-AC/DC: 0 to 1000 V; Direct current: 0 to 150 mA; Res: 100 to 100K ohms. One 1.5 V penlite batt. needed. Includes probes and instructions. 2⅜" x 3¹⁵⁄₁₆" x 1⅜". Wt. 5 oz.

62F1780. NET.....**9.95**

WV-38A VOLT-OHM MILLIAMMETER

Completely portable requiring no external power source. Uses 4 penlite cells and 1 "D" cell (not included) for ohms function. 0 to 5000V DC range in 8 stages. 0 to 5000V AC range in 6 stages. Accuracy: ±3% DC; ±5% AC. Input resistance: 20,000 ohms/volt DC qnd 5000 ohms/volt AC. With probe, test leads, and clip. 5¼" x 6⅛" x 3⅛". Shpg. wt. 4 lbs.

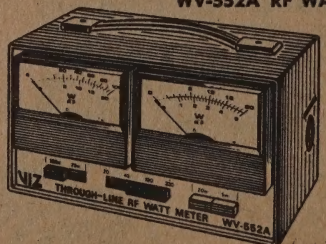
62F052. NET.....**79.00**

TYPE WV-77E VOLTOHMYST

Designed to measure resistance and voltage in seven overlapping ranges; AC rms sine-wave voltages from 0.1 V to 1500 V; DC from 0.02 to 1500V; peak to peak voltages from 0.2 to 4000V; and resistance values from 0.2 ohm to 1000 megohms. Use of electron tube as full wave signal rectifier. ±5% accuracy. Rating of 105 to 125V (can be rewired for 240V). Frequency; 50 to 60 Hz. Size; 7¾" x 5⅝" x 4¾". Wt. 5 lbs.

62F1673.....**89.00**

WV-552A RF WATTMETER



VHF and UHF through line wattmeter designed for use with transmitters operating between 20 MHz and 230 MHz with power levels up to 100 watts RF and reflected power from their antenna systems up to 20 watts RF. Three frequency ranges, and two power levels are pushbutton selectable. Two "Taut Band" type meters provide easy, accurate, and simultaneous observation of transmitted forward and reflected power. A separate conversion chart is provided for quick determination of V.S.W.R. Equipped with "M" type UHF connectors.

54F802. NET.....**150.00**

Type WG-487. "M" to "N" Connector Adaptor.

54F803. NET.....**4.95**

Test Equipment

RCA/VIZ

WV-517B VOLT-OHM-MILLIAMMETER

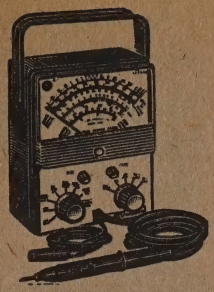
- Single Switch All Functions And Ranges
- Measures To 600 Volts AC & DC
- 3 Ohms Ranges

Large taut-band meter. Diode-protected against burnout. Measures DC and AC to 600 volts in six ranges each. DC current to 300 mA in three ranges. Resistance from 1 ohms to 5 megohms in three ranges. Decibels from −20 dB to +37 dB in two ranges. Accuracy: DC ±3%; AC ±4%. Sensitivity: DC 20K ohms/volt; AC 10K ohms/volt. Uses two 1.5 volt penlite cells (not supplied). Includes test leads. Size: 4¾" x 3¼" x 1½". Wt. 12½ oz.

62F1676. NET **26.25**

WV-500B SOLID STATE BATTERY OPERATED VOLTOHMYST

- Zero Centering Meter Pointer
- Burnout Protection
- 11 Megohm Resistance

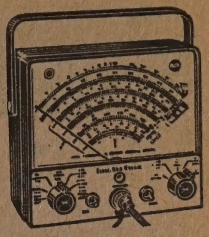


Service, industrial, and lab use. Measures DC from 0.01 to 1500V; DC current from 2μA to 1500 mA; AC (rms) from 0.1 to 1500V; AC peak to peak from 0.5 to 4200V; and resistance from 0.2 ohms to 1000 megohms. Seven overlapping ranges are provided for AC rms and resistance measurements, and eight ranges for DC voltage and current measurement. ±3% accuracy. With probe, leads, and batteries. 6⅞" x 5¼" x 3⅛". Wt. 3½ lbs.

62F1654. NET **114.00**

WV-98C SENIOR VOLTOHMYST

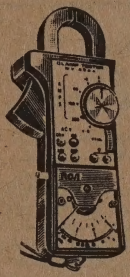
- 200 Micro-Ampere Meter
- 6½" Color Coded Meter
- Scale For Transistor Ckts.



All measurements made with single unit probe adapted to either DC, AC and resistance measurements by a built in switch. Input resistance of 11 megohms on all DC ranges reduces loading of the test circuit. DC/AC range of 0 to 1500V in 7 stages. Overall accuracy of +3%. Measures peak to peak sine, complex waveforms to 4200V. Size; 6½"h x 7"w x 3¾"d. With probe, cable, clip, battery, insulator, and book. Shpg. wt. 8 lbs.

62F060 ..... **114.00**

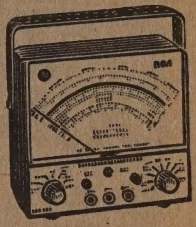
WV526A AC CLAMP TESTER



Measures AC current up to 300A in seven ranges with an accuracy of ±3%. AC voltage to 600V in three ranges with ±3% accuracy. Resistance from 1 ohm to 1K ohms (30 ohms center scale) with ±3% accuracy. Requires no direct connection to the electrical circuit. "Stop lock" permits you to measure current in a dark or hard-to-get-at area, lock the reading, remove the tester, and evaluate the results at your convenience. Supplied with line splitter/current transformer, test and clip leads, shorting plug, case, battery, and extra fuse. 2¾"W x 7½"L x 1½"D. Wt. 9½ oz.

86F651. NET **65.00**

WT-524A TRANSISTOR/FET TESTER



Large, easy to read 6½" mirrored scale meter, with special scales for I_C, I_{CBO}, I_{DSS}, and I_D currents. Drain current allows testing at pre-determined current level. Provides AC beta (h_{fe}) test of bipolar transistors from 0 to 1000 and a transconductance (GM) test of FET's. Also checks diodes, SCR's, triacs, and unijunction transistors. In-circuit or out-of-circuit testing. Also measures drain current and out-of-circuit gate leakage. With socket adapters and test leads. Size: 2¾"W x 7½" L x 4½"D. Wt. 5 lbs. 12 oz.

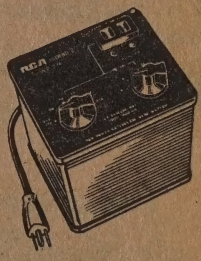
86F650. NET **169.00**

WT-501A TRANSISTOR CHECKER

Battery operated and completely portable. Tests both low and high power transistors, and has both NPN and PNP sockets to allow convenient transistor matching for complimentary symmetry applications. Tests out-of-circuit transistors for DC beta, collector-to-base leakage, and collector to emitter leakage. Reliable in-circuit testing. Collector current adjustable permitting most transistors to be tested at rated current. Complete DC Forward Current Transfer Ratio Curve can be plotted. With test leads. Size: 6⅞"H x 5¼"W x 3⅛" D. Wt. 3 lbs.

62F1655. NET **95.00**

ISOLATION TRANSFORMER AND AUTOTRANSFORMER



Provide for high-low-medium line-voltage testing. Primary-to-secondary current leakage less than 0.1 mA.

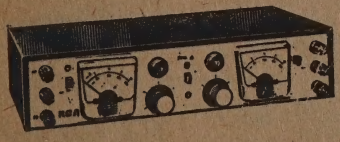
WP-26A has both primary (autotransformer) windings and isolated secondary windings. A switch provides for setting them to deliver low, medium, or high AC output voltages with input line voltage from 105 to 130 volts.

WP-27A provides isolated AC output from 25 to 150 volts in 5-volt steps over an AC input of 105-130 volts, 50-60 Hz.

62F1666. WP-26A. Wt. 15 lbs. **NET** ..**52.50**

62F150. WP-27A. Wt. 16 lbs. **NET**...**60.00**

DC POWER SUPPLY



Solid state. Electronic short circuit protection. Negative feedback regulator maintains constant output voltage with low ripple. Three convenient five way terminals for DC plus. DC minus and ground. 0-20V current to 200 mA. Line reg; 30 mV. Load reg; less than 50 mV. With 3 wire AC power cord. Adjustable voltage output. Size: 4"x6½"x3". Wt. 2 lbs. 11 oz.

WP-702A. Dual unit.

62F000. NET **99.00**

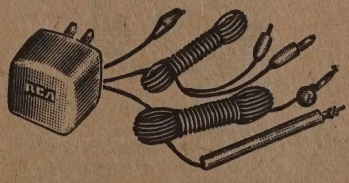
WP-703A. 0-20V. Current to 500 mA.

62F002. NET **90.00**

WP-704A. 0-40V. Current to 250 mA.

62F003. NET **90.00**

WC-528B QUICKTRACER TRANSISTOR/DIODE CHECKERS



WC-528B. Can be used with any general purpose scope. Locates defective transistors quickly. Works in circuit or out. Wave forms eliminate reading meter scales. Combines features of curve tracing and diode checking. Designed for rapid point-to-point checks of transistors (excluding FET's), zeners, other diodes, and many capacitors and resistors. Supplied w/12 page booklet on trans. checking and two probes. Comes w/material for mounting.

86F656. NET **19.50**

WV-120B POWER LINE MONITOR

Designed for use where it is important to know the power line voltage at all times. Provides a continuous indication of the AC line voltage at a glance, without handling probes and switches. Expanded 2-color scale, from 100 to 140 volts. Can be used on AC power lines w/freq. from 25 Hz to 400 Hz. Moving vane type meter gives accurate rms readings even when line voltage is not pure sine wave. Meter Accuracy: ±2% at center scale; ±3% at both ends. Three-wire power cord. Can be installed between AC line and unit to be monitored. Size: 3⅛" x 3" x 3⅛". Wt. 1½ lbs.

62F1657. NET **29.00**

WR-549A PULSE GENERATOR

Compact, easy to use source of digital pulses. These pulses can be varied continually over range from 5Hz to 5MHz, positive, or negative square wave. Both pulse width and repitition rate are independently adjustable making this instrument one of the most useful and versatile available for today's logic designer or digital troubleshooter. Output is also adjustable for both TTL and CMOS, covering a range to 15 volts P-P, at an impedance of 100 ohms. Pulse rise time is held to 15 nanoseconds on all ranges.

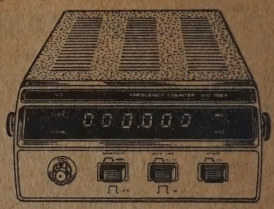
54F804.....119.00

WR-550A FUNCTION GENERATOR

Compact, lightweight, solid state source of digital logic wave forms. These are square wave, triangle wave, and sine wave. Both fixed TTL compatible, and adjustable from 0 to 20 volts P-P. Adjustable outputs have a DC offset control, adjustable to ±10 volts DC, at 600 ohms. Covers a frequency range from 1Hz to 1MHz. Distortion is less than 3% from 1 Hz to 100 KHz. Frequency accuracy is held to ±5%, with overall stability of 200 PPM/°C. Capable of frequency sweep over a 10 to 1 range with external sweep voltages.

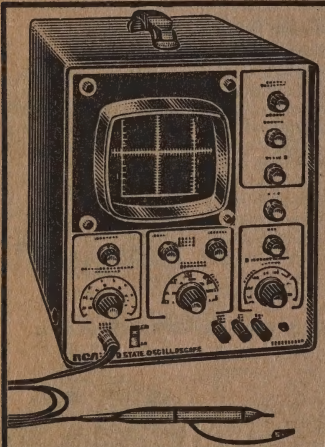
54F805.....139.00

WD-752A FREQUENCY COUNTER



Ideally suited for making frequency measurements in audio, video, CB, and Ham radio, plus all other communication equipment operating between 10Hz and 80MHz. It displays the measured frequency with six full, bright, seven segment LED's, plus an overflow light. Selectable input sensitivity and selectable 3 gate automatic time switch. Signal light tells the user that the incoming signal is strong enough to be read reliably. Audible side tone can be used to modulate SSB transceivers so carrier frequency can be measured.

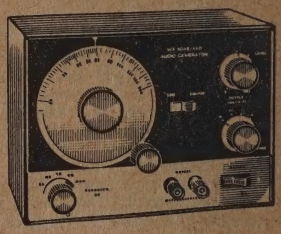
54F806.....255.00



WO-535A DUAL MODE 5" OSCILLOSCOPE WITH TRIGGERED RECURRENT SWEEP

Triggered sweep permits viewing small segments of complex waveforms such as vertical interval test signals. Freq. resp; Vert. amp. DC function; DC to 10 MHz; AC function 5Hz to 10 MHz. Horizontal amp. 3.5 Hz to 2 MHz. Deflection sensitivity: Vert. amp. Direct probe, 15 mV P-P per in. (5.9 V P-P per cm.), Low cap. probe; 150 mV P-P per in. Rise time; vert. amp. 35 ns. Trigger mode; freq. range, 5 Hz to 1 MHz in 6 adjustable ranges. Sensitivity; 5 mV. Power req. 105-130V. Frq. 50-60 Hz. Aver. power; 30 W. With direct/low cap. probe, cable, ground lead, and instruction book. Size; 9"w x 11⅜"h x 16½" d. Wt. 25 lbs.

86F661.....**349.00**

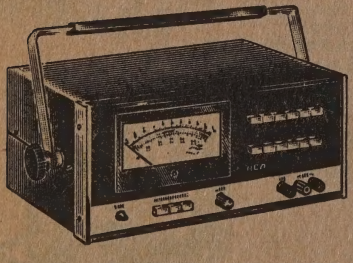


WA-504B/44D AUDIO SINE/SQUARE-WAVE GENERATOR

Solid-state throughout. Designed for audio, hi-fi, ultrasonic, and general electronics applications. Constant 600-ohm output impedance. Functionally designed, straightforward control system.

Specifications (At line voltage of 120 V, 60 Hz.)
Frequency—Range: 20 Hz to 200 kHz in four ranges. Stability: less than ±0.5%. Dial Calibration Accuracy: ±5%.
Output Voltage—Ranges: 0 to 0.01, 0.1, 1 and 10 V P-P. Amplitude Variation with Frequency (ref. 10 V P—P at 2 kHz): ±1.5 dB. Output Impedance: 600Ω. Sine Wave Total Harmonic Distortion (Typical): 0.15%.
Square Wave (Typical)—Rise and Fall Time: 150 ns. Tilt: 2%.
Power Requirements: 108-132 V, 50-60 Hz. (Can be connected for 240 V). Dimensions: 7⅞ in. x 5⅝ in. x 4¾ in. (20 cm x 14.3 cm x 12.1 cm). Weight: 4 lbs. (1.8 kg).

62F1656. NET.....114.00



WV-511A ULTRASENSITIVE PICOAMMETER

- **Measures Low Levels of DC**
- **18 Ranges**
- **Zero Center Scale**
- **Recorder Output**

Designed to measure low levels of DC from 1pA to 30 mA. Recorder output a 1V or 1 mA. The 1 mA output can adjust to match the recorder input load up to 1500 ohms. Also used as a high input resistance voltmeter and as a megohmeter to measure resistance up to 10,000 megohms using external 10 mV source, ±2% zero drift. Max. rise time; 10 milli-seconds. Power req. 120V or 240 V AC, 50-60Hz. With plug, cable, and clips. Size; 12"w x 5¼"h x 8¼"d. Wt. 10 lbs.

62F1681.....**275.00**

WR-50C RF SIGNAL GENERATOR

Suited for aligning and signal tracing of AM, FM, Hi-Fi, CB, HAM and TV receivers. Variable oscillator covers frequencies from 85 kHz to 40 MHz in six stages. Built-in crystal calibrating oscillator circuit with front panel crystal socket. Sweep output at 10.7 MHz and 455 kHz for sweep alignment of radio receivers. Two step RF attentuator switch plus a continuously variable attenuator control. RF output modulated with internal 400 Hz oscillator or external audio signal. RF output; 0.05V rms. ±2% calibration accuracy. Rating; 105-130V, 50-60 Hz. 15W consumption. Size; 5⅜"w x 4¼"d x 7¾"h. Wt. 5 lbs.

62F086.....**117.00**

ACCESSORIES FOR TEST EQUIPMENT

WG-289. High voltage probe.
62F020.....18.00

WG-411A. Slip-on high voltage probe.
62F1658.....18.00

WG-297. High voltage probe.
62F057.....18.00

WG-210. 900 Megohm multiplier resistor.
62F083.....4.50

WG-211. 495 Megohm multiplier resistor.
62F084.....4.50

WG-206. 1090 Megohm multiplier resistor.
62F082.....4.50

WG-299E. DC/AC ohms probe and cable.
62F061.....12.00

WG-300B. Direct/low cap. probe & cable.
62F062.....16.00

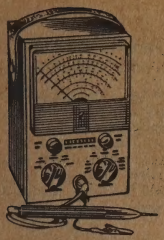
WG-302B. RF/IF/VF signal tracing probe.
62F064.....15.00

WG-301A. Slip-on crystal diode probe.
62F063.....9.75

WG-410B. DC/AC ohms probe and cable.
62F1665.....12.00

Test Equipment

EICO



239 PORTABLE FET-TVM

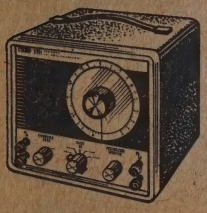
Portable, battery operated solid state design. 4½" meter movement. Seven 11 megohms dc ranges to 1000 volts (to 30,000 volts with optional HVP probe). AC in 7 ranges to 1000 volts rms (to 2800 volts peak-to-peak). Accuracy to 1000 megohms in 7 ranges. Readings as low as .05 volt on 1 volt scale. Includes Uniprobe.
62F733 Kit. **NET** **59.95**
62F734 Factory Wired **89.95**

150 SIGNAL TRACER

Solid state. Measure relative gain visually on built-in meter and/or aurally using the speaker to judge audible quality. 400mW output power. Transformer and speaker can be substituted for suspected components in defective equipment. Shielded rf crystal demodulator and direct probe are provided.
62F735 Kit. **NET** **79.95**
62F736 Factory Wired **109.95**

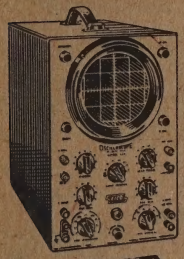
330 RF GENERATOR

Solid state. Source of rf for entertainment & communications receivers. 5 bands for coverage from 100 kHz to 54 MHz. Vernier tuning. RF modulated by built-in 400 Hz or external signal. Audio signal used for signal tracing or amplifier testing. Output can be adjusted. With 50 ohms coaxial output cable.
62F737 Kit. **NET** **79.95**
62F738 Factory Wired **119.95**



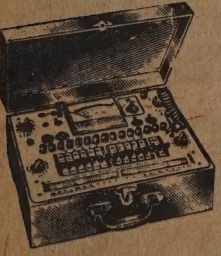
379 SINE/SQUARE WAVE GENERATOR

Solid state. Provides simultaneous sine and square wave outputs. Frequency range provides sine wave outputs from 20 Hz to 2 MHz with less than 0.25% distortion. Square wave output is from 20 Hz to 200 KHz with less than 0.1μ sec. rise time at 20 KHz. Continuously variable sine wave output is to 6.5 volts.
62F739 Kit. **NET** **99.95**
62F740 Factory Wired **129.95**



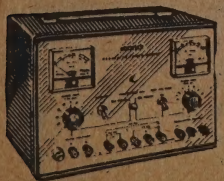
460 WIDEBAND DC 5" SCOPE

Vertical response from dc to 4.5 MHz. For TV service. Four position ac and dc calibrated gain attenuator. Automatic sync provided with special switch positions for synchronizing TV signals. Built-in sweep ranges from 10 Hz to 100 kHz. Extended by connecting different value caps to terminal on front panel.
62F842 Kit. **NET** **149.95**
62F843 Factory Wired **199.95**



667 TUBE/TRANSISTOR TESTER

Tests foreign and domestic tubes. Leakage test between elements to 20 Megohms. Tests 5 & 7 pin Nuvistors; 7 & 9 pin miniatures; 9 pin +1 center pin miniature; 5, 6 & 7 pin sub-miniature. Test n-p-n and p-n-p transistors. Individual element settings by lever switches.
62F889 Kit. **NET** **139.95**
62F890 Factory Wired **199.95**

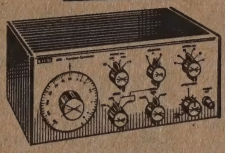


1030 POWER SUPPLY

Regulated B+ continuously variable 0-400 VDC. Delivers 6.3 VAC @ 3A, 6.3 VAC @ 3A centertapped (both filaments are independent), or 12.6 VAC @ 3A. Instant turn-on front panel switch. Ripple, less than 3 mv RMS. Output impedance, less than 10 ohms from DC to 1MC. Regulated bias supply, 0-150 VDC continuously variable. 120 VAC, 50/60 cps. @ 160 watts.
62F741 Kit. **NET** **119.95**
62F917 Factory Wired **149.95**

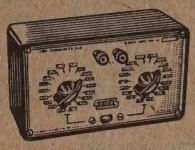
1064S BATTERY ELIMINATOR

Automatic switching of ammeter range as voltage ranges are selected. Two DC voltage ranges; 0-8 volts and 0-16 volts. Simultaneous monitoring of both voltage and current on both ranges. Provides power for battery operated marine & automotive equipment.
62F742 Kit. **NET** **89.95**
62F871 Factory Wired **109.95**



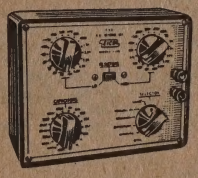
390 FUNCTION/SWEEP GENERATOR

Features front panel switch-selectable sine, square and triangle waveforms. 117 VAC, 50-60 Hz, 6 watts. Frequency ranges; 0.20 Hz to 200 Hz X1 Range, 2.00 Hz to 2.00 KHz X10 Range, 20.0 Hz to 20.0 KHz X100 Range and 200 Hz to 200 KHz X1K Range. Acc. ±5%. Wt. 4.8 lbs. Factory wired.
62F743 **NET** **159.95**



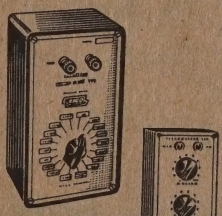
1100 SUBSTITUTION BOX

36 EIA 1 watt, 10% resistors, arranged in Hi and Lo decades gives resistance ranges of 15 —10 megs in decade multiples of 15, 22, 33, 47, 68 and 100 ohms. Wt. 2 lbs.
62F806 Kit. **NET** **14.95**
62F807 Factory Wired **22.95**



1140 R-C BOX

Includes all values from 15 ohms to 10 megohms and capacitance values from .0001 to 0.22 mfd. ±10% accuracy. 1 watt resistors. Combines Models 1100 & 1120.
62F860 Kit. **NET** **27.95**
62F861 Factory Wired **37.95**



1120 CAPACITOR SUB BOX

For any standard size capacitor from 100 pF and 0.22μ F. Determines value needed for optimum performance and value of damaged or illegible caps. 5-way jack top binding posts.
62F840 Kit. **NET** **13.95**
62F841 Factory Wired **19.95**

1171 RESISTANCE DECADE BOX

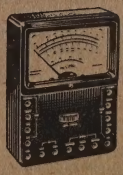
Range, 0-99,999 ohms in 5 decades. One ohm steps. Uses ½% resistors. Pin-points trouble and helps design new devices. With diagrams. Less solder and leads. Wt. 3 lbs.
62F795 Kit. **NET** **34.95**
62F802 Factory Wired **49.95**

1180 DECADE CONDENSER BOX

For rapid experimental determination of exact cap values. 1% caps, 100 pF to 0.111μ F are arranged in three decades in 100 pF steps. Each decade has 11 positions.
62F989 Kit. **NET** **29.95**
62F990 Factory Wired **39.95**

1A1 1000 Ω/VDC VOM

1% resistors. Measures AC and DC. DC current and resistance in eleven direct-reading ranges. Res. 0-100,000 ohms. With test leads and batteries.
62F744 **NET** **9.95**



4A3 4000 Ω/VDC VOM

Pocket sized multimeter. 14 ranges of AC & DC. DC current, ohms and decibels. Accuracy: DC ±3%, AC ±4% of full scale. With leads and batteries.
62F745 **NET** **21.95**

20A3 20,000 Ω/VDC VOM

Multimeter with 10,000 /VAC. For general and accurate service. Accuracy: DC ±3%, AC ±4%. With test leads and batteries.
62F746 **NET** **26.95**

Amprobe Test Equipment

AM-1 MULTITESTER

- Fully-Insulated, Molded Case
- All-weather Test Leads
- Compact and Lightweight
- 5, 50, 500, 5K Ohms Midscale

Helps in installing, maintaining and/or servicing electrical, climate control or refrigeration equipment. Voltage ranges: AC 0-30/150/300 (9000 ohms per volt); DC 0-3/15/30/300 (2000 ohms per volt). Temp. range accuracy with TC-3 (not supplied) +70° to 1200° F, accuracy ±2% F.S. Resistance ranges 0-200/2K/20K/200K (5 ohms midscale). Millivolt ranges 0-60/1200. Ohmeter accuracy ±3% of arc. Current ranges: 0-30/150 mA at 300 mV. Size: 3¾W x 5½H x 2⁵⁄₁₆D. Shipping weight 14 oz.

62F131 NET **28.50**
TC-3 Thermocouple for AM-1
62F122. NET **16.50**

AM-2 MULTITESTER

- 3 Ohmmeter Ranges
- 5 AC Voltage Ranges
- 5 DC Voltage Ranges
- Meter Movement Overload Protective Circuitry
- 95, 950, 9500 Ohms Midscale

Used for troubleshooting controls and related circuitry found on equipment beyond the checking of current, voltage and continuity. Test leads remain flexible to −10°F. Features 3 ohmmeter ranges, 5 AC voltage ranges, 5 DC voltage ranges, 3 DC current ranges, 2 DB ranges, 1 capacitance range and 1 inductance range. Voltage ranges: AC 0-10/50/250/500/1000 (10,000 ohms/volt); DC 0-10/25/50/250/1000 (20,000 ohms/volt). Inductance 0-5,000H; capacitance 250pF-0.02uF. Size: 3½"Wx5"Hx1³⁄₁₆"D. Wt. 13 oz.

62F132 NET **20.95**
Type MM. Carrying use for AM-1 or AM-2
62F961 NET **4.75**

TAM-3 INDUSTRIAL MULTIMETER KIT

- All Range Protection
- Mirror Scale
- Three Color Coded Scale/Switch Plates
- High Impact, Fully Insulated Molded Case
- Self-Locking, Meter-Stand Handle

Contains AM-3 Multimeter, A603* clamp-on current transducer, RBT Universal Temperature Probe, and TC-3 Thermocouple, in MM-4 Carrying Case. *A653 for 50 Hz. AC Voltage: 0-30/150/300/750 (10,000 Ω/V). DC Voltage: 0-3/30/150/300 (100,000 Ω/V). Resistance: 0-500/5000/50,000/5 Megohms. Current: 0-5/25/100/250 mA. Temp.: -10 to 250 Low Range: +70 to 1200° F High Range. 0-75/750/150 mVAC at 10μ A. 0-300 mVDC.

62F691 NET **128.50**
Model AM-3. Industrial multimeter. Same specs as above. Size: 5¼" w x 7½" h x 3¼" d. Wt: 2¼ lbs.
62F692 NET **59.85**

FASTEMP THERMOMETERS

Dual range units designed to meet temp. measurement requirements in air conditioning, refrigeration, heating and industrial applications. Accommodates three probes simultaneously and permits checking of three probe temperatures in quick succession. Size: 4¹³⁄₁₆" x 2¹¹⁄₁₆" x 1⅞". Wt: 10 ozs. Accuracy: ±2% of range span. Power supply: Four "AA" Batteries (not included). Supplied with RBT-12 Universal Probe.

Stk. No.	Model	Ranges Low	Ranges High	Scale Div.	NET
62F1803	T-150	−50°F to +50°F	+40°F to +150°F	2°F	49.85
62F693	T-151	+10°F to +110°F	+100°F to +250°F	2°F Low Range/ 5°F High Range	49.85

FTC carrying case for T-150 and T-151.
62F1806 NET **11.50**

VT Tester

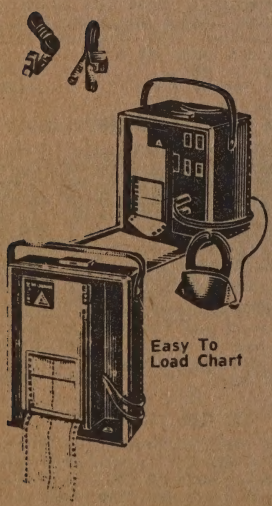
VC Case

VOLTPROBE VOLTAGE TESTERS

Pocket-size voltage tester. Frequency range, 25 to 800 cycles. Features removable probe tips, extending coil cord for checks between points up to 50 in. apart, continuous int. contact and spring-loading on captive probe, test button for distinguishing true ground indications from indications due to distributed capacitance or high leakage. 115 VAC receptacle check chart permits inspecting outlets for correct wiring. Type VC carrying case extra.

Stock No.	Type	Ranges Volts, AC	Ranges Volts, DC	Each
62F986	VT-100	115/220/277/ 440/550	115/220/400/ 600/750	10.45
62F1805	VT-124	24/48/115/220 277/440/550	115/220/400/ 600/750	15.85
62F974	VC	Carrying Case		3.25

STRIP CHART RECORDERS AND TIME SHARING RECORDERS



Easy To Load Chart

Compact, rugged recorders that satisfy requirements for OEM applications, service and maintenance work, process control and recording experimental data. AC or DC current, AC or DC voltage, or any variable that can be converted to an electrical signal. Power requirements: 115VAC, 60 cycles, 2.5 watts. Accuracy: AC amps and volts ±3%FS; AC expanded scale volts ±1.25% FS; Temperature ±3°F on +20°F to +100°F; ±4°F on −50°F to +20°F; ±5°F on +50°F to 250°F. Chart Speed is 12"/hr. Supplied with 1 roll each of the necessary strip charts. Other chart speeds available on special order. Weight 20 oz.
§With A-70FL Transducer
*With 3 Transducers
†With 1 Transducer-Order thermistor probes separately.

AC VOLTAMMETERS

Stk. No.	Type	Range	NET
62F980	LAVA83§	VOLTS: 95-130; 190-260; 380-520 AC AMPS: 0-10/50/250/500 AC	192.85
62F2455	LAVA87§	VOLTS: 0-150/300/600 AC AMPS: 0-10/50/250/500 AC	179.85

TIME SHARING RECORDERS

Stock No.	Type	Ranges	Net
62F125	LAA3*	MONITORS 3 AC CURRENTS 0-15/60/150/300 AMPS AC	274.85
62F126	LAV21	MEASURES AC VOLTAGE AND CURRENT 0-150/300/600VAC, 0-15/60/150/300 AMPS AC	239.85

TIME SHARING TEMPERATURE RECORDERS

Stock No.	Type	Ranges	NET
62F127	LT8200R	-40° to +60°/ -3.5° to +118°	229.85

ACCESSORIES

Stock No.	Type	Description	NET
62F694	RBT-12	FOR USE WITH Fastemp, LT8200R,	9.95
62F695	RBT-14	and AM-3.	16.85

STRIP CHARTS FOR RECORDERS

Perforated and printed 2 colors. Individually boxed 30' rolls.

Stock No.	Type	Description	Net
62F128	300SVA	USE WITH LAA3, LAV21	2.25
62F689	850A	USE WITH LAA81, LAVA83, 87	1.95
62F690	835X3A	USE WITH LAV3X, LAVA83	1.95
62F962	3118	USE WITH LT8200R (-3.5° to +118°F)	2.25

AC VOLTMETERS

Stk. No.	Type	Range	Net
62F979	LAV3X	95-130/190-260/380-520 V., AC	140.85

AC AMMETERS

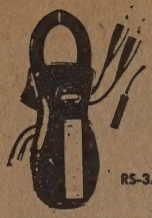
Stk. No.	Type	Range	Net
62F678	LAA81§	0-10/50/250/500 AMPS AC.	130.85

Amprobe Test Equipment

ROTARY SCALE "RS" CLAMP-ON VOLT-AMMETER

Trigger operated, clamp-on transformer jaws permit current readings without interrupting electrical service. Rotary scale reduces reading errors as only selected range is visible in window. Pointer-lock permits measurements in hard-to-reach and darkened areas. Accuracy: ±3% F.S. based on sinusoidal waveform. RS-1000S/1007S have built in manually set, surge indicating capability for measuring starting current surges and voltage increases lasting one-sixth second. With VL-11R leads and "G" case. (*) With Extendo lead pack and "A" case.

Stk. No.	Type	AC Volts	AC Amps	NET
62F659	RS-1	0-150/600	0-6 /15/40/100	50.85
62F706	RS-2	0-150/300	0-6/15/40/100	50.85
62F658	RS-3	0-150/300/600	0-6/15/40/100/300	65.85
62F707	RS-300	0-150/300/600	0-6/15/40/100/300	61.50
62F708	RS-1000	0-150/300/600	0-15/40/100/300/1000	87.85
62F709	RS-1007	0-150/300/750	0-15/40/100/300/1000	87.85
62F941	RS-1A*	0-150/600	0-6/15/40/100	57.50
62F942	RS-2A*	0-150/300	0-6/15/40/100	57.50
62F943	RS-3A*	0-150/300/600	0-6 /15/40/100/300	72.50
62F944	RS-300A*	0-150/300/600	0-6/15/40/100/300	68.15
62F964	RS-1000S	0-150/300/600	0-15/40/100/300/1000	89.85
62F965	RS-1007S	0-150/300/750	0-15/40/100/300/1000	89.85



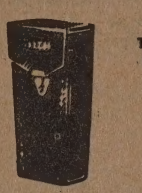
RS-3A

TM-63
A Case

TEST MASTER KITS

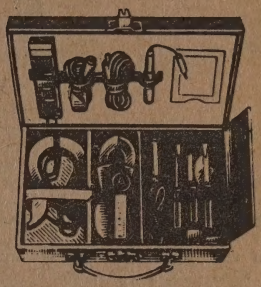
Include **RS-3** clamp-on Volt-amp-ohmmeter except Model TM-60 contains only accessories. (See tab listing for type of accessories included). RS-3 Volt-amp-ohmmeter VLK-311R Extendo Lead Pack, **A45-L** Energizer, **A50-1** Deca-Tran, **PSA-1** Phase Sequence Adaptor.

Stock No.	Type	Contains	NET
62F985	TM-63	RS-3,VLK-311R,A45-L,A Case	79.85
62F1802	TM-60	VLK-311R,A45-L,A Case	20.95
62F661	TM-33A	RS-3,VLK-311R,A50-1,A45-L, U Case	118.85
62F983	TM-43A	Same as TM-33A plus PSA-1	130.85

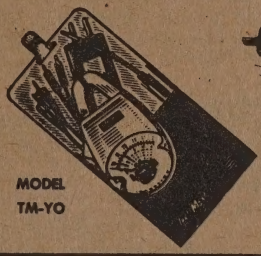


G Case

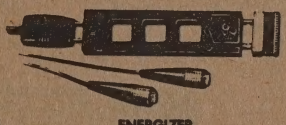
TM-43A
U Case



VOLT/AMP
OHMMETER

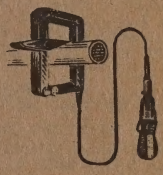


MODEL
TM-YO



ENERGIZER

DECA-TRAN



AMPTRAN

AMPROBE JUNIOR

Only voltage testers in their price range that also measure amperage. Current measurements are made by merely snapping the trigger operated jaws around a single conductor (insulated or non-insulated). They are precision instruments that measure accurately on a calibrated scale ±3% full scale based on sinusoidal waveform (not just an indication). Junior models are the lightest and smallest clamp-on instruments available. Price includes VL-55R test leads.

Stk. No.	Type	Ranges	NET
62F963	Y25	0-25 Amps AC 0-125/250V AC	27.85
62F967	Y550	0-50 Amps AC 0-150/600V AC	27.85
62F968	Y500	0-100 Amps AC 0-150/600V AC	27.85
62F949	YT1025	0-10/25 Amps AC 0-150/300V AC	33.50
62F948	YT25100	0-25/100 Amps AC 0-150/300V AC	33.50
62F973	YT0525/100	0-25/100 Amps AC 0-150/600V AC	38.50

JUNIOR TEST MASTER KITS

Kit consists of a Model K case that contains one of the YO Amprobe Juniors, an Amprobe A-45L Energizer, battery attachment and All-Weather test leads VL-55R. Ohmmeter range is 25 Ω midscale.

Stk. No.	Type	Ammeter Range	2 Voltage Ranges	NET
62F966	TM-YO525	0-25	0-150/600	44.85
62F957	TM-YO550	0-50	0-150/600	
62F958	TM-YO 500	0-100	0-150/600	

ENERGIZER

Model A-45L. Permits current readings on permanently wired low-current equipment by simplifying series connection. Increases ammeter sensitivity 5x or 10x for more precise reading directly at outlets by splitting double conductor line cords while equipment is connected to line Cap. 10 amps. With pouch.
62F977 NET 8.75

DECA-TRAN

Model A-50-1. Deca-Tran can be used with any model to extend current ranges 10 times up to 1200 amps maximum, intermittent duty, 600 amps continuous duty. With 2" Line Cord for remote readings. Accommodates round conductors—2 1/16" (5.33 cm) in diameter and bus bar ¾" (1.80 cm) x 2½" (6.35 cm). With carrying case.
62F1801 NET 39.85

CT-50 AMPTRAN

Flexible-link, clamp-on current transformer. 6000 amp max. intermittent duty and 5,000 amps max. continuous duty. Takes 3 15/16" x 8⅜" bus of 7½" cable. Accuracy ±2% up to 5000 amps; ±3% from 5000 to 6000 amps. Insulated for use on circuits up to 5000 volts (7000 peak). With carrying case.
62F123 NET 209.85

OHMMETER BATTERY ATTACHMENT

Model OHB-3. For use with Model RS-3, RS-3A, V Case, RS-1000, RS-1007 includes fuse.
62F946. NET 3.85

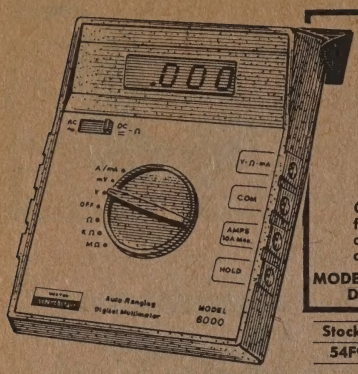
EXTENDO LEAD PACKS

Model VLK-311R. A "Third Hand" for easier safer faster readings. Includes jaw adapter, extension probe leads and insulated clips.
62F988. For RS models except RS-1000, RS-1007 **NET** 5.25

TEST LEADS

Model VL-11R Bayonet Safety Type. Use with all RS models.
62F945. NET 3.45

WESTON Digital Multimeters



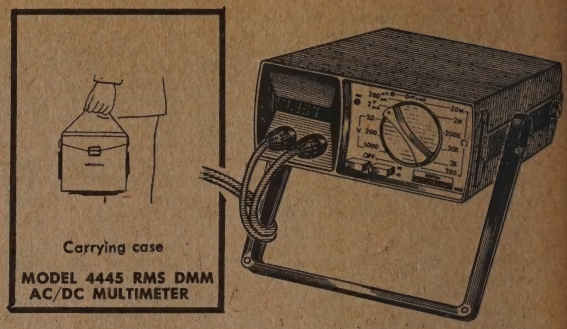
Carrying handle folds forward as protective display cover and acts as tilt stand for bench.

MODEL 6000 AUTORANGING DIGITAL MULTIMETER

Stock No.	Type	EACH
54F906	6000	195.00

Autoranging digital multimeter eliminates need for switching between scales on widely-varying readings. Features LSI circuitry and a long-life liquid crystal display. Operates for more than 200 hours on 2 nine volt transistor batteries (350 hours on alkaline batt.). Low-battery warning circuit flashes display during final 8-10 hours of operation. "Display Hold" allows display of readings after removal of probes from circuit. Over-range indicated by flashing "1888" display. 4 digit display w/auto-polarity. Oper. temp. +5°C to 50°C. Weight: 22 ounces. Size: 7" x 5.75" x 2.25".

Specs.	VDC	VAC	D.C. Amps	A.C. Amps	Resistance
Accuracy	.35%	.5%	.75%	1.5%	.5%
In. Imp.	10 Meg	9M/39pF	10 ohms	10 ohms	.....
Sensitiv.	100 μV	100 μV	1 A	1 A	.1 ohms
Max. Read.	1000 V	1000 V	10 A	10 A	20 Meg
Overload	1.5KV peak	1.5KV peak	¼ A fuse	¼ A fuse	350 V peak



Carrying case

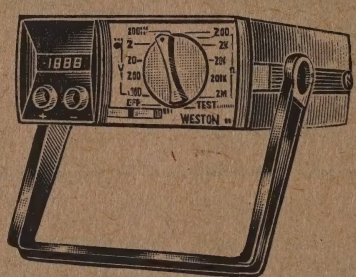
MODEL 4445 RMS DMM AC/DC MULTIMETER

Features true RMS AC readings, 3½ digit LED readout and MOS LSI cktry. 117 VAC operation or operates on 4 "C" size ni-cad batteries. (Batteries supplied with meter.) 117 VAC charger supplied. Auto-blanking of digits not in use. Special features: Leading zero blanking, outrange indication, auto-polarity, 100% overrange readings except 1000V range, CMRR 80 dB, NMRR 38 dB. Oper. temp; 0°C to 50°C. Size: 2.25" x 5.45" x 7". Wt. less than 2½ lbs.

Scale	DC VOLTS Accuracy	DC VOLTS In. Imp.	AC VOLTS Accuracy	AC VOLTS In. Imp.	OHMS Scale	OHMS Accuracy
100 mV	.05%	100 Meg	.35%	10M/150pF	100	.25%
1.0 V	.05%	1000 Meg	.35%	10M/150pF	1.0K	.25%
10.0 V	.10%	10 Meg	.35%	10M/150pF	10 K	.15%
100 V	.10%	10 Meg	.35%	10M/150pF	100 K	.15%
1000 V	.10%	10 Meg	.50%	10M/150pF	1.0 M	.20%
.....	.....	.....	.....	.....	10 M	.50%

DC Current: 100 μA and 1.0 mA scales; Accuracy: 0.2%.
AC Current: 100 μA and 1.0 mA scales; Accuracy: 0.6%.
54F907. NET **470.00**

MODEL 4440
PORTABLE DIGITAL MULTIMETER



3½ digit. Solid-State. Light weight. Shock proof. Dual slope high impedance bipolar A/D converter. Single MOS LSI plug-in chip for logic circuits. Auto-polarity. Auto-blanking. Overload protection. High impact plastic case. Supplied with four nickel cadmium "C" cells and battery charger—which plugs into 117 V, 60 Hz outlet. Battery test switch. Can also use std. carbon type "C" cells.

RANGES: **DC Volts:** 0-199.9 mV, 50 meg inpt. imp; 0-1.999 V, 500 megs; 0-19.99-199.9-999 V, 10 megs. ±0.3% rdg acc. ±1 digit. **AC Volts:** 0-199.9 mV, 0-1.999-19.99-199.9.999 V, ±5% rdg acc. ±3 digits. Input Imp: 10 megohms. Freq: 40 Hz-10 kHz, 40 Hz-2 kHz on 1000 V range. **DC Current:** 0-199.9 μA, ±5 digit acc. AC Current: 0-199.9 μA, ±0.7% acc. ±5 digits. **Resistance:** 0-199.9-1999-19.99K-199.9K; 0-1.999 megohms, ±0.5% acc., ±3 digits. Voltage Drop; 0.2 V exc. 2 V for 1.999K and 1.999 meg.

SPECIFICATIONS: **Display:** 1999 non-blinking. Leading "O" blanking. **Conversion Rate:** 4 per sec. **CMR:** 80 dB. **NMo:** 35 dB. **Temp:** 15°-35° C, 10°-50° with derated acc. **Power Req:** Rechargeable or std. C batt., or 115 VAC, 50-400 Hz. **Size:** 5.45"w x 7.25" d x 2.25" h. **Weight:** 2½ lbs.

62F1426. Model 4440. NET **295.00**

MODEL 4442
PORTABLE DIGITAL MULTIMETER

3½ digit. Solid-state. Dual slope high impedance bi-polar A/D converter. Auto-blanking and polarity. Single chip for logic circuitry. Overload protection. Supplied with four nickel cadmium "C" cells and battery charger. RANGES: **DC Volts:** 0-199.9 mV-1.999 V, .05% rdg ±1 digit. 0-19.99-199.9-1000 V, .1% rdg ±1 digit. **AC Volts:** 0-199.9 mV-1.999-19.99-199.9 V, .3% rdg ±1 digit. 40 Hz-10KHz. 0-1000V .5% rdg ±1 digit, 40 Hz-2 KHz. 199.9 mV-1.999-19.99-199.9 V, .6% rdg ±1 digit, 10 KHz-20 kHz. 0-1000 V, 1% rdg ±1 digit, 2 KHz-10 KHz. **DC Current:** 0-199.9 μA-1.999 mA, .2% rdg. ±1 digit. **AC Current:** 0-199.9 μA, .4% rdg ±1 digit, 40 Hz- 10 KHz, 0-199.9 μA-1.999 mA, .75% rdg ±1 digit, 10 KHz-20 KHz. **Resistance:** 0-199.9Ω-1.999 K, 1 mA @ 0.2 + 2V, .25% rdg. ±3 digits. 0-19.99 K-199.9 K, 10 μA @ 0.2 + 2 V. .1% rdg ±1 digit. 0-1.999 M, 1 μA @ 2 V, .2% rdg ±1 digit. 0-19.99 M, .1 μA @ 2 V, .5% rdg ±1 digit.

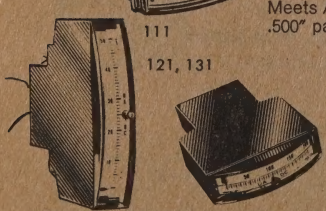
SPECIFICATIONS: **Conversion Rate:** 4 per sec. **CMR:** 80 dB. **NMR:** 38 dB. **Power Req:** "4" cells or std. line. **Temp:** 25°C 3°C, 0°C-50°C at derated acc. **Size:** 2.25"h x 5.45"w x 7"d. **Weight:** 2½ lbs.

57F1726. Model 4442. NET **325.00**

Model 4443. DC Volt, Ohms, Current only. Same ranges as Model
57F1727. NET **270.00**

POPULAR 'THIN-LINE' EDGEWISE METERS

111



121, 131

THIN LINE MODEL 111 SELF-SHIELDED PANEL METERS. Edgewise instrument using a flat Cormag mechanism for inherent shielding; permits mounting on magnetic or non-magnetic panels without adjustment. Meets ASA C39.1 specifications. Scale: 1.25" long. Accuracy: 2% FS, DC; 3% FS, AC rectifier type. Fits 1.650" x .500" panel cutout.

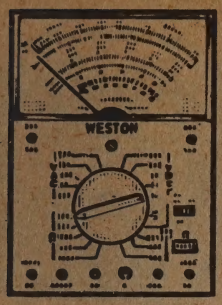
MODEL 121 EDGEWISE PANEL METERS. An inline scale is standard on this 2½" flat edgewise meter which eliminates parallax normally associated with edgewise meters. Red pointer increases readability. Front mounted zero corrector. Accuracy: 2% of FS value for DC; 3% of FS value for AC rectifier type. Scale length: 1.9" antiparallax inline scale. Panel cutout, 2 $^{9}/_{16}$"w x 1 $^{1}/_{16}$"h.

MODEL 131 EDGEWISE PANEL METERS. A 3½" flat edgewise meter designed to meet ASA C 39.1 performance specifications. Accuracy: 2% of FS value for DC; 3% of FS value for AC rectifier type. Scale length: 2.75"; anti-parallax inline scale. Meter can be mounted either horizontally or vertically. Illumination: Self-contained on request. Panel cutout 2 $^{9}/_{16}$"w x 1 $^{1}/_{16}$"h.

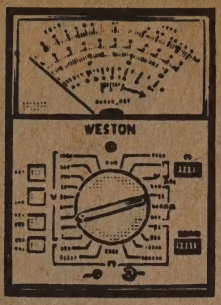
Stock No.	Type	Mounting	Range	Approx. Resist.	EACH
62F2688	111	Horiz.	0-25 VDC	5000 Ω/V	21.50
54F904	111	Vert.	0-1 mA DC	39 ohms	20.00
62F2736	131	Horiz.	0-10 VDC	5000 Ω/V	30.00
62F2684	111	Horiz.	0-100μA DC	2300 ohms	20.00

Stock No.	Type	Mounting	Range	Approx. Resist.	EACH
62F2717	121	.....	0-50μA DC	2300 ohms	27.00
62F2720	121	Horiz.	50-0-50μA DC	900 ohms	22.00
54F937	131	.....	50-0-50μA DC	900 ohms	25.00

Precision Test Instruments From WESTON



Model 660



Model 666

SERIES 660 "DROP-PROOFED" VOMs

Major design advancement. Warranted in writing to work even after five accidental drops. Rugged self-shielded taut-band mechanism. Diode protected movement. Temperature compensation. Pluggable circuit boards for easy repair. Scales calibrated for dB measurements. Recalibration without disassembling. External fuse replacement. Controls flush with end of case. Single range switch. Self storing handle. Input terminals spaced for use with double banana jacks. All models supplied with leads and batteries. Choice of five different models as listed below.

MODEL 660 VOM

Precision instrument built for service in most demanding field environments. Completely "drop-proofed". Rugged self-shielded taut-band mechanism. Temperature compensated. Diode protected meter movement. Polarity reversal switch for AC voltages. Critical circuits employ 1% precision resistors. Specially calibrated scales for dB measurements. Externally replaceable fuse and single range switch. Full range coverage provided.

SPECIFICATIONS

Accuracy: 2% DC (1.5% on 50 A range); 3% AC.
Sensitivity: 20,000 per Volt DC. 5,000 per Volt AC.

RANGES

DC Millivolts	0-250
DC Volts AC Volts	0-2.5-10-50-250-500-1000-5000 0-2.5-10-50-250-500-1000-5000
VAC Output DC Microamps DC Milliamps DC Amps	0-2.5-10-50-250 0-50 0-1-10-100-500 0-10
OHMS	RX1, 0-2K, 20Ω center: RX10, 0-20K, 200Ω center; RX100, 0-200K, 2,000Ω Center: RX1K, 0-2 megs, 20KΩ center: RX10K, 0-20 megs, 200 KΩ center.
dB Scales*	−10 to +10; +2 to +22; +16 to +36; +30 to +50; +36 to +56.

(*) 1 mW, 600 ohm line.
Size: 5"w x 2¼"d x 7"h. **Weight:** 2 lbs. (batteries incl.).
62F1420. Model 660. NET **85.00**

MODEL 661 HIGH ACCURACY VOM

Same as Model 660 with the addition of a mirror scale and improved basic accuracy to 1% DC and 2% AC. ½% precision resistors. Ranges the same as 660.
62F1421. Model 661. NET **98.00**

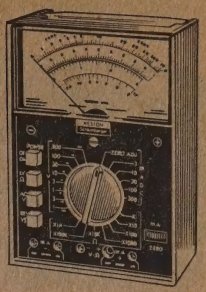
MODEL 662 OVERLOAD-PROTECTED VOM

Same as Model 660 but with built-in overload protection up to 220 V. AC/DC (exc. 10 A DC range). or to 1000 V on higher ranges. Ranges the same as 660.
62F1422. Model 662. NET **132.00**

MODEL 670 FET VOM

- **Auto-Polarity + and − Led Indicators**

MODEL 670. "In-circuit" tester now allows complete voltage, current and resistance measurements on PC boards without disturbing any circuit components. Features ability to measure current flow through a PC rail with no damage to the PC.



Size: 7"H x 5"W x 2¼"D. Wt.: Less than 2 lbs. Power: 115 VAC, 60 Hz.

SPECIFICATIONS

Accuracy: 2% VDC; 3% VAC; 5% DC Current; 3% Ohms.
Sensitivity: 11.1 Megs DC; 10 Megs, 100 pF, AC.

RANGES

DC Volts	0-100/300 mV; 0-1/3/10/30/100/300 V
AC Volts	0-110/300 mV; 0-1/3/10/30/100/300 V
DC Milliamps	0-3/10/30/100/300
Ohms	RX1/RX10/RX100/RX1K/RX10K/RX100K/RX1M
dB Scales	Lowest: −40 to −18; Highest: +30 to +52

52F2760. Model 670. NET **295.50**

MODEL 663 HIGH ACCURACY OVERLOAD-PROTECTED VOM

Same as Model 660 but with mirror for high accuracy and built-in overload protection. Accuracy: 1% DC, 2% AC. Ranges same as 660.
62F1423. Model 663. NET **146.00**

MODEL 666 SOLID STATE CIRCUIT TESTER VOM

Designed for semiconductor circuit troubleshooting. 10 megs input imp. All features of 660 plus differential pair FET input to high gain IC op amp. Fully frequency compensated. Input reversal switch provided. Size, wt., same as 660.

SPECIFICATIONS

Accuracy: 2% VDC; 3% VAC; 3% DC Current; 4% AC Current.
Sensitivity: 10 megs DC; 10 megs, 100 pF, AC.

RANGES

DC Millivolts DC Volts	0-100-300. 0-1-3-10-30-100-300-1000.
AC Millivolts AC Volts	0-100-300. 0-1-3-10-30-100-300-1000.
DC Microamps DC Milliamps	0-1-10-100. 0-1-10-30.
AC Microamps AC Milliamps	0-1-10-100. 0-1-10-30.
Ohms	RX1, RX10, RX100, RX1K, RX10K, RX100K, RX1 Meg.
dB Scales	−40 to −18; −30 to −8; −20 to +2; −10 to +12; 0 to +22; +10 to +32; +20 to +42; +30 to +52; +40 to +62.

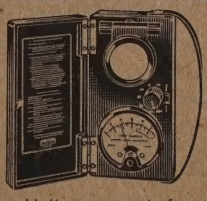
62F1424. Model 666. NET **176.75**

SERIES 660 ACCESSORIES

Stock No.	Description	Each
57F1715	Std. Leather carrying case. Wt. 12 oz.	17.50
57F1716	Leather case, velvetine lining.	21.50
57F1718	High voltage probe, less resistor.	22.50
57F1719	900 meg resistor for probe, 50 kV	5.25

MODEL 615 BROAD RANGE LIGHT METER

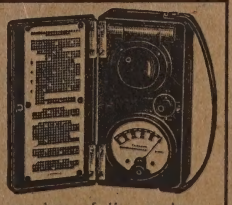
- **Viscor and Cosine Corrected**
- **Accurately Measures 0-1200 Foot-Candles**



Features VISCOR correction which lets the instrument respond to light intensity as the human eye does. Cosine correction allows the meter to accurately measure angular light sources. Unit can operate for more than one year on one 9 volt transistor battery. Light level guidelines are printed on cover. Ranges: 0-1.2/3/12/30/120/300/1200 foot-candles. Dimensions: 7" x 3½" x 2½". Weight: Less than two-pounds.
52F2759. Model 615. NET **379.50**

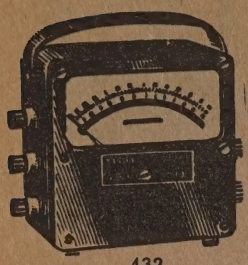
MODEL 614 LIGHT METER

- **Ranges from 0-500 Foot-Candles**
- **Viscor & Cosine Corrected**



Any type of commercial lighting can be measured directly. Photo-electric cell is mounted on a hinge so that it will pick up measurements from a wall or ceiling without unnecessary moving of the meter. Ranges: 0-100, 0-250, and 0-500 foot candles, each with a separate scale. Has Viscor filter for readings similar to light intensity observed by the human eye; cosine correction filter for accurate angular measurements. Size: 7" x 3⅜" x 2½". Accuracy: +7.5%. Shipping wt. 2 lbs.
57F2761. NET **329.45**

WESTON Light Meters & Test Meters



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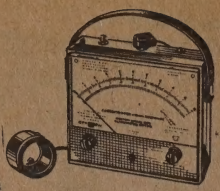
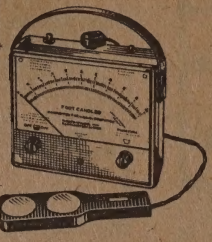
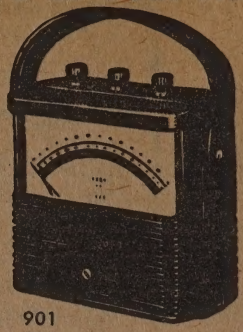
433



1979
FOOT LAMBERT



1979
FOOT CANDLE



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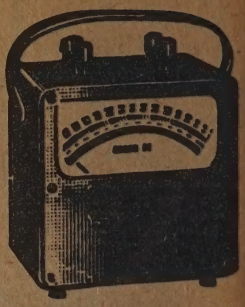


931

MODEL 432 WATTMETERS

A true electrodynamometer used for AC, single phase and DC power measurements. Will measure true RMS values when used on commerical wave forms since the wave form error, in general, is exceedingly small and practically unreadable. Accuracy: ½% AC at frequencies from 25-125 Hz. Current ranges self contained up to 300V, 50 amps. Power Consumption; Potential circuit at 115 V, 60 cycles-1.2 watts, 1.2 volt amperes. Current circuit at 5 amps, 60 cycles- 0.65 watt, 0.68 volt amperes. Size: 3¼"x5"x5¼". 3¼ lbs.

Stock No.	Type 432-	Normal Volts	Normal Amps	Watts Max.	Watts Min.	NET
62F1348	9902007	300/150	10/5	3/1.5 kw	1.5/.75 kw	376-95
62F1349	9902013	300/150	5/2.5	1500/750	750/375	409.00
62F1472	9902005	300/150	10/5	3/1.5 kw	1.5/.75 kw	376.95

MODEL 433 AC METERS

Portable instruments highly accurate for industrial AC testing. Knife-edge pointers and mirror scales. Self-shielded permanent magnet movable iron type. ¾% acc. Size: 5¼"x5"x3¼". 5 lbs.

AC AMMETERS STD. FREQ. 25-500 Hz

Stk. No.	Range	Approx. Res.	Scale Div.	NET
62F436	5	0.020	100	178.20
62F438	10/5/1	0.030/0.070/0.37	100	283.00
62F1099	3/1.5/0.75	0.18/0.43/0.59	150	283.00
62F1131	30/7.5/3	0.0090/0.036/0.040	150	283.00
62F1345	50/20/5	0.0084/0.0011/0.020	100	283.00
AC VOLTMETERS STD. FREQ. 25-125 Hz				
62F441	300/150	22,00/11,000	150	191.00
62F442	600/300/150	44,00/22,000/11,000	150	225.25
62F1096	750/300/150	55,000/22,000/11,000	100	225.25

MODEL 1979 FOOT LAMBERT LIGHT METER

Model 1979-0275197 foot lambert light meter is especially designed for television tube brightness measurements and is compensated to accept high frequency pulsed light. Light target is a hooded cell containing a Viscor filter in a single, type 5 housing with tubular baffle and 6 foot lead. Ranges: 0-10 foot lamberts/0-30 foot lamberts/0-100 foot lamberts/0-300 foot lamberts/0-1000 foot lamberts. Has 7 inch scale with a resolution of ±0.2% of full scale. Accuracy is ±5% of full scale. Meter has a built-in solid state amplifier to permit light measurements at low light levels. Approximate size: 2.75" x 6.5" x 7.75". Weight: 49.4 ounces.

MODEL 1979 FOOT CANDLE LIGHT METER

Model 1979-0275194 foot candle light meter features both Viscor and Cosine correction filters. Similar to foot lambert meter above except: Ranges: 0-1/10/100/1000 foot candles, 2 light target cells.

Stk. No.	Type	Ranges	NET
61F780	1979-0275197	0-10/30/100/300/1000 ft-lamb.	990.70
61F781	1979-0275194	0-1/10/100/1000 ft-candles	998.54

MODEL 901 DC METERS

DC Model with shadow reducing, wide angle window that is non-breakable and specially treated against electrostatic effects. Self-shielded permanent magnet moving coil type. Accurate within 0.25 of 1%. Has 5½"-hand calibrated mirror scale and knife edge pointer. Size: 7⅛x3¼x3⅝". Wt. 5 lbs.

DC VOLTMETER—5000 ohms/volt

Stock No.	Range	Scale Div.	NET
62F1136	750/300/150/75/30/15/3	150	364.85
DC MILLIAMMETERS			
62F1146	1000/500/200/100/50/20/10	100	343.45

MODEL 904 AC METERS

Same as Model 901, except AC with 0.5 of 1% accuracy, Radial vane, Moving Iron type.

AC VOLTMETERS STD. FREQ. 50-450 CPS.

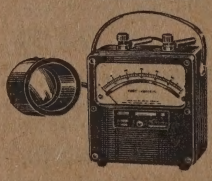
Stock No.	Range	Scale Div.	NET
62F1143	750/300/150/75/30/15/7.5/5.3	150	494.35
AC AMMETERS STD. FREQ. 25-1000 CPS.			
62F1149	50/20/10/5/2/1	100	431.20

MODEL 931 DC METERS

Compact. Light weight. 0.5% accuracy. Hand calibrated mirror scale. Knife-edge pointer. Self-shielded permanent magnet moving coil type. Scale length: 4.04". Black bakelite case with handle. Size: 5½"x5"x3¼". Weight: 4 lbs.

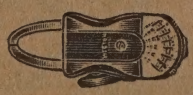
Stock No.	Function	Range	Scale Div.	NET
62F1133	DC Ammeter	10/5/1	100	210.65
62F432	DC Ammeter	30/15/3	150	
62F1145	DC Ammeter	50/25/10	100	
62F1102	DC Milliammeter	150/15/1.5	150	198.55
62F435	DC Milliammeter	1500/150/15	150	
62F1101	DC Milliammeter	3000/300/30	150	

MODEL 759 FOOT-LAMBERT LIGHT METER

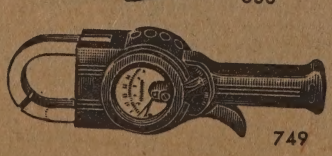


Versatile for general brightness measurements, this instrument also meets the requirements of the television engineer. A Viscor filtered high output cell is used in conjunction with a very sensitive microammeter. The cell is equipped with a tubular baffle which restricts oblique light. Ranges are 0-60 foot lamberts and 0-300 foot lamberts. A special set of lamps are maintained for the exclusive purpose of calibrating Model 759 Meters. A calibration curve is supplied with each meter. Size: 3.5" x 5.25" x 6.12". Weight: 49.3 ounces. Accuracy: ±5%.

61F782. MODEL 759-9901001. NET.....648.80



633



749

MODEL 633 AC CLAMP METERS

Measures AC current through any conductor up to 2" in diameter without breaking the circuit. Accuracy: ±3%. Insulated for 750 volts. 13⅝x4¾x2½". Wt. 4½ lbs.

Stk. No.	Type	Range	NET
62F1111	A-1	10-500 Amps	221.10
62F1112	A-2	10-1000 Amps	221.10
62F1113	A-3	50-2000 Amps	221.10
62F1118	VA-1	10-1000 Amps 175-700 Volts	234.85
62F1119	Leather Carrying Case		22.00

MODEL 749 CLAMP AC METER

Measures AC current and voltage without breaking circuit. Use with conductors up to 1" round or 1¾" x ⅜" rectangular. Fully insulated for 750 volt service. Ranges: 0-6/15/30/60/150/300 amps. Wt: 2½ lbs. Incl. leads and case.

62F481. NET.....74.80

Plug in adapter for above. Facilitates current measurements of double conductor feeds. Used on direct reading or as 10-to-1 divider for low current measurements.

62F482. Type 9886. NET.....8.80

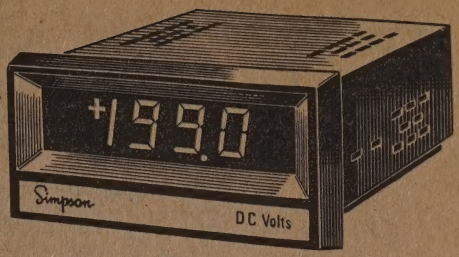
Panel Meters

Simpson

MODEL 2850 DIGITAL PANEL METERS

Compact, ruggedly built digital panel meter utilizes 0.55" Planar gas discharge display. Features automatic zero and polarity. Provides BCD output. Input/output edge connector is included. LSI circuitry insures reliability. Instrument fits 3.622" x 1.68" (92 x 42.72 mm) output. With optional adaptors (listed below) fits 3.622" x 1.77" (92 x 45 mm) or 3.92" x 1.68" (99.57 x 42.72 mm) cutouts. Manual included with meter.

- **3½ digit readout**
- **0.1% of reading accuracy**
- **120/240 VAC, 50-400 Hz operation**
- **0.55" Planar gas discharge display**
- **BCD output is standard**



SPECIFICATIONS

Accuracy: ±(0.1% of reading + 1 digit), from 15°C to 35°C.
Temp. Coefficient: ±(0.01% of reading +0.05 digit) per °C, from 0°C to +55°C.
Sensitivity: 100 μV for 200 mV unit; 10 nA for 20 μA unit.
Resolution: 1 part in 2,000.
Input Bias Current: 40 pA maximum at reference conditions.
Response Time (to rated accuracy): Less than 800 milliseconds.
Normal Mode Rejection: 55 dB minimum at 60 Hz.
Common Mode Rejection (with 1kΩ unbalance at 60 Hz): 90 dB min.
Rated Circuit-to-Ground Voltage (Max. Common Mode Voltage): 350 VDC between either input terminal and power line ground.
Conversion: Technique, Charge Balance.
Rate, 4 samples per second, nominal.
Display: Type: 7 segment planar gas discharge, 0.55".
Number of digits: 3½.
Polarity: Automatic with "+" or "−" indication.
Out-of-Range: All digits blink.
Decimal Point: Fixed with range.
Oper. Temp.: 0°C to +55°C.
BCD Outputs: Logic Form: C-MOS compatible, positive logic, parallel-bit, serial-digit format.
Logic Levels: "0" = 0 to +0.4VDC
"1" = +2.4 to +5.25VDC
Weight: 1 lb. (435 g) Approx.
Dimensions: 3.9" wide x 1.93" high x 4.27" deep (99 x 49 x 109 mm).
Power Requirement: 120 or 240 VAC ±10%, 50-400 Hz.

DC VOLTAGE METERS

Stock No.	Range	Maximum Ind.	Input R	Overload Prot.	Each
55F1642	200mV	±199.9mV	100M	350V	138.00
55F1643	2V	±1.999V	100M	350V	
55F1644	20V	±19.99V	10M	350V	
55F1645	200V	±199.9V	10M	350V	

DC CURRENT METERS

Stock No.	Range	Maximum Ind.	Voltage Drop FS	Maximum Input I	Each
55F1646	20μA	±19.99μA	200 mV	20mA	138.00
55F1647	200μA	±199.9μA	200 mV	20mA	
55F1648	2mA	±1.999mA	200 mV	20mA	
55F1649	20mA	±19.99mA	200 mV	100mA	
55F1650	200mA	±199.9mA	200 mV	1A	

OPTIONAL MOUNTING HARDWARE

Type 22992. Adapter for IEC/DIN cutouts. Panel cutout 3.622" x 1.77" (92 x 45 mm).
55F1651. NET 3.00

Type 22993. Adapter for 1.682" x 0.920" cutout.
55F1652. NET 3.00

Type 22991. "U" type mounting bracket.
55F1653. NET 3.00

ANA-LED SOLID-STATE PANEL METER

A true solid-state analog panel meter. LED dots or bars display an analog signal in clear, easy-to-see readouts. Separate indicators show reverse polarity, overrange and power "on" or zero. Can be used with up to 50 setpoint modules remotely mounted for control applications. Model 7527B is a bar display, thru panel mount type. Model 7527SM is a dot display, surface mount type. Ranges are for DC volts and current except (*) which are AC.

SPECIFICATIONS

Accuracy: ±2.0% of ful scale.
Linearity: ±0.1% of full scale.
Signal Input: DC Current 1μA to 50MA @ 50mV.
DC Voltage 50mV to 250V @ 50μA.
AC Voltage 50mV to 175V @ 50μA.
Oper. Temp. Range: 0-60°C.
Temp. Coefficient: ±0.03% of full scale/°C.
Response Time: DC Ranges: 15msec.
AC Ranges: less than 1.0 msec.
Overload Capability: 10 times full scale value.
AC Frequency Response: Flat to 1000 Hz sinewave inputs.
AC Rejection: 20 dB @ 120Hz sinewave (DC inputs).
Power Requirements: Dual ±6V supply @ 200mA each side.
Voltage Accuracy +.6V −0.1V.
Regulation: 1% no load to full load.
Allowable Ripple: ±60mV.
Power Supply: See below.

ACCESSORIES

Type 30206. Set-Point Modules, when combined with ANA-LED meters, provide on/off or limit control. With 3 digital thumb switches.
55F1654. NET 60.00

Type 30208. Analog Set-Point Module with potentiometer.
55F1655. NET 30.00

Type 30210. DPDT, 5A Relay with plug-in connector for use with set-point modules.
55F1656. NET 8.00

Type 30211. Zero Switching Triac with opto-isolation for use with set-point modules.
55F1657. NET 25.00

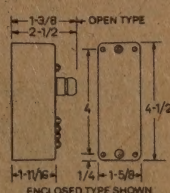
ANALOG METERS

Range	Type 7527B	Stock No.	Type 7527SM	Stock No.	Each
0-10μA	30151	55F1658	30085	55F1672	130.05
0-100μA	30153	55F1659	30087	55F1673	
0-50mV	30154	55F1660	30076	55F1674	
50-0-50mV	30155	55F1661	30077	55F1675	
0-1mA	30157	55F1662	30088	55F1676	
0-10mA	30159	55F1663	30090	55F1677	130.05
0-50mA	30161	55F1664	30092	55F1678	
0-1V	30162	55F1665	30079	55F1679	
0-100V	30164	55F1666	30081	55F1680	
0-50mV*	30167	55F1667	30093	55F1681	
0-100mV*	30169	55F1668	30095	55F1682	130.05
0-10V*	30171	55F1669	30097	55F1683	
0-150V*	30173	55F1670	30099	55F1684	
0-250V*	30174	55F1671	30100	55F1685	

POWER SUPPLIES

Type 30200. Enclosed power supply designed specifically for use with the ANA-LED meter. Requires 120VAC or 240VAC input (jumper selection). Supplies a dual +6VDC and −6VDC. Mounting can be remote or to rear of panel meter. One required per meter.
55F1686. NET 42.90

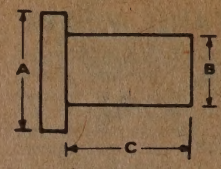
Type 30202. Power Supply as above except without case or fuse.
55F1687. NET 25.50



Simpson

Wide-Vue Panel Meters

All meters have self shielded type movement (calibration not affected by magnetic fields or magnetic mounting). DC ammeters up to 50 amps are self contained. All meters are accurate ±2% of F.S. Plastic covers for maximum protection of meter face. Average shipping weight 1 lb.



SIZE CHART

Model	A	B	C
1212	1.76″	1.50″	.87″
1227	2.47″	2.17″	1.06″
1327	3.25″	2.73″	1.08″
1329	4.68″	2.75″	1.08″

SPECIFICATIONS OF WIDE VUE METERS

Size	Type and Model No. DC	AC Rectifier	AC Iron Vane	AC RF	AC Watt	Accuracy	Scale Length	Pointer
1½″	1212, 1212T	1214				DC; RF; AC Iron Vane Wattmeters ±2%	1.50″ (38.1mm)	Lance, Black
2½″	1227, 1227T	1247	1257				2.30″ (58.4mm)	Spade, Black
3½″	1327, 1327T	1347	1357	1337			3.14″ (79.7mm)	
4½″	1329, 1329T	1349	1359	1339	1379	AC Rectifier Meters ±3%	3.93″ (100mm)	

Range	Approx. Resistance (ohms)	Model 1212 1½″ Stock No.	Each 1-9	Each 10-24	Model 1227 2½″ Stock No.	Each 1-9	Each 10-24	Model 1327 3½″ Stock No.	Each 1-9	Each 10-24	Model 1329 4½″ Stock No.	Each 1-9	Each 10-24
DC VOLTMETERS Self-Shielding Meter Movements													
0-5		55F436	24.30	21.87	55F1143	26.10	23.49	55F1146	27.00	24.30			
0-10		55F437	24.30	21.87	55F1500	26.10	23.49	55F1550	27.00	24.30	55F1600	29.40	26.46
0-15		55F438	24.30	21.87	55F1501	26.10	23.49	55F1551	27.00	24.30	55F1601	29.40	26.46
0-25	1000	55F439	24.30	21.87	55F1502	26.10	23.49	55F1552	27.00	24.30	55F1602	29.40	26.46
0-30	ohms	55F440	24.30	21.87	55F1503	26.10	23.49	55F1553	27.00	24.30	55F1603	29.40	26.46
0-50	per volt	55F441	24.30	21.87	55F1504	26.10	23.49	55F1554	27.00	24.30	55F1604	29.40	26.46
0-100		55F442	24.30	21.87	55F1505	26.10	23.49	55F1555	27.00	24.30			
0-150		55F443	24.30	21.87	55F1506	26.10	23.49	55F1556	27.00	24.30	55F1606	29.40	26.46
0-200								55F1148	27.00	24.30			
0-500	2000 ohms per volt							55F1558	28.20	25.38	55F1608	30.45	27.41
DC AMMETERS Self-Shielding Meter Movement (*) require external shunt.													
0-1	.050	55F447	24.30	21.87	55F1172	24.90	22.41						
0-1.5	.033				55F1173	24.90	22.41	55F1181	26.10	23.49	55F1191	28.20	25.38
0-2	.025	55F448	24.30	21.87				55F1560	26.10	23.49			
0-3	.0166	55F449	24.30	21.87				55F1561	26.10	23.49			
0-5	.010	55F466	24.30	21.87	55F1512	24.90	22.41	55F1562	26.10	23.49	55F1612	28.20	25.38
0-10	.005	55F467	24.30	21.87	55F1513	24.90	22.41	55F1563	26.10	23.49	55F1613	28.20	25.38
0-15	.0033				55F1176	24.90	22.41	55F1564	26.10	23.49	55F1614	28.20	25.38
0-25	.0020				55F1177	24.90	22.41	55F1565	26.10	23.49	55F1615	28.20	25.38
0-30	.0017							55F1182	26.10	23.49	55F1198	28.20	25.38
0-50	.001				55F1178	24.90	22.41	55F1566	26.10	23.49	55F1616	28.20	25.38
0-100	10.0				55F1179	24.90	22.41	55F1183*	26.10	23.49	55F1193*	28.20	25.38
0-200	10.0							55F1185*	26.10	23.49	55F1195*	28.20	25.38
0-300	10.0										55F1196*	28.20	25.38
0-500	10.0										55F1197*	28.20	25.38
DC MILLIAMMETERS Self-Shielding Meter Movement													
0-1	43.	55F481	23.25	20.93	55F1517	24.45	22.01	55F1567	25.20	22.68	55F1617	27.00	24.30
0-3	2.0				55F1198	24.45	22.01	55F2501	25.20	22.68			
0-5	2.0 (20†)	55F482	23.25	20.93	55F1518	24.45	22.01	55F1568	25.20	22.68	55F1618	27.00	24.30
0-10	10.0 (2.2†)	55F483	23.25	20.93	55F1519	24.45	22.01						
0-15	6.6 (2.2†)							55F2502	25.20	22.68			
0-20	5.0							55F2503	25.20	22.68	55F2508	27.00	24.30
0-25	4.0 (6.0†)	55F485	24.30	21.87	55F1520	24.90	22.41	55F1570	26.10	23.49			
0-50	2.0 (3.0†)	55F486	24.30	21.87	55F1521	24.90	22.41	55F1571	26.10	23.49	55F1621	28.20	25.38
0-100	1.0 (1.5†)	55F487	24.30	21.87				55F1572	26.10	23.49	55F1622	28.20	25.38
0-200	.50 (.75†)	55F489	24.30	21.87	55F1524	24.90	22.41				55F1624	28.20	25.38
0-250	.40 (.60†)				55F2500	24.90	22.41						
0-300	.33 (.50†)	55F491	24.30	21.87									
0-500	.20 (.30†)	55F492	24.30	21.87	55F1527	24.90	22.41	55F1577	26.10	23.49	55F1627	28.20	25.38
DC MICROAMMETERS Self-Shielding Meter Movement													
0-50	1800 (5500†)	55F473	30.45	27.41	55F1529	31.35	28.22	55F1579	32.10	28.89	55F1629	34.50	31.05
0-100	1800	55F474	27.15	24.44	55F1530	28.20	25.38	55F1580	29.40	26.46	55F1630	32.70	29.43
0-200	1100				55F1531	25.65	23.09	55F1581	27.00	24.30	55F1631	29.40	26.46
0-500	90 (190†)										55F1632	28.80	25.92
25-0-25	1800 (5500†)	55F477	30.60	27.54									
50-0-50	1800	55F478	27.45	24.71	55F1533	28.80	25.92	55F1583	29.40	26.46	55F1633	32.85	29.57
100-0-100	1100	55F479	24.90	22.41	55F4850	26.10	23.49	55F2513	27.15	24.44			

TAUT BAND DC MICROAMMETERS

Range	Approx. Ω	Model 1212T			Model 1227T			Model 1327T			Model 1329T		
0-10	4900							55F2228	52.20	46.98	55F2233	56.55	50.90
0-15	1960 (5000†)				55F2224	45.60	41.04						
0-25	1960				55F2225	43.35	39.02	55F2230	45.30	40.77			
0-50	960										55F2236	37.35	33.62
0-100	500	55F4351	29.85	26.87							55F2237	35.40	31.86

(†) Resistances of Model 1212 shown in ( ).

Panel Meters

Simpson

WIDE-VUE PANEL METERS

AC VOLTMETERS Iron Vane Type Movement

Range	Approx. Impedance (ohms) @60Hz	Model 1257 Stock No.	Model 1257 Each 1-9	Model 1257 Each 10-24	Model 1357 Stock No.	Model 1357 Each 1-9	Model 1357 Each 10-24	Model 1359 Stock No.	Model 1359 Each 1-9	Model 1359 Each 10-24
0-5	33				55F2524	24.75	22.28			
0-10	133	55F1534	23.70	21.33						
0-50	3,333				55F2527	24.75	22.28	55F2534	27.60	24.84
0-150	25,000	55F1535	24.75	22.28	55F1585	26.55	23.90	55F1635	28.20	25.38
0-300	50,000	55F1536	24.75	22.28	55F1586	26.55	23.90	55F1636	28.20	25.38
0-500	83,333				55F2530	33.60	30.24	55F2537	35.85	32.27

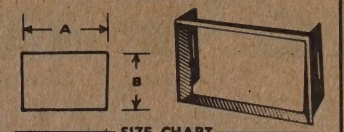
AC AMMETERS Iron Vane Type Movement

0-1	.213				55F1537	23.70	21.33	55F1587	25.05	22.55
0-2	.065				55F2589	23.70	21.33	55F2596	25.05	22.55
0-3	.028				55F2590	23.70	21.33	55F2597	25.05	22.55
0-5	.008	55F2582	22.50	20.25	55F1538	23.70	21.33	55F1588	25.05	22.55
0-10	.004	55F2583	22.50	20.25	55F1539	23.70	21.33	55F1589	25.05	22.55
0-15	.0025	55F2584	22.50	20.25	55F1540	23.70	21.33	55F1590	25.05	22.55
0-25	.002	55F2585	23.25	20.93	55F1541	24.45	22.01	55F1591	26.10	23.49
0-50	.001	55F2586	23.25	20.93	55F1542	24.45	22.01	55F1592	26.10	23.49
0-75	.0002				55F1008	26.55	23.90			
0-100	.008				55F2591	23.70	21.33	55F2598	25.05	22.55
0-150	.008							55F2599	25.05	22.55
0-200	.008							55F2600	25.05	22.55
0-300	.008				55F2594	23.70	21.33			

AC MILLIAMMETERS Iron Vane Type Movement

0-50	80				55F2539	23.70	21.33	55F2543	25.05	22.55
0-100	17.2				55F2540	23.70	21.33			
0-250	3.15				55F2541	23.70	21.33			
0-500	.9	55F2538	22.50	20.25						

WIDE VUE MOUNTING BEZEL AND ILLUMINATION KIT



SIZE CHART

Part No.	A	B
1253	3.390	2.078
1123	4.812	2.750

Type 01253- use with Models 1327, 1337, 1347, 1357.
Type 01123- use with Models 1329, 1339, 1349, 1359, 1379.
Type 01165. Illumination kit for above.

Prices

Stk. No.	Type	1-9	10-up
55F4353	01253	3.00	2.70
55F4354	01123	3.00	2.70
62F1446	01165	2.85	

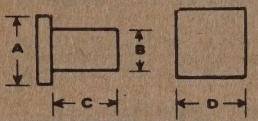
DESIGNER SERIES PANEL METERS

DC VOLTMETERS Self-Shielding

Range	Approx. Resistance (ohms)	Model 523 3½" Stock No.	Model 523 3½" Each 1-9	Model 523 3½" Each 10-24	Model 524 4½" Stock No.	Model 524 4½" Each 1-9	Model 524 4½" Each 10-24
0-5		62F3315	27.00	24.30			
0-10	1000				62F3320	29.40	26.46
0-15	ohms	55F735	27.00	24.30			
0-30	per	55F736	27.00	24.30	55F740	29.40	26.46
0-50	volt	55F737	27.00	24.30	55F741	29.40	26.46
0-150		62F3318	27.00	24.30			

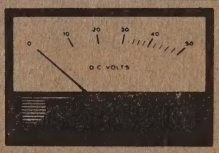
DC MICROAMMETERS Self-Shielding

0-25	2100	55F717	39.60	35.64			
0-50	1800	55F718	32.10	28.89	55F724	34.50	31.05
0-100	1800	55F719	29.40	26.46	55F725	32.70	29.43
0-200	1100	62F3339	27.00	24.30			
50-0-50	1800	55F721	29.40	26.46	55F727	32.85	29.57
100-0-100	1100	55F722	27.15	24.44			



SIZE CHART

Model	A	B	C	D
523	2.67	2.16	1.31	3.95
524	2.90	2.16	1.31	4.50



2% FS accuracy. Black phenolic with glass windows. Hardware.
523: scale length 79mm.
524: scale length 89mm.

VU METERS Self-Shielding

Scale	Model 543 3½" Stock No.	Model 543 3½" Each 1-9	Model 543 3½" Each 10-24	Model 544 4½" Stock No.	Model 544 4½" Each 1-9	Model 544 4½" Each 10-24
"A" Scale	55F748	41.85	37.67	55F764	45.60	41.04
"A" Scale, Illuminated	62F3337	46.05	41.45	62F3338	49.65	44.69

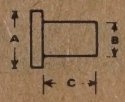
CENTURY SERIES METERS

DC VOLTMETERS—Self-Shielding Meter Movement

Range	Res. ohms	Model 2121 1½" Stock No.	Model 2121 1½" Each 1-9	Model 2121 1½" Each 10-24	Model 2122 2½" Stock No.	Model 2122 2½" Each 1-9	Model 2122 2½" Each 10-24	Model 2123 3½" Stock No.	Model 2123 3½" Each 1-9	Model 2123 3½" Each 10-24	Model 2124 4½" Stock No.	Model 2124 4½" Each 1-9	Model 2124 4½" Each 10-24
0-5					55F5357	26.10	23.49	55F5366	27.00	24.30			
0-10					55F5358	26.10	23.49				55F5376	29.40	26.46
0-15	1000	55F5412	24.30	21.87	55F5359	26.10	23.49	55F5368	27.00	24.30	55F5377	29.40	26.46
0-25	ohms	62F3400	24.30	21.87	55F5360	26.10	23.49				62F3407	29.40	26.46
0-30	per	55F5413	24.30	21.87	55F5361	26.10	23.49	55F5370	27.00	24.30			
0-50	volt	62F3401	24.30	21.87	55F5362	26.10	23.49	55F5371	27.00	24.30	55F5379	29.40	26.46
0-100					55F5363	26.10	23.49	55F5372	27.00	24.30	55F5380	29.40	26.46
0-150					55F5364	26.10	23.49	55F5373	27.00	24.30			
0-300													

SIZE CHART

Model	A	B	C
2121	1½"	1.51	2.04
2122	2½"	2.16	2.04
2123	3½"	2.69	2.04
2124	4½"	2.69	2.04
2152	2½"	2.16	2.04
2153	3½"	2.69	2.04
2154	4½"	2.69	2.04



DC AMMETERS

Range	Ohms	Model 2122 2½" Stk. No.	Model 2122 2½" Each	Model 2123 3½" Stk. No.	Model 2123 3½" Each	Model 2124 4½" Stk. No.	Model 2124 4½" Each
0-3	.0166	55F5252	24.90	55F5259	26.10		
0-5	.010	55F5253	24.90	55F5260	26.10	52F5268	28.20
0-10	.005	55F5254	24.90	55F5261	26.10	52F5269	28.20
0-15	.0033	55F5255	24.90	55F5262	26.10	52F5270	28.20
0-25	.0020	55F5256	24.90	55F5263	26.10		
0-50	.001	55F5257	24.90			52F5272	28.20
0-100	10.0			55F5265	26.10	52F5272	28.20

DC MICROAMMETERS

0-50	1800 (5500†)	55F5300	31.35			55F5322	34.50
0-1000	1800	55F5301	28.20	55F5311	29.40	55F5324	32.70
0-200	1100			55F5313	27.00	55F5326	29.40
25-0-25	1800 (5500†)			55F5315	32.40	55F5328	34.65

(†) Resistance of Model 2121

AC VOLTMETERS

Range	Approx. Imp. (ohms) @ 60 Hz.	Model 2153—3½" Stock No.	Model 2153—3½" Each NET	Model 2154—4½" Stock No.	Model 2154—4½" Each NET
0-150	25,000	55F5387	26.55	55F5392	28.20
0-250	41,166	55F5388	26.55	55F5393	28.20
0-300	50,000	55F5389	26.55	55F5394	28.20

DC MILLIAMMETERS

Range	Res. ohms	Model 2122 2½" Stock No.	Model 2122 2½" Each NET	Model 2123 3½" Stock No.	Model 2123 3½" Each NET
0-1	43.0	55F5332	24.45		
0-3	2.0			55F5341	25.20
0-5	2.0 (20†)			55F5342	25.20
0-25	4.0 (6.0†)			55F5344	26.10
0-50	2.0 (3.0†)			55F5445	26.10
0-100	1.0 (1.5†)	55F5337	24.90	55F5346	26.10
0-200	.50 (75†)	55F5338	24.90		
0-300	.33 (.50†)			55F5348	26.10
0-500	.20 (.30†)	55F5339	24.90	55F5349	26.10

AC AMMETERS

Range	Imp. Ohms @ 60 Hz	Model 2152 2½" Stock No.	Model 2152 2½" Each NET	Model 2153 3½" Stock No.	Model 2153 3½" Each NET	Model 2154 4½" Stock No.	Model 2154 4½" Each NET
0-2	.065			55F5282	23.70		
0-5	.008	55F5275	22.50	55F5284	23.70	55F5291	25.05
0-10	.004	55F5276	22.50	55F5285	23.70	55F5292	25.05
0-15	.0025	55F5277	22.50	55F5286	23.70		
0-25	.002	55F5278	23.25	55F5287	24.45		
0-50	.001	55F5280	23.25	55F5288	24.45	55F5295	26.10

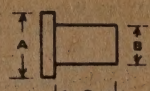
Simpson Round and Rectangular Panel Meters

Model 27

Model 25

Model 29

All DC meters have the Simpson self shielded movement and are self contained for ranges up to and including 50 amperes. Higher range DC ammeters (50MV) listed are calibrated for 5 ft. leads and require external shunts. Accuracy ±2% of full scale.



SIZE CHART

Model	A	B	C
25, 55	3.50″	2.75″	1.31″
27, 47, 57	3.12″	2.75″	1.36″
29, 59	4.20″	2.75″	1.00″
77	3.12″	2.75″	2.11″
79	4.20″	2.75″	1.68″
142	3.94″	3.25″	1.00″

DC VOLTMETERS Self-Shielding Meter Movement

Range	Res. ohms	3½″ Case Model 25	3½″ Case Model 27	3½″ Case Each 1-9	3½″ Case Each 10-24	4½″ Case Model 29	4½″ Case Each 1-9	4½″ Case Each 10-24
0-5		.....	55F039			.....		
0-10		.....	.....	27.00	24.30	55F168	29.40	26.46
0-15		.....	.....			55F251		
0-25	1000	.....	55F038			.....		
0-30	ohms	55F1112	.....			55F145		
0-50	per	55F1015	55F043	27.00	24.30	55F183	29.40	26.46
0-100	volt	62F3253	.....			55F252		
0-150		.....	55F045			55F170		
0-250		55F1018	.....	27.00	24.30	.....		
0-300		.....	.....			55F184	29.40	26.46
0-3000†	2000 ohm/vt.	.....	.....	.....	.....	55F255	39.30	35.37

(†) External multipliers model 183 furnished with meter.

DC MICROAMMETERS Self-Shielding Meter Movement

0-50	1800	55F1031	.....	31.95	28.76	.....		
0-50	1800	.....	55F071	32.10	28.89	55F176	34.50	31.05
0-100	1800	.....	55F072	29.40	26.46	55F177	32.70	29.43
0-200	1100	.....	55F073	27.00	24.30	55F178	29.40	26.46

DC AMMETERS Self-Shielding Meter Movement

0-1	.050	.....	.....			55F209		
0-1.5	.033	55F1115	.....			.....		
0-2	.025	.....	.....	26.10	23.49	55F259	28.20	25.38
0-3	.0166	55F1057	.....			55F260		
0-5	.010	.....	.....			55F210		
0-10	.005	.....	55F064			55F211		
0-25	.0020	55F1060	.....	26.10	23.49	55F261	28.20	25.38
0-30	.0017	.....	55F4828			.....		
0-50	.001	.....	.....			55F212		
0-75*	10.0	55F1117	.....			.....		
0-100*	10.0	55F1118	.....			.....		
0-200*	10.0	62F3268	.....	26.10	23.49	.....	28.20	25.38
0-300*	10.0	.....	.....			62F3279		
0-500*	10.0	62F3270	.....			62F3280		
30-0-30	.0017	55F1062	.....	27.45	24.71	.....	.....	.....

(*) Require external shunt.

AC VOLTMETER Iron Vane Type Movement

Range	Approx. Imp. Ohms @ 60 Hz	3½″ Case Model 55	3½″ Case Model 57	3½″ Case Each 1-9	3½″ Case Each 10-24	4½″ Case Model 59	4½″ Case Each 1-9	4½″ Case Each 10-24
0-10	133	55F1067	.....	24.75	22.28	.....	.....	.....
0-25	833	55F1641	.....			.....	.....	.....
0-50	33,333	55F1069	.....			.....	.....	.....
0-150	25,000	55F1071	55F115	26.55	23.90	55F181	28.20	25.38
0-250	41,166	.....	55F273	26.55	23.90	62F3296	28.20	25.38
0-300	50,000	55F1072	62F3291	26.55	23.90	55F191	28.20	25.38
0-500†	83,333	.....	.....	.....	.....	55F192	35.85	32.27
0-1000†	166,666	.....	55F275	39.00	35.10	.....	40.20	36.18

(†) External multipliers model 183 furnished with meter.

AC AMMETERS Iron Vane Type Meter Movement

0-2	.065	.....	.....			62F3304		
0-3	.028	.....	.....	23.70	21.33	55F194	25.05	22.55
0-5	.008	55F1088	.....			55F195		
0-10	.004	55F1089	55F134	23.70	21.33	55F196	25.05	22.55
0-15	.0025	55F1119	55F156	23.70	21.23	55F282	25.05	22.55
0-25	.002	55F1090	55F135	24.45	22.01	55F197	26.10	23.49
0-50	.001	55F1091	55F136	24.45	22.01	55F219	26.10	23.49
0-75	.0002	55F1120	.....	26.55	23.90	.....	.....	.....
0-100**	.008	55F1121	.....	23.70	21.33	55F284	25.05	22.55
0-200**	.008	.....	62F3302	23.70	21.33	62F3305	25.05	22.55
0-300**	.008	.....	62F3303	23.70	21.33	62F3306	25.05	22.55

(**) Require external transformer.

WATTMETERS Dynamometer Type Single Phase Accuracy ±2%

Range	Maximum Volts	Maximum Amps	Model 79 Stock No	Model 79 Each 1-9	Model 79 Each 10-24
0-75	150	1.0	55F232	64.80	58.32
0-150	150	2.0	55F233		
0-300	150	4.0	55F234		
0-750	150	10.0	55F235	69.00	62.10
0-1500	300	10.0	55F236		
0-3000	300	20.0	55F1140		

FREQUENCY METERS—RESONANT TYPE

Frequency: 50, 60, or 400 Hz. nom. No. of reeds: 11 general purpose, 21 high resolution. Accuracy ±0.3% of mid-scale. Temp. Coeff.—0.017% per°C max. Operating voltage 100-150VAC. Uses tuned steel reeds to indicate AC frequency.

Hz Rating	Case Mod.	Case Size	Case Style	No. Reeds	Hz Between Reeds	Type No.	Stock No.	Each 1-9	Each 10-24
55-60-65	2163	3½″	Century	11	1	03496	57F2463	59.10	53.19
55-60-65	2163	3½″	Century	21	.5	03494	57F2465	65.10	58.59
55-60-65	1367	3½″	WideVue	11	1	03508	57F2466	58.35	52.52
57-60-62	1367	3½″	WideVue	11	.5	03509	57F2467	54.15	48.74
55-60-65	1367	3½″	WideVue	21	.5	03511	57F2468	57.90	52.11
55-60-65	65	3½″	Round	11	1	03522	57F2469	58.95	53.06

2½″ and 3½″ AC ELAPSED TIME METERS

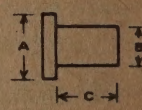
55 ET

57 ET

108 ET

1357 ET

2153 ET



SIZE CHART

Model	A	B	C
108 ET	2.69	2.20	2.30
55 ET	3.50	2.75	2.55
57 ET	3.12	2.75	2.60
1357 ET	3.25	2.75	2.37
2153 ET	3.00	2.69	1.34

Widely used by research laboratories, manufacturing plants, and broadcast stations. 120 or 240 V AC operation. Synchronous accuracy. **Model 55 ET**; Standard round styling. **Model 57 ET**; Standard rectangular styling. **Model 108 ET**; Interchangeable round and square front mounting bezels. **Model 1357 ET**: Wide-Vue styling. **Model 2153 ET**: Century Series styling.

120 VAC Models (±10%) 60 Hz

Maximum Indication (Hours)	Power Req.	Acc.	Model Size	Model (Type) No.	Stock No.	Each 1-9	Each 10-24
9, 999.9	2.5 W	synch.	2½″	108 ET	57F2472	51.60	46.44
99,999.9	5 W	synch.	3½″	55 ET	55F4359	31.05	27.95
99,999.9	5 W	synch.	3½″	1357 ET	55F4360	31.05	27.95
99,999.9	5 W	synch.	3½″	57 ET	55F4361	31.05	27.95
99,999.9	5 W	synch.	3½″	2153 ET	57F2473	31.05	27.95

240 VAC Models (±10%) 60 Hz

Maximum Indication (Hours)	Power Req.	Acc.	Model Size	Model (Type) No.	Stock No.	Each 1-9	Each 10-24
99,999.9	5 W	synch.	3½″	55 ET	55F4363	31.35	28.22
99,999.9	5 W	synch.	3½″	57 ET	55F4364		
99,999.9	5 W	synch.	3½″	1357 ET	55F4365		
99,999.9	5 W	synch.	3½″	2153 ET	57F2475		

Meter Relays and Controllers

Simpson

METAL CASED "RUGGED SEAL" CONTROLLERS AND METER RELAYS

Range	Approx. Res. (ohms)	3½" Single Control Pt. (High Limit)		3½" Double Control Pt.		4½" Single Control Pt. (High Limit)		4½" Double Control Pt.	
DC MICROAMPERES TAUT BAND		**Model 3323TXA**				**Model 3324TXA**			
		Stock	1-9	Stock	1-9	Stock	1-9	Stock	1-9
0-25	3000	57F2533	137.10	.....	.....	.....	.....	.....	.....
0-50	2000	.....	.....	55F753	162.00	55F2467	131.10	57F2543	164.10
0-100	570	.....	.....	55F754	158.10	57F2540	127.05	.....	.....
DC MILLIAMPERES		**Model 3323XA**				**Model 3324XA**			
0-1	43	57F2525	120.00	57F2526	153.00	57F2527	122.10	57F2528	155.10
DC MILLIVOLTS		.....				**Model 3324XA**			
0-50	50	.....	.....	.....	.....	57F2531	125.10	57F2508	158.10

3½"

4½"

Contactless type. Photoconductor sensing. High gain transistor switch circuit. Fail safe circuitry. DPDT output relays, 10 amp contacts. Sealed metal case. Glass window. Self-shielding annular movement. 115 VAC, 50-500 Hz. Acc. ±2% FS.

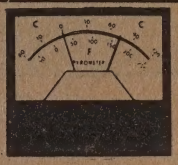
PYROMETERS

Available in a variety of styles and ranges, all models are manufactured with ambient (bimetal) cold-junction and circuit copper compensation. Accuracy: 2%. Each pyrometer furnished with external, adjustable series resistor to permit use of lower resistance thermocouples in the field. Thermocouples not included. Thermocouples required are either Iron/Constantan (I/C) or Chromel/Alumel (C/A). Model 29-standard phenolic. Model 2123-3½" Century series style. Model 2124-4½" Century series style. Modest 3324-Rugged seal, metal cased for extreme conditions.

Temperature Range °F	Temperature Range °C	Approx. Sen. (mA)	Model 29 Stk. No.	Model 29 Each	Model 2123 Stk. No.	Model 2123 Each	Model 2124 Stk. No.	Model 2124 Each	Model 3324 Stk. No.	Model 3324 Each
−150/+250*†	−100/+120*†	.40	.....	.....	62F3216	45.15	62F3224	46.80	.....	.....
0/+300*†	−20/+150*†	.40	55F701	46.80	62F3217	45.15	62F3225	46.80	.....	.....
0/+500*†	−20/+260*†	.35	55F702	46.80	62F3218	45.15	62F3226	46.80	55F706	63.75
0/+750*†	−20/+400†	.30	55F703	46.80	62F3219	45.15	62F3227	46.80	55F707	63.75
0/+1000†	−20/+540†	.28	.....	.....	.....	.....	.....	.....	62F3232	63.75
0/+1500**	−20/+820**	.42	62F3213	43.50	62F3221	41.85	.....	.....	.....	.....
0/+2000**	−20/+1200**	.43	.....	.....	.....	.....	.....	.....	62F3234	60.45
0/+2500**	−20/+1380**	.40	62F3215	43.50	62F3233	41.85	.....	.....	62F3235	60.45

(*) Taut Band. (†) I/C Thermocouple. (**) C/A Thermocouple.

Model 29



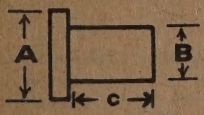
Model 2123

Model 2124

Model 3324

ELECTRO-MECHANICAL COUNTERS

MODELS 103 & 104 4-DIGIT COUNTERS



SIZE CHART			
Model	A	B	C
103+104	1.84"	1.03"	1.88"

Four-Digit Counters, rated at 10 counts per second. Are reset to 0000 with a single push-button control. The black matte finish bezel is made from tough thermosetting materials which withstand high impacts. Min. pulse duration is 500 millisec. "on" and 50 millisec. "off". Power Consump; 4.2 watts (nominal).

Stock No.	Type	Voltage	1-9	10-24
55F4853	103	117VAC	25.95	23.36
55F4854	104	6VDC		
55F4855	104	12VDC		

THERMOCOUPLES, SHUNTS AND TRANSFORMERS

SHUNTS FOR DC AMMETERS

For use with switchboard and panel meters where external shunts are required. Includes 5" leads. Shpg. wt. 1 lb.

EXTERNAL PORTABLE

Stock No.	Type	Amps	1-9	10-up
55F294	6700	1	14.55	13.10
55F295	6703	5		
55F264	6704	10		
55F265	6705	15		
55F296	6707	25		

EXTERNAL PORTABLE (Cont'd)

Stk. No.	Type	Amps.	1-9	10-up
55F266	6709	50	14.55	13.10
55F267	6711	75		
57F2569	6713	100		
55F2570	6715	200		

SWITCH BOARD SHUNTS

55F2572	6504	200	15.60	14.04
55F2573	6506	300	15.60	14.04
55F298	6508	500	22.50	20.25

CURRENT TRANSFORMERS FOR AC AMMETERS

Inserted one turn primary type for use with switchboard and panel ammeters where external transformers are required.

Stk. No.	Type	Pri.	Sec.	1-9	10-up
55F269	1293	50 amps	5	34.65	31.19
55F2575	1306	75 amps	5	25.65	23.09
55F270	1297	100 amps	5	21.30	19.17
55F2576	1298	150 amps	5	18.90	17.01
55F2577	1299	200 amps	5	18.90	17.01
55F2578	1300	300 amps	5	21.30	19.17
55F2579	1301	500 amps	5	25.65	23.09

THERMOCOUPLES

Types 21221 and 21224. Iron-constantan thermocouple wire in stainless steel overbraid. Glass cloth overbraid. Wt. ¼ lb.

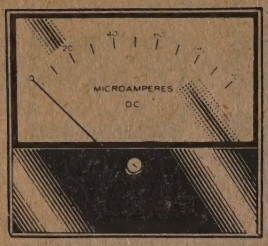
Types 21222 and 21233. Glass cloth overbraid. For gen. purpose use.

Types 21231 and 21232. C/A types.

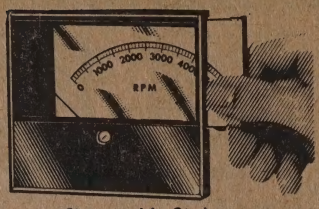
Stock No.	Type	Resistance	1-9	10-up
55F708	21221	5 ohms	20.40	18.36
55F709	21222	10 ohms	7.40	6.66
55F710	21223	10 ohms	6.15	5.54
55F711	21224	10 ohms	36.85	33.17

api Panel Meters

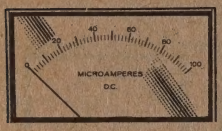
SERIES 7000 DC PANEL METERS



Standard Front Mount



Changeable Scale



Optional Bezel Mount

- **Changeable scale**
- **3 optional mountings**
- **Scratch-proof glass windows**
- **Taut band; 1% tracking**

Series 7000 brings you distinctive style, functional flexibility and outstanding performance. Basic stock of meters is easily modified with slide-out scales. Choice of front mount or bezel mount. Glass windows are scratch-proof and static free. Has phenolic fronts and cases. Self shielding for mounting on either magnetic or non-magnetic panels. Accuracy is ±2%.

METER DIMENSIONS

Model	Flange	Body dia.	Depth
7035	3.01x3.51"	2.79"	1.94"
7045	4.05x4.61"	2.79"	1.94"

DC MILLIAMMETERS

Range	Stock No.	7035-3½" Scale 1-9	7035-3½" Scale 10-24	Stock No.	7045-4½" Scale 1-9	7045-4½" Scale 10-24
0-1	62F2627	22.50	20.25	62F2633	24.25	21.83
0-10	62F2629	22.50	20.25	.....	.....	.....
DC VOLTMETERS						
0-15	62F2611	25.25	22.73	62F2577	26.75	24.08
DC MICROAMMETERS						
0-10	66F550	45.25	40.73	66F554	46.75	42.08
0-20	.....	.....	.....	62F2605	38.75	34.88
25-0-25	66F551	31.50	28.35	.....	.....	.....
0-50	62F2600	31.00	27.90	62F2606	32.50	29.25
0-100	62F2601	27.25	24.53	62F2607	29.00	26.10
100-0-100	62F2604	25.75	23.18	62F2610	27.25	24.53
0-200	.....	.....	.....	62F2609	26.75	24.08
0-500	.....	.....	.....	66F556	24.25	21.83
500-0-500	66F553	23.00	20.70	.....	.....	.....

ACCESSORIES FOR 7000 SERIES

BLANK SLIDE-OUT DIVISION DIALS

Standard concentric arc. No numbers or legends. With dial holder. For zero left. Also for zero center for 0-50 microamp DC ranges and larger. For more sensitive ranges contact Newark.

Divisions	Model 7035 3½" Stock No.	Model 7035 3½" NET	Model 7045 4½" Stock No.	Model 7045 4½" NET
50	62F2496	1.50	62F2636	1.50
100	62F2499		62F2639	

BLANK DIALS—NO MARKINGS

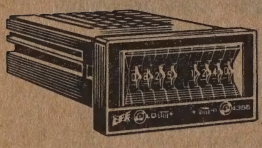
62F2643. For model 7035 ..... 1.62
62F2648. For model 7045 ..... 1.62

BEZEL AND LENS KITS

	Stock No.	Type 7035	NET	Stock No.	Type 7045	NET
Bezel Kits	**55F5672**	1125-226	**3.00**	**55F5674**	1125-223	**3.00**
Lens Kit	**55F5673**	1125-225	**2.25**	**55F5675**	1125-222	**2.25**

DIGITAL PANEL METERS

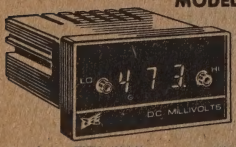
DUAL CONTROL COMPARATOR



Model 4355. Adds limit-set, GO/NO-GO, or ON/OFF control capabilities to any measuring device with TTL-compatible BCD output. Two simultaneous thumbwheel-input comparisons are made with one 4-digit input word, triggered by the trailing edge of a logic 1 pulse. Algebraic sign of each setpoint is independently selected with two front-panel switches. High setpoint LED indicator and relay are switched when the BCD input is greater than or equal to the HIGH thumbwheel setting. Low setpoint ind. switched when input less than or equal to LOW thumb wheel setting.

Stk. No.	Type	Supply Volt.	Input	EACH
55F5669	4355-2300-1200	±5 VDC	Dual + 9999 thumbwheel setpoints	**175.00**
55F5670	4355-2302-1200	115 VAC	Dual + 9999 thumbwheel setpoints	**195.00**
55F5671	4355-2300-0001	±5 VDC	Dual + 9999 hardwired setpoints	**125.00**

MODEL 4354-K DIGITAL CONTROL METER



Easily read from 20 feet, this unit features three 7-segment digits, ½" high. Single-slope integration techniques provide display accuracy up to 0.2%. LED indicators light when signal exceeds set points. Active input filter for high noise rejection. TTL/DTL compatible. Size: 2½" x 4" x 4½". **SPECIFICATIONS:** 3 digits; Readout range: 0-499; Accuracy: ±0.2%; Reading rate: 5 per second; Noise rejection: greater than 90 dB common mode; Operating temperature: 0-50°C; Inputs/Outputs: TTL/DTL compatible; Power requirements: 115 VAC ±10% @ 10 watts.

Stk. No.	Type	Ranges	Input Impedance	EACH
55F5683	4354-1800-8002	0-49.9 mVDC	100 Megohms	**270.00**
55F5684	4354-5900-8002	0-499 mVDC	100 Megohms	**245.00**
55F5685	4354-5601-8002	0-49.9 VDC	1 Megohm	**245.00**
55F5686	4354-5902-8002	0-499 µADC	1K Ohms	**245.00**
55F5687	4354-1803-8002	0-4.99 mADC	100 Ohms	**245.00**
55F5688	4354-6004-8042	0-499 Ohms	.....	**270.00**
55F5689	4354-6504-8042	0-4.99K Ohms	.....	**270.00**
55F5690	4354-7504-8042	0-49.9K Ohms	.....	**270.00**
55F5691	4354-6604-8022	0-499°F	.....	**275.00**

MODEL 4424 DIGITAL PANEL METER

Features include 0.6" high gapless display with amber digits, high noise rejection, automatic zeroing and auto-polarity. Standard output is multiplexed BCD. Uses charge balance (quantized feedback) conversion technique; has FET input. TTL compatible. Size: 4.97" x 4.075" x 2.19". **SPECIFICATIONS:** 3½ digits; Accuracy: ±0.05% of reading; Reading rate: 3.3 per sec; Noise rejection: 120 dB, DC-60 Hz common; Oper. temp: +5 to +55°C; Power requirements: 105-130 VAC, 50/60 Hz @ 4 watts.

Stk. No.	Type	Ranges	Input Impedance	EACH
55F5676	4424-4700-0400	0-199.9 mVDC	100 Megohms	135.00
55F5677	4424-0401-0400	0-1.999 VDC	100 Megohms	
55F5678	4424-7701-0400	0-199.9 VDC	10 Megohms	
55F5679	4424-4702-0400	0-199.9 µADC	1K Ohm	
55F5680	4424-1003-0400	0-1.999 mADC	100 Ohms	
55F5681	4424-4303-0400	0-19.99 mADC	10 Ohms	
55F5682	4424-7703-0400	0-199.9 mADC	1 Ohm	

MODEL 4360 DIGITAL METERS

Crisp, green 7-segment display provides unmatched readability as well as 100,000 hours proven lifetime. Very high input and line noise rejection for stable performance in industrial locations. All logic inputs and outputs are TTL/DTL compatible. Size: 4" wide x 2⅛" high x 4¼" deep. **SPECIFICATIONS:** 2½ digits; Readout range: 0-199; Accuracy: 0.5% of reading, ±0.5% of full scale; Reading rate: 5 per second; Noise rejection: 90-110 dB common mode, 32-45 dB normal mode; Temperature stability: 0.08% of reading/°C; Input bias current: 80 mA typical, 500 mA worst case; DC output @ 5 mA: +5, ±12 VDC; Operating temperature: 0-55°C; Power requirements: 115 VAC ±10% @ 5 watts, 50/60 Hz.

Stk. No.	Type	Ranges	Input Impedance	EACH
55F5692	4360-4700-0000	0-199 mVDC	100 Megohms	140.00
55F5693	4360-0401-0000	0-1-99 VDC	100 Megohms	
55F5694	4360-4301-0000	0-19.9 VDC	1 Megohm	
55F5695	4360-0802-0000	0-19.9 µADC	10K Ohms	
55F5696	4360-4702-0000	0-199 µADC	1K Ohm	
55F5697	4360-1003-0000	0-1.99 mADC	100 Ohms	
55F5698	4360-4303-0000	0-19.9 mADC	10 Ohms	
55F5699	4360-7703-0000	0-199 mADC	1 Ohms	

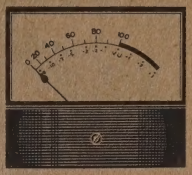
Pyrometers

api

STYLIST VU METERS

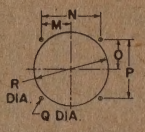
Stk. No.	Scale	Type	Size	1-9	10-14
55F4662	A	361	3 1/32" x 1 7/8"	48.25	43.43
55F4663	B	361			
55F4664	A	561	4 13/16" x 2 3/4"	50.00	45.00
55F4665	B	561			
55F4666	A	7025	2 7/16" x 2 1/2"	44.75	40.28
55F4667	B	7025			
55F4668	A	7035	3" x 3 1/2"		
55F4669	B	7035			
55F4670	A	7045	4 1/16" x 4 1/2"		
55F4671	B	7045			

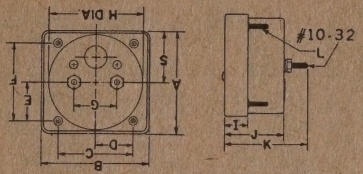
Models 361 and 561 measure amplitude of audio signals. Two scales, Type A scale; for recording uses. Type B scale emphasizing percent modulation for broadcasting. Illuminated from behind thru a lucite window at top of case. Conforms to ASA C16.5-1954 specs.
Series 7000 meters are similar to 361 and 561 with added panel mounting versatility. Glass windows are scratch proof and free of static electricity.

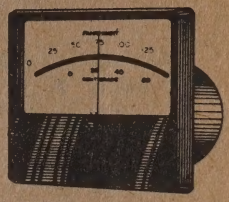


MODEL 503 PYROMETER-2% ACCURACY

Thermocouple actuated with copper error compensation. Automatic bimetal gold junction correction. External resistor adjusts for thermocouples up to 10 ohms. I/C for Iron-Constantan; C/A for Chromel-Alumel; Cu/C, Copper constantan Phenolic case. Scale arc, 4". 21 lbs.







Stock No.	Temperature Range °F	Temperature Range °C	Thermo-Couple	Type	Each
55F4605	−75/+225	−60/+100	I/C	J	55.50
55F4606	0/300	0/150	I/C	J	
55F4607	0/500	0/260	I/C	J	
55F4608	0/800	0/430	I/C	J	
55F4609	0/1000	0/500	I/C	J	

TABLE OF DIMENSIONS IN INCHES

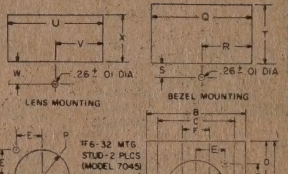
A	B	D	E	F	G	I	J	K	N	P	Q	R
4.27 Max.	4.71 Max.	2.00 ±.005	2.02 ±.005	3.56 ±.005	1.25 ±.01	.76 Max.	1.88 Max.	2.55 Max.	4.00 ±.005	2.25 ±.005	.125	2.82 ±.01

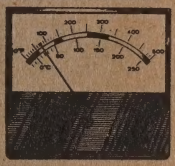
SERIES 7000 PYROMETERS

Temperature Range °F	Temperature Range C°	Thermo-Couple	Type	Stock No.	7035 (3½)	Stock No.	7045 (4½)
−75/+225	−60/+110	I/C	J	62F3107	43.50	62F3109	44.50
0/300	0/150	I/C	J	62F2545	43.50		
0/500	0/260	I/C	J	62F2546	43.50	62F2552	44.50
0/800	0/430	I/C	J	62F2547	43.50		
0/2000	0/1100	C/A	K			62F3110	42.50

MODEL	A	B	C	D	E	F	G	H	I	J	K	L
7035	3.01 Max.	3.51 Max.	.....	1.87 Max.	1.125 ±.01	1.25 +.01	2.79 Max.	1.36 Max.	.58 Max.	.53 ±.02	.02 Max.	.56 ±.01
7045	4.05 Max.	4.61 Max.	3.50 ±.01	2.29 ±.02	.....	1.25 ±.01	2.79 Max.	1.36 Max.	.58 Max.	.77 ±.02	.02 Max.	.56 ±.01

MODEL	M	N	O	P	Q	R	S	T	U	V	W	X
7035	.675 Max.	.....	1.125 ±.010	2.810 ±.015	3.718 +.030 −.000	1.859 +.015 −.000	.44 ±.01	2.156 ±.030 −.000	3.105 ±.015	1.552 ±.008	.76 ±.01	1.515 ±.015
7045	.675 Max.	3.50 ±.01	1.750 ±.005	2.810 ±.015	4.182 +.030 −.000	2.406 +.015 −.000	.63 ±.01	2.75 +.03 −.00	4.205 ±.015	2.102 ±.008	.95 ±.01	2.125 ±.015

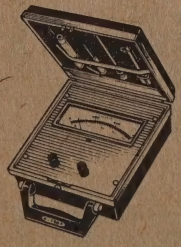




Three-way mounting; front mount, bezel mount, or lens mount. Phenolic case. Glass windows are scratch-proof, free of static electricity. Self-shielding movements allow interchangeable mounting in steel or aluminum panels. Accuracy is ±2% of full scale at 77°F ambient temp. Current sensitivity is approx. 4 ohms per millivolt. All ranges calibrated for 10 ohms external resist.

PORTABLE PYROMETERS

Model 6020. For checking laboratory ovens, furnaces, refrigeration equipment, solder pots and oil baths. Scales indicate Fahrenheit and Centigrade. Fully compensated for ambient and copper error with bimetal and thermistor. 1% accuracy. 5.5" meter scale. Aluminum trimmed plastic case. 8.5 x 6.5". Shpg. wt.: 2 lbs.



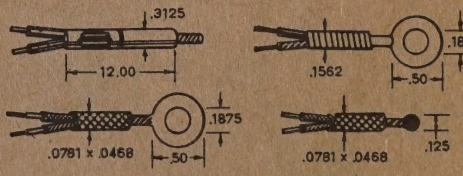
Stk. No.	Temperature Range °F	Temperature Range °C	Each
55F4775	−100+1100	−70/+550	104.00
55F4777	0/300	0/150	
55F4778	0/500	0/260	

PROBES FOR MODEL 6020

Carried inside meter case. Lead length is 3.5 feet, armored wire.

Stk. No.	Description	NET
55F4793	Straight Surface	49.00
55F4794	Right-Angle	55.00
55F4795	Needle	49.00
55F4796	General Purpose	49.00
55F4797	Beaded Wire	14.00
55F4798	Extension Handle	15.00

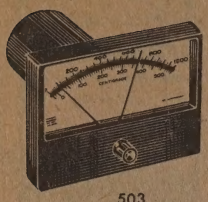
OPEN THERMOCOUPLES



With Washer Stk. No.	With Washer Type	W/O Washer Stk. No.	W/O Washer Type	Description	Each
.....	.....	62F3120	2055-13	J-Iron-Constantan, 20 gauge, solid	6.50
62F3121	2055-1	62F3122	2055-9	J-Iron-Constantan, 20 gauge, stranded*	6.50
.....	.....	62F3128	2054-7	K-Chromel-Alumel 14 gauge**	8.65

5' length. Fiberglass insulation except (*) asbestos, (**) ceramic and asbestos.

api Compack Meter Relay Controllers

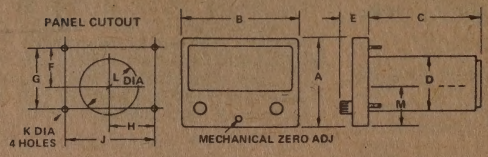


503

All items listed on this page are single high set point. All circuit components wired fail safe below set point. SPDT relay contacts load rating: 5A resistive at 115 VAC, dial arc: Model 503—4", Model 603—5".

Dimensions (Max.)

	A	B	C	D	E
503-K	4.27	4.71	5.50	2.79	1.39
603-K	4.36	5.75	5.50	2.79	1.39



Compact Controller Model Numbers

Style and Size	Optical	Solid State
4½" black phenolic panelist	503-K	503-X
5½" black phenolic panelist	603-K	603-X

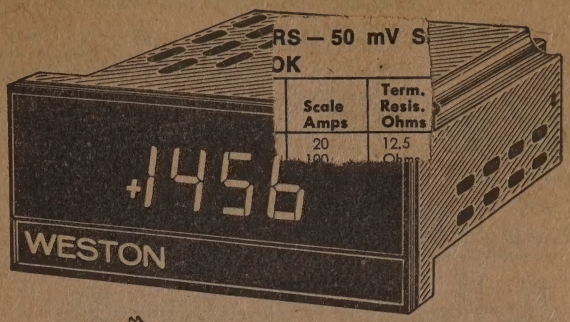
CURRENT AND VOLTAGE RANGES	OPTICAL COMPACK CONTROLLERS				SOLID STATE COMPACK CONTROLLERS			
	Stk. No. 503-K	Each	Stk. No. 603-K	Each	Stk. No. 503-X	Each	Stk. No. 603-X	Each
microamperes DC								
0 to 5	55F4672	208.00	55F4694	213.00	55F4725	196.00	55F4751	200.00
0 to 10	55F4500	187.00	55F4695	191.00	62F2516		55F4752	
0 to 20	55F4673	170.00	55F4696	175.00	55F4726		55F4753	
0 to 50	55F4501	162.00	55F4698	167.00	62F2517	175.00	55F4754	179.00
0 to 100	55F4502	156.00	55F5699	160.00	62F2519		55F4755	
0 to 200	55F4674	150.00	55F4700	155.00	55F4727		55F4756	
0 to 500	55F4675	146.00	55F4701	151.00	55F4728		55F4757	
milliamperes DC								
0 to 1	55F4503	146.00	55F4702	151.00	62F2520		55F4758	
0 to 5	55F4676	146.00	55F4703	151.00	55F4729		55F4759	
0 to 10	55F4677	146.00	55F4704	151.00	55F4730	175.00	55F4760	179.00
0 to 25	55F4678	146.00	55F4705	151.00	55F4731		55F4761	
0 to 50	55F4679	146.00	55F4706	151.00	55F4732		55F4762	
0 to 100	55F4680	153.00	55F4707	158.00	55F4733		55F4763	
amperes AC								
0 to 1	55F4681	173.00	55F4708	178.00	55F4734		55F4764	
0 to 2					55F4735		55F4765	
0 to 5	55F4682	173.00	55F4709	178.00	55F4736		55F4766	
0 to 10	55F4683		55F4710		55F4737	195.00	55F4767	199.00
0 to 20					55F4738		55F4768	
0 to 30	55F4684		55F4712		55F4739		55F4769	
0 to 40	55F4685	173.00	55F4713	178.00	55F4740		55F4770	
0 to 50	55F4686		55F4714		55F4741		55F4771	
millivolts DC								
0 to 5	55F4687	181.00	55F4715	186.00	55F4742	188.00	55F4772	192.00
0 to 10	55F4504	160.00	55F4717	165.00	62F2521	168.00	55F4773	172.00
0 to 50	55F4505	148.00	55F4718	153.00	62F2522	168.00	55F4779	172.00
0 to 100					55F4743	168.00	55F4780	172.00
volts DC								
0 to 1					55F4744		55F4782	
0 to 5	55F4688		55F4719		55F4745		55F4783	
0 to 10	55F4689		55F4720		55F4746		55F4784	
0 to 30	55F4690	148.00	55F4721	153.00	55F4747	168.00	55F4785	172.00
0 to 50	55F4691		55F4722		55F4748		55F4786	
0 to 150	55F4692		55F4723		55F4749		55F4787	
0 to 300	55F4693		55F4724		55F4750		55F4788	

TEMPERATURE RANGES (THERMOCOUPLE)			OPTICAL COMPACK CONTROLLERS ON-OFF CONTROL				SOLID STATE COMPACK CONTROLLERS ON-OFF CONTROL			
°F	°C	T/C	Stk. No. 503-K	Each	Stk. No. 603-K	Each	Stk. No. 503-X	Each	Stk. No. 603-X	Each
0 to 150	−16 to 66	J					55F4813	198.00	55F4866	202.00
0 to 300	0 to 150	J	55F4789		55F4520		55F4814		55F4867	
0 to 500	0 to 260	J	55F4790	176.00	55F4521	181.00	55F4815		55F4868	
0 to 800	0 to 400	J	55F4791		55F4522		55F4816		55F4869	
0 to 1000	0 to 500	J	55F4792		55F4523		55F4817		55F4870	
0 to 1500	0 to 800	K	55F4799		55F4524		55F4818	192.00	55F4872	196.00
0 to 2000	0 to 1100	K	55F4801	174.00	55F4831	179.00	55F4819		55F4873	
0 to 2500	0 to 1370	K	55F4803		55F4525		55F4820		55F4874	
0 to 3000	0 to 1650	R	55F4804	176.00	55F4832	181.00	55F4821		55F4875	

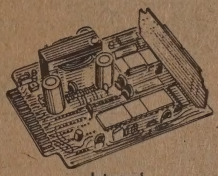
TEMPERATURE RANGES (THERMOCOUPLE)			OPTICAL COMPACK CONTROLLERS TIME PROPORTIONING CONTROL				OPTICAL COMPACK CONTROLLERS SCR DRIVER CONTROL			
°F	°C	T/C	Stk. No. 503-K	Each	Stk. No. 603-K	Each	Stk. No. 503-K	Each	Stk. No. 603-K	Each
0 to 300	0 to 150	J	55F4805	231.00	55F4833	236.00	55F4822	257.00	55F4876	262.00
0 to 500	0 to 260	J	55F4806		55F4834		55F4823		55F4877	
0 to 800	0 to 400	J	55F4807	228.00	55F4860	233.00	55F4824	254.00	55F4878	259.00
0 to 1000	0 to 500	J	55F4808		55F4861		55F4825		55F4879	
0 to 1500	0 to 800	K	55F4809		55F4862		55F4826		55F4880	
0 to 2000	0 to 1100	K	55F4810	224.00	55F4863	229.00	55F4827	250.00	55F4881	255.00
0 to 2500	0 to 1370	K	55F4811		55F4864		55F4829		55F4882	
0 to 3000	0 to 1650	R	55F4812	228.00	55F4865	233.00	55F4830	254.00	55F4883	259.00

SERIES 2460 LINE POWERED DIGITAL PANEL METERS

High performance 3½ digit panel instruments for applications requiring extreme reliability, high measurement accuracy and low cost. This unit implements the patented Weston Dual-Slope Integration technique for analog-to-digital conversion. Standard features include a systems interface based on latched, parallel BCD outputs, a floating input virtually immune to common mode and ground loop effects, and 0.6" high brightness LED display. All lines operate at TTL compatible levels and EXTERNAL SYNC input permits synchronous A/D conversions at rates up to 25 measurements per second. Display is red-orange in color.



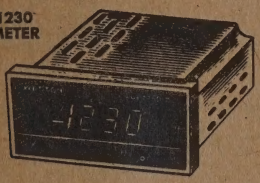
Stk. No.	Type	Range	Inp. Imp.	Max. Ovld.	EACH
62F483	2461-0278383	199.9mV	100M	60 V	127.50
62F484	2461-0278384	1.999V	100M	60 V	127.50
62F485	2462-0278387	199.9mV	100M	60 V	137.50
62F486	2462-0278388	1.999V	100M	60 V	137.50
62F487	2462-0278389	19.99mV	5M	600 V	137.50
62F488	2462-0278390	199.9V	5M	1000 V	137.50
62F489	2463-0278375	199.9mV	100M	60 V	130.00
62F490	2463-0278376	1.999V	100M	60 V	130.00
62F491	2464-0278379	199.9mV	100M	60 V	140.00
62F492	2464-0278380	1.999V	100M	60 V	140.00



Internal View

SPECIFICATIONS: 2461: Floating single-ended input. **2462:** Same as 2461. **2463:** Floating balanced differential. **2464:** Same as 2463. Accuracy: ±0.05% Rdg. ±1 count. Polarity: Auto with sign. Common mode rejection: 80 dB min. Series mode rejection: 30 dB min. Measurement rate: 2 per sec. internal, up to 25 per sec. external. Oper. temp.: 0-50°C. Size: 4" x 4.56" x 1.75". Wt: 13 oz. Power: 117 VAC @ 3½ watts.

MODEL 1230 PANEL METER



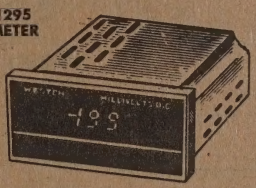
Full bi-polar 3½ digit panel meter features dual slope integration. Large display can be read from 40 feet. Uses only 7 square inches of panel space.

SPECIFICATIONS: Accuracy: ±0.1% of reading ±1 digit. Readout: 7 segment Sperry display. Common mode rejection: 80 dB with 1000 ohm unbalance at 60 Hz. Operating temperature: 0-50°C. Size: 4" x 4.81" x 1.75". Weight: Approx. 13 oz.

Stk. No.	Type	Range	Each
57F2720	1230-0274871	0-199.9 millivolts	150.00
57F2721	1230-0274872	0-1.999 Volts	150.00
57F2722	1230-0274873	0-19.99 Volts	150.00
57F2723	1230-0274874	0-199.9 Volts	160.00

62F276. 9790-0267253 PC Bd. Conn.....4.00

MODEL 1295 PANEL METER



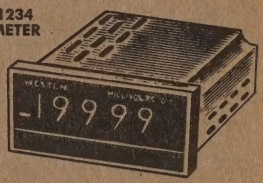
Full bi-polar 3½ digit panel meter features all digital logic on single 24-pin LSI MOS chip. Can be mounted entirely from front of panel. Takes only 7 sq. in. of panel space. Features dual slope integration for long term stability.

SPECIFICATIONS: Accuracy: ±0.1% of reading ±1 digit. Overrange: 100% except on 1000 V range. Readout: 7 Segment LED's. Operating Temperature Range: 0-60°C. Power: 117 volts ±10%, 50 Hz to 400 Hz <3 watts. Can be changed to 230 volts ±10% in field. Weight: Approximately 13 oz.

Stk. No.	Type	Range	Each
57F2749	1295-0273561	0-199.9 mV	160.00
57F2750	1295-0273562	0-1.999 V	
57F2751	1295-0273563	0-19.99 V	

62F275. 9760-0267432 Conn.....3.00

MODEL 1234 PANEL METER



Single-range digital panel meter features Dual-Slope integration, auto-polarity operation and TTL compatibility. Available with BCD and buffered BCD. Power: 117 VAC, 50/60 Hz. Size: 1.75" x 4" x 4.25". Wt.: Approx. 2 lbs.

SPECIFICATIONS: Accuracy: ±0.01% of reading, long term ±0.03%. Common mode rejection: 80 dB min. Normal mode rejection: 40 dB min. Reading rate: 7.5 per sec. Display: 0.55" seven-segment gas plasma. Operating temp: 0-50°C.

Stk. No.	Type	Range	EACH
62F493	1234-0276493	0-199.99 mV	255.00
62F494	1234-0276494	0-1.9999 V	255.00
62F495	1234-0276495	0-19.999 V	255.00
62F496	1234-0276497	0-1000.0 V	290.00
62F497	1234-0276498	0-19.999 μA	255.00

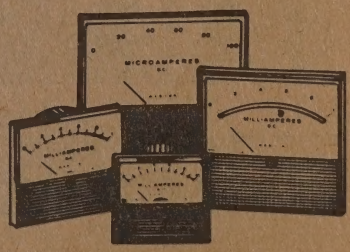
DIMENSIONS

Depth behind panel, 1.140" (1.725" including terminal stud).

Model	Width	Height	Panel Hole D.	Mtg. Centers W.	Mtg. Centers H.
2021	2.800"	2.400"	2.200"	1.880"	1.880"
2031	3.500"	2.980"	2.820"	2.250"	2.250"
2041	4.530"	2.050"	2.820"	4.000"	3.562"
2051	5.630"	2.490"	2.820"	5.250"	3.000"

2000 SERIES PANEL METERS

Flattened scale arc gives excellent readability. Convenient snap-in covers permit easy scale replacement. Uses specially treated Alnico V magnet for full shielding from magnetic effects. High torque with minimum response time and power consumption. Features dust sealing plus option of moisture-resistant sealing. Zero corrector is accessible from front of panel through bezel. Pivot and jewel-types have spring back jewels.



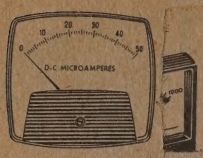
PIVOT AND JEWEL METERS

Stk. No.	Type	Range	Res. Ohms	Ave. V Drop	Ω Volt	EACH
54F964	2021-4841001	0-1 mADC	85	.....	.....	23.25
54F967	2021-4841100	0-100 mADC	1.0	.....	.....	23.25
54F981	2021-2841005	0-5 ADC	.....	50 mV	.....	23.25
54F990	2021-1841050	0-50VDC	.....	.....	1000	24.60

TAUT-BAND METERS

Stk. No.	Type	Range	Res. Ohms	Acc.	EACH
54F947	2031-5841050	0-50 μADC	950	2%	30.40
54F950	2031-8888004	50-0-50 μADC	845	2%	30.80
54F959	2041-4812001	0-1 mADC	16.5	1%	37.80
54F960	2051-4812001	0-1 mADC	16.5	1%	40.15

SERIES 250/251 AC PANEL METERS — PIVOT AND JEWEL



250 Big Look 251 Horizon Line

All ite point. below 5A res Model

Handsome, easy-to-read meters in two styles for all panel and control applications. All meters meet ANSI specifications. C-39.1. Accuracy: AC iron vane type, ±2% FS; AC rectifier type, ±3% FS.

Size	250 BIG LOOK® Scale Length	251 HORIZON LINE® Scale Length
1½"	1.32"	1.50"
2½"	2.06"	2.06"
3½"	2.88"	2.88"
4½"	3.93"	3.93"

3½" AC VOLTMETERS — IRON VANE TYPE

SERIES 250 BIG LOOK

Stock No.	Type	Scale Volts	Term. Resis. Ohms	Each
54F400	50-250344PZPZ	150	15000	28.00
54F401	50-250344RXRX	300	70260	30.10
54F402	50-250344SJSJ	600	140000	37.60

SERIES 251 HORIZON LINE

54F403	50-251344PZPZ	150	15000	28.00
54F404	50-251344RXRX	300	70260	30.10
54F405	50-251344SJSJ	600	140000	37.60

3½" AC MILLIAMMETERS

SERIES 250 BIG LOOK

Stock No.	Type	Scale mA	Term. Resis. Ohms	Each
54F406	50-250340GZGZ	10	2158	25.80
54F407	50-250340JRJR	100	21	
54F408	50-250340KMKM	500	0.7	

SERIES 251 HORIZON LINE

54F409	50-251340GZGZ	10	2158	25.80
54F410	50-251340JRJR	100	21	
54F411	50-251340KMKM	500	0.7	

3½" AC MICROAMMETERS AND MILLIAMMETERS — RECTIFIER TYPE DC TAUT BAND MECHANISMS

SERIES 250 BIG LOOK

Stock No.	Type	Scale	Term. Resis. Ohms	Each
54F412	50-250310EMEM	500μA	850	35.10
54F413	50-250310FAFA	1mA	555	35.10
54F414	50-250310HFHF	20mA	63	35.10

SERIES 251 HORIZON LINE

54F415	50-251310EMEM	500μA	850	35.10
54F416	50-251310FAFA	1mA	555	35.10
54F417	50-251310HFHF	20mA	63	35.10

3½" AC AMMETERS

SERIES 250 BIG LOOK

Stock No.	Type	Scale Amps	Term. Resis. Ohms	Each
54F418	50-250340LSLS	5	0.007	25.80
54F419	50-250340MTMT	10	0.0024	25.80
54F420	50-250340NTNT*	50	0.0004	30.10

SERIES 251 HORIZON LINE

54F421	50-251340LSLS	5	0.007	25.80
54F422	50-251340MTMT	10	0.0024	25.80
54F423	50-251340NTNT*	50	0.0004	30.10

*With external magnetic shield on meter base; without sealed terminal studs.

AC AMMETERS — TRANSFORMER RATED, 0-5 AMPS

Scale Amps	Term. Resis. Ohms	250 BIG LOOK 3½" Type 50-250340- Stock No.		NET	250 BIG LOOK 4½" Type 50-250440- Stock No.		NET	251 HORIZON LINE 3½" Type 50-251340- Stock No.		NET
10	0.007	54F424	LSMT	25.80	54F429	LSMT	28.80	54F434	LSMT	25.80
75	0.007	54F425	LSPB	25.80	54F430	LSPB	28.80	54F435	LSPB	25.80
100	0.007	54F426	LSPK	25.80	54F431	LSPK	28.80	54F436	LSPK	25.80
200	0.007	54F427	LSRL	25.80	54F432	LSRL	28.80	54F437	LSRL	25.80
500	0.007	54F428	LSSF	25.80	54F433	LSSF	28.80	54F438	LSSF	25.80

SERIES 254/255 DC PANEL METERS — PIVOT AND JEWEL

Pivot and jewel DC panel meters. All meters meet ANSI specifications C-39.1. Accuracy: ±2% of full scale. Overload: DC voltmeters, 20% momentary and sustained; DC ammeters (momentary), 10 times the rated current for 10 consecutive intervals of ½ second with one minute interval between successive applications: DC ammeters (sustained), 20% for 8 hours.

Size	254 BIG LOOK Scale Length	255 HORIZON LINE Scale Length
2½"	2.06"	2.06"
3½"	2.88"	2.88"
4½"	3.93"	3.93"

DC VOLTMETERS

Scale Volts	Term. Resis. Ohms	254 BIG LOOK 3½" Type 50-254320- Stock No.		NET	254 BIG LOOK 4½" Type 50-254420- Stock No.		NET	255 HORIZON LINE 3½" Type 50-255320- Stock No.		NET
10	1000	54F439	MTMT	29.40	54F442	MTMT	30.20	54F445	MTMT	29.40
150	Ohms/	54F440	PZPZ	29.40	54F443	PZPZ	32.40	54F446	PZPZ	29.40
300	Volt	54F441	RXRX	30.60	54F444	RXRX	33.40	54F447	RXRX	30.60

DC VOLTMETER — RATED 0-1 mADC, USE WITH EXTERNAL RESISTORS

Scale Volts	Term. Resis. Ohms	254 BIG LOOK 3½" Type 50-254304- Stock No.		NET	254 BIG LOOK 4½" Type 50-254404- Stock No.		NET	255 HORIZON LINE 3½" Type 50-255304- Stock No.		NET
750	125	54F448	FASM	27.10	54F449	FASM	29.10	54F450	FASM	27.10

DC MICROAMMETERS

Scale μA	Term. Resis. Ohms	254 BIG LOOK 3½" Type 50-254300- Stock No.		NET	254 BIG LOOK 4½" Type 50-254400- Stock No.		NET	255 HORIZON LINE 3½" Type 50-255300- Stock No.		NET
20	3400	54F451	CFCF	47.40	....	....	.....	54F455	CFCF	47.40
100	1525	54F452	DRDR	31.60	54F454	DRDR	34.70	54F456	DRDR	31.60

For additional sizes and ranges, contact your local NEWARK Branch.

General Electric Panel Meters

SERIES 254/255 DC PANEL METERS

3½" DC MILLIAMMETERS

SERIES 254 BIG LOOK

Stk. No.	Type	Scale mA	Term. Resis. Ohms	Each
54F519	50-254300FAFA	1	64	27.10
54F520	50-254300HYHY	50	1.9	
54F521	50-254300JRJR	100	0.50	
54F522	50-254300KMKM	500	0.100	

SERIES 255 HORIZON LINE

Stk. No.	Type	Scale mA	Term. Resis. Ohms	Each
54F523	50-255300FAFA	1	64	27.10
54F524	50-255300HYHY	50	1.9	
54F525	50-255300JRJR	100	0.50	
54F526	50-255300KMKM	500	0.100	

3½" DC AMMETERS — 50 mV SHUNT-RATED

SERIES 254 BIG LOOK

Stk. No.	Type	Scale Amps	Term. Resis. Ohms	Each
54F527	50-254324ECNG	20	12.5	27.50
54F528	50-254324ECPK	100	Ohms	
54F529	50-254324ECSF	500	Cali-	
54F530	50-254324ECVE	2.0 kA	brated*	

SERIES 255 HORIZON LINE

Stk. No.	Type	Scale Amps	Term. Resis. Ohms	Each
54F531	50-255324ECNG	20	12.5	27.50
54F532	50-255324ECPK	100	Ohms	
54F533	50-255324ECSF	500	Cali-	
54F534	50-255324ECVE	2.0 kA	brated*	

*For use with two-way shunt lead resistance of 0.065 ohms.

3½" DC AMMETERS

SERIES 254 BIG LOOK

Stk. No.	Type	Scale Amps	Term. Resis. Ohms	Each
54F535	50-254300LCLC	1.5	0.0333	27.50
54F536	50-254300MTMT	10	0.005	
54F537	50-254300NTNT	50	0.001	

SERIES 255 HORIZON LINE

Stk. No.	Type	Scale Amps	Term. Resis. Ohms	Each
54F538	50-255300LCLC	1.5	0.0333	27.50
54F539	50-255300MTMT	10	0.005	
54F540	50-255300NTNT	50	0.001	

SERIES 195/196 PROTECTORS/CONTROLLERS

4½" TYPE SINGLE HIGH SETPOINT

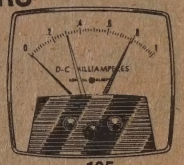
SERIES 195 BIG LOOK PROTECTOR

Stk. No.	Type	Scale Range	Max. Lead Resis. Ohms	Each
54F541	195450ABAB	0-150° F/70°C	200	188.50
54F542	195450AJAJ	0-650° F/350°C	200	169.10
54F543	195450EUAU	0-2000° F/1100°C	10	169.10
54F544	195450JKCC	0-3000° F/1650°C	10	169.10

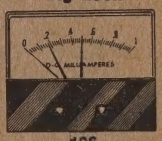
SERIES 196 HORIZON LINE PROTECTOR

Stk. No.	Type	Scale Range	Max. Lead Resis. Ohms	Each
54F545	196450ABAB	0-150° F/70°C	200	188.50
54F546	196450AJAJ	0-650° F/350°C	200	169.10
54F547	196450EUAU	0-2000° F/1100°C	10	169.10
54F548	196450JKCC	0-300° F/1650°C	10	169.10

Lead length compensation up to 10 ohms. Bimetal type cold-junction compensation. Thermocouple-break protection standard on pyrometer controllers, optional on over-temperature protectors. Accuracy: ±2% of full scale at 117 volts input power. Repeatability: 0.3% of full scale. Setpoint Travel: 100% of full scale. Minimum Span: 0-150°F/70°C. Units thru 0-1000°F/500°C are calibrated for iron-constantan; from 0-1600°F/800°C thru 0-2500°F/1400°C for chromel-alumel; 0-3000°F/1650°C for platinum-platinum/13% rhodium.



195
Big Look



196
Horizon Line

SERIES 195/196 SINGLE-HIGH SETPOINT DC METER RELAYS

Models are zero-left. Accuracy: ±2% of full scale at 117 volts input power. Repeatability: 0.3% of full scale. Setpoint Travel: 100% of full scale. Minimum Span: 0.5 μA. Input Power: 107-127 VAC, 50/60 Hz. Lamp: Derated to provide 5 year life.

Load Relay: DPDT per set point. Contact Rating: 5 amps AC non-inductive at 120 volts; 5 amps DC non-inductive at 28 volts; 0.2 amps DC non-inductive at 125 volts.

DC MICROAMMETERS

Scale	Term. Res. Ohms	195 BIG LOOK									196 HORIZON LINE						
		Stock No.	2½" 195210	NET	Stock No.	3½" 195310	NET	Stock No.	4½" 195410	NET	Stock No.	3½" 196310	NET	Stock No.	4½" 196410	NET
50μA	1600	54F549	CYCY	162.20	54F551	CYCY	156.50	54F553	CYCY	160.70	54F555	CYCY	156.50	54F557	CYCY	160.70
100μA	1525	54F550	DRDR	156.50	54F552	DRDR	151.70	54F554	DRDR	155.40	54F556	DRDR	151.70	54F558	DRDR	155.40

DC MILLIAMMETERS

1mA	64	54F559	FAFA	152.80	54F561	FAFA	147.50	54F563	FAFA	150.20	54F565	FAFA	147.50	54F567	FAFA	150.20
10mA	1.8	54F560	GZGZ	152.80	54F562	GZGZ	147.50	54F564	GZGZ	150.20	54F566	GZGZ	147.50	54F568	GZGZ	150.20

DC AMMETERS

Scale	195 BIG LOOK							196 HORIZON LINE						
	Stock No.	2½" Type	NET	Stock No.	3½" Type	NET	Stock No.	4½" Type	NET	Stock No.	3½" Type	NET	Stock No.	4½" Type	NET
1A	54F577	195210-1A	152.80	54F578	195310-1A	147.50	54F579	195410-1A	150.20	45F580	196310-1A	147.50	54F581	196410-1A	150.20

DC MILLIVOLTMETERS

Scale	Term. Res. Ohms.	195 BIG LOOK						196 HORIZON LINE					
		Stock No.	3½" Type 195311-	NET	Stock No.	4½" Type 195411-	NET	Stock No.	3½" Type 196311-	NET	Stock No.	4½" Type 196411-	NET
5mV	....	54F569	JDJD	181.70	54F571	JDJD	185.30	54F573	JDJD	181.70	54F575	JDJD	185.30
10mV	....	54F570	JEJE	177.00	54F572	JEJE	181.30	54F574	JEJE	177.00	54F576	JEJE	181.10

For additional sizes and ranges, contact your local NEWARK branch.

Switchboard Instruments

SERIES 185 EDGEWISE METERS, VERTICAL SCALES

Slim, miniature design can be mounted individually or in space-saving clusters. Flush sides assure tight, case-to-case stacking without mechanism bulge. Magnetically shielded to prevent interaction between meters; no need for special calibration. Meet applicable portions of ANSI C-39.1. Accuracy: ±2% of full scale, DC meters; ±3% with 60-Hz sine wave at 25°C, AC rectifier meters. Overload: 20% momentary and sustained, voltmeter; 1000% momentary and 20% sustained, ammeter. Insulation: 1800V rms hi-pot. Scale: 1.785″ long, 53° rotation. Response Time and Damping: Meet or exceed ANSI requirements. Response time 3 sec. max., A meters; 2 sec. max., all other DC ratings; 2.5 sec. max., AC ratings. Damping 40% max. overshoot; damping factor, 2.5 minimum. Size: 0.92″ w. x 2.258″ lg. x 3.44″ d., overall. Bezel 1.255″ w. x 3.005″ lg., single; 2.155″ w., double; 3.055″ w., triple-unit mounting.

DC VOLTMETERS

Stk. No.	Scale Range	Term. Resis. Ohms	Vertical Type	Each
54F457	0-10	1000	50-185013MTMT	**28.00**
54F458	0-150	Ohms/	50-185013PZPZ	**28.00**
54F459	0-300	Volt	50-185013RXRX	**29.10**

DC MICROAMMETERS

54F460	0-50	1625	50-185113CFCF	**36.50**
54F461	0-100	1350	50-185113DRDR	**30.10**
54F462	0-500	200	50-185113EMEM	**25.80**

DC MILLIAMMETERS

54F463	0-1	40	50-185113FAFA	**25.80**
54F464	0-50	1.0	50-185113HYHY	**25.80**
54F465	0-100	0.5	50-185113JRJR	**25.80**
54F466	0-500	0.1	50-185113KMKM	**25.80**

DC MILLIAMMETERS — ZERO-CENTER

54F467	1-0-1	40	50-185114FAFA	**25.80**
54F468	10-0-10	0.5	50-185114GZGZ	**25.80**

AC VOLTMETER — RECTIFIER TYPE

54F469	0-150	1K/V	50-185053PZPZ	**34.80**

AB-30

AB-40

- ±1% Accuracy
- Ideal Where Space Is Limited
- Dustproof Cases

±1% accuracy switchboard instruments intended for general switchboard service on both large and small equipment. Excellent for control stations, test equipment, and other installations where space is limited. Cases are dustproof and designed for semiflush mounting. White scales with black markings standard. AB-30 scales have a maximum of 3 digits; AB-40 have a maximum of 4 digits.

AC VOLTMETERS

50/60 Hz; iron vane type. Taut band except AB-30 (pivot and jewel, 60 Hz).

Scale	AB-30 Stk. No.	AB-30 Type	AB-30 Net	AB-40 Stk. No.	AB-40 Type	AB-40 Net
0-150V	**54F582**	50-105031PZPZ	**128.00**	**54F585**	50-103021PZPZ	**162.00**
0-300V	**54F583**	50-105021RXRX	**140.00**	**54F586**	50-103021RXRX	**175.00**
0-600V	**54F584**	50-105021SJSJ	**161.00**	**54F587**	50-103021SJSJ	**199.00**

DC VOLTMETERS

Scale	DB-30 Stk. No.	DB-30 Type	DB-30 Net	DB-40 Stk. No.	DB-40 Type	DB-40 Net
0-150V	**54F588**	50-112011PZPZ	**154.00**	**54F589**	50-103011PZPZ	**171.00**

DC AMMETERS — TAUT BAND

0-1 mA	**54F590**	50-112111FAFA	**153.00**	**54F591**	50-103111FAFA	**167.00**

AC FREQUENCY METERS

Taut band. Accuracy ±0.1 Hz. 120 V rating.

Scale Hz	Ctr. Freq. Hz.	AB-30 Stk. No.	AB-30 Type	AB-30 Net	AB-40 Stk. No.	AB-40 Type	AB-40 Net
55-65	60	**54F592**	50-112372ANAN	**447.00**	**54F593**	50-103372ANAN	**464.00**

AC SYNCHROSCOPES

Pivot and jewel; 120 V, 60 Hz (normal freq.) rating.

Scale	AB-30 Stk. No.	AB-30 Type	AB-30 Net	AB-40 Stk. No.	AB-40 Type	AB-40 Net
Slow-fast	**54F594**	50-105452AAAA	**411.00**	**54F595**	50-106452AAAA	**457.00**

TAUT BAND AC POWER-FACTOR METERS

Type AB-40 50-103 412 FCAD — Accuracy ±1% of scale length. Single-phase/2-wire, 5 amps, 120 V, 50/60 Hz.

Type AB-40 50-103 402 FEAD — Accuracy ±1% of scale length. Three-phase/3-wire, 5 amps, 240 V, 50/60 Hz.

Stk. No.	AB-40 Type	Rating Amps	Rating Volts	Scale	Each
54F596	50-103412FCAD	5	120	.5-1-.5	**471.00**
54F597	50-103402FEAD	5	240	.5-1-.5	**404.00**

TYPE 180 INDICATING INSTRUMENTS — VERTICAL SCALES

DC VOLTMETERS, D'ARSONVAL TYPE,

Stk. No.	Type	Scale Range	Term. Resis. Ohms	Each
54F602	50-180013NDND	0-15 V	1000 ohms/	**68.00**
54F603	50-180013PZPZ	0-150 V	volt	**76.00**

DC AMMETERS, D'ARSONVAL TYPE,

54F598	50-180113CYCY	0-50μA	2760	**91.00**
54F599	50-180113FAFA	0-1mA	62.7	**68.00**
54F600	50-180113KMKM	0-500mA	0.1	**68.00**
54F601	50-180113MTMT	0-10A	0.005	**68.00**

AC VOLTMETERS, IRON VANE TYPE

Stk. No.	Type	Scale Range	Each
54F604	50-180033PZPZ	0-150 V	**76.00**
54F605	50-180033SJSJ	0-600 V	**107.00**

AC AMMETERS, IRON VANE TYPE

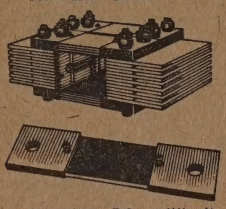
54F606	50-180143LSLS	0-5 A	**76.00**
54F607	50-180143NTNT	0-50 A	**98.00**

Meters, Instruments, Accessories
GENERAL ELECTRIC

H-10 REFRIGERANT LEAK DETECTOR

AC voltage powered for 120-volt use. Finds halogen gases and R-12, R-22, etc., refrigerant leaks down to 0.5 oz. per year. Actually inhales a sample of the gas for fast, dependable leak detection.
Type 50-420805AAAA H-10 Refrigerant Leak Detector.
54F498 NET 132.60

140 SHUNTS WITH BASE — RATED 50mV



Stk. No.	Type 50-140-031-	Rated Amps	Each
54F470	MTAA	10	14.26
54F471	NDAA	15	14.26
54F472	NGAA	20	14.26
54F473	NLAA	30	14.26
54F474	NPAA	40	14.26
54F475	NTAA	50	14.26
54F476	NWAA	60	14.26
54F477	PBAA	75	14.26
54F478	PDAA	80	14.26
54F479	PKAA	100	14.26
54F480	PZAA	150	14.26
54F481	RLAA	200	14.26
54F482	RSAA	250	15.34
54F483	RXAA	300	16.31
54F484	SCAA	400	20.41
54F485	SFAA	500	23.54
54F486	SJAA	600	27.54
54F487	SNAA	800	31.64
54F488	SSAA	1000	36.72

Provides DC millivolt signal proportional to DC amps. Accuracy: ±¼% calibrated accuracy. Minimum Rating: 10 amps, 50 mV or 100 mV. Maximum Rating: 10 kA, 50 mV or 100 mV.

BACK OF PANEL

Stk. No.	Type	VAC	Readout	Each
54F499	50-240003AAAA	120	Minutes	23.60
54F500	50-240003ABAA	240	Minutes	24.70
54F501	50-240001AAAA	120	Hours	23.60
54F502	50-240001ABAA	240	Hours	24.70
2½-INCH BIG LOOK				
54F503	50-240213AAAB	120	Minutes	30.50
54F504	50-240213ABAB	240	Minutes	31.50
54F505	50-240211AAAB	120	Hours	30.50
54F506	50-240211ABAB	240	Hours	31.50
3½-INCH BIG LOOK				
54F507	50-240313AAAB	120	Minutes	30.50
54F508	50-240313ABAB	240	Minutes	31.50
54F509	50-240311AAAB	120	Hours	30.50
54F510	50-240311ABAB	240	Hours	31.50
2½-INCH ROUND CASE				
54F511	50-240633AAAE	120	Minutes	34.10
54F512	50-240633ABAE	240	Minutes	35.20
54F513	50-240634AAAE	120	Hours	45.20
54F514	50-240634ABAE	240	Hours	45.70
3½-INCH ROUND CASE				
54F515	50-240733AAAE	120	Minutes	34.10
54F516	50-240733ABAE	240	Minutes	35.20
54F517	50-240731AAAE	120	Hours	34.10
54F518	50-240731ABAE	240	Hours	35.20

"SNAPPER" AC HOOK-ON METERS

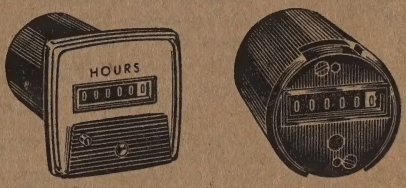
Measure AC volts, amps, and resistance (with optional resistance probe). Selectable ranges with rotary drum type or flat scales. Slim jaws are double insulated. Built-in pointer lock. Complete with voltage leads and carrying case.
Type 50-190611AAAA1 Snapper 150. Measures 0-150/600 volts; 0-30/150 amps; 0-1000 ohms (with optional probe).
54F495 NET 53.90
Type 50-190911AAAA1 Resistance Probe. Measures 0-1000 ohms DC resistance when used with the Snapper meter. Two "AA" cells not included.
54F496 NET 7.70
Type 2626K17G2 Voltage Lead Assembly.
54F497 NET 7.70

ELECTRICAL TRANSDUCERS

Volts Transducer: Converts AC output into a proportional DC output. **Amperes Transducer:** Converts AC current output into a proportional DC output. **Watts/Vars Transducer:** Converts watts/vars into a proportional DC output. **Frequency Transducer:** Converts frequency into a proportional DC output. **Phase Angle/Power Factor Transducer:** Measures the angle generated between voltage and current and converts it into a proportional DC output.

Stk. No.	Type 50-47	Descr.	Input Rating	Output mA	Each
54F489	2101DFDC	Volts	0-150 VAC	0—1	87.00
54F490	2201TFDC	Amps	0-5 amps	0—1	87.00
54F491	2320MNDD	Watts	85-150 VAC	0±1	335.00
54F492	2420MNDD	Vars	85-150 VAC	0±1	350.00
54F493	2636JHDD	θ/PF	3-phase, 0-60°	—1 to +1	301.00
54F494	2500JKHB	Freq.	55-60-65 Hz	—.5 to +.5	273.00

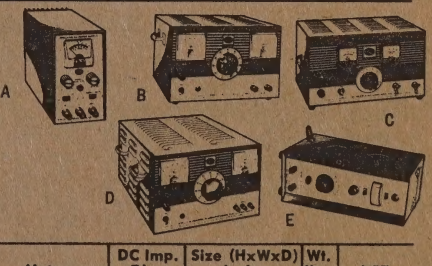
SERIES 240 ELAPSED TIME METERS



- Elapsed Time in Hours and Tenths of Hours or Minutes and Tenths of Minutes
- Synchronous Motor
- 6 Digit Readout
- Weather Resistant

Elapsed time meters without reset button. Features include synchronous motor with gear connected to digital readout counter. Meters display elapsed time in hours and tenths of hours or minutes and tenths of minutes by 6 digits. Weather resistant. One piece Lexan case and window with no-through screw holes for flange or back-of-panel mounting protect motor, counter, and gearing from rain or panel wash-down. Accuracy: Matches frequency control of power system. Vibration-Shock: Meets ANSI Specifications C-39.1. Input Range: 120/240 VAC, 50/60 Hz: 208/480 VAC, 60 Hz. Insulation Level: 2000 volts rms hi-pot for one minute. Burden Data: 2.5 volt-amps maximum. UL approved.

EPSCO POWER SUPPLIES



For use in design, development, and testing of transistor circuitry. For servicing and operating auto, aircraft, marinecraft radio, electronic equipment, etc. For production line testing, industrial and educational laboratory work, and many other applications. Features include: Voltage regulation, AC ripple filtering, adjustable output voltage, large easy-to-read meters, isolated output terminals, 1-year warranty. Input — Regulated Models: 105-125 VAC, 60 Hz. Industrial and General Purpose Models: 117 VAC, 50/60 Hz. Note: (*) — No-load to full-load unless otherwise specified. (†) — Output voltage change for each ampere of output current change, except on regulated units, % applies for either line or load. (††) — All 2% accuracy except 5% for general purpose units. Rectifiers: Selenium and Silicon. (**) — From 105-125 VAC.

REGULATED

Stock No.	Model	Volts Output	Amps. Output	Fig.	Line Reg.**	Load Reg.*	Max. Ripple, RMS	Meters	DC Imp. Ohms	Size (HxWxD) Inches	Wt. lbs.	NET
66F454	PSR-12-25	0-25	0-500mA	A	0.01%+2mV	0.01%	100μV	0-30V/600mA	.006	5¼ x3⅛x10	7	137.70
66F455	PSR-12-50	0-50	0-250mA	A	0.01%+2mV	0.01%	100μV	0-60V/300mA	.02	5¼ x3⅛x10	7	137.70

INDUSTRIAL

Stock No.	Model	Voltage Output	Amps. Output	Fig.	Load Reg.* (V/A)†	Max. Ripple %	Meters‡‡	DC Imped., Ohms*	Size (HxWxD) Inches	Wt. lbs.	NET
66F145	EFB	0-32	0-4	...	1.25	.01	0-40/20V, 0-10A	1.25	7x12x8½	28	226.15
		0-16	0-8		1.0	0.1		1.0			
66F118	NFB	0-32	0-15	B	0.4	0.75	0-50V, 0-25A	0.4	9¾x14¼x14¼	84	443.50
66F260	PS-5	0-55	0-10	B	0-8	0.5	0-75V, 0-15A	0.7	9¾x14¼x14¼	70	399.45
66F456	PS-1000-125	0-125	0-8A	D	1.0	Less than 1%	0-150V, 0-10A	1.0	9¾x14¼x19¼	113	608.90

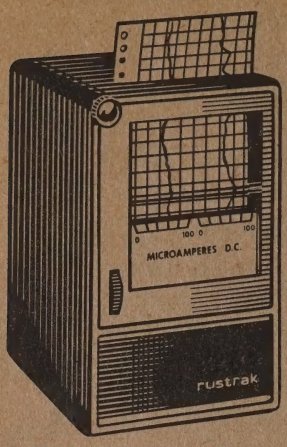
GENERAL PURPOSE

66F119	D-612T	0-16	0-10	C	0.44 (3-10A)	0.5 @ 5A	0-20V, 0-10A	0. 44 (3-10A)	7x12x8½	20	116.70
		0-8	0-10		0.3 (3-10A)	2 @ 10A		0.3 (3-10A)			
66F261	EC-2	0-16	0-5	E	1.8	0.5	0-20V, 10A	1.8	10¾x4⅜x6½	11	92.60

rustrak

Chart Recorders

EVENT RECORDER

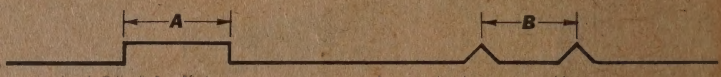


Model 292, four or eight channel event recorders provide a permanent record of four or eight individual channels of ON-OFF data. **Actuator specifications** (select when ordering): 6VDC-300mA; 12VDC-150mA; 24VDC-70mA; 48VDC-35mA, unless otherwise specified, 24VDC type will be furnished. **Response time:** 10 ms (up to 20 Hz ON-OFF signal). **Record pattern:** continuous rectangular. **Standard Motor:** 2RPM, 115VAC, 60Hz.

MODEL 292 EVENT RECORDS CHART SPEED DATA

2 RPM MOTOR	Gear Train No.	#¼	#½	#1	#2	#3	#6	#10	#12	#15	#30	#60
	Chart Speed (In/Hr)	¼	½	1	2	3	6	10	12	15	30	60
	A or B (Sec)	720	360	180	90	60	30	18	15	12	6	3

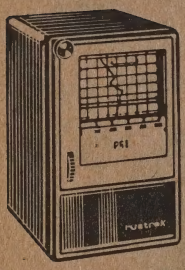
In order to resolve pulses or pulse spacing, choose chart speed corresponding to nearest minimum event time (A), or chart speed corresponding to minimum time between event (B).



Example: Assume (A) is 15 second-chart speed is 12 in/hr. Use 2 rpm motor and a #12 gear train. Assume (B) is 3 seconds-chart speed is 60 in/hr. Use standard 2 rpm motor and #60 gear train.

Stk. No.	Type	No. of Channels	Each
62F2181	292-4	4	131.00
62F2182	292-8	8	182.00

DC SINGLE CHANNEL RECORDER



- **Galvanometer Movement**
- **Sliding Access Window**
- **Thumbwheel Chart Advance**
- **Rugged Die-Cast Aluminum Case**

Model 288. Measures and records electrical signals without amplification. Writes on pressure sensitive rectilinear chart paper by making a series of dots which form a continuous line representing the function being monitored. Inkless, dry writing offers wide range of sensitivities, writing speeds and chart speeds. Incorporates both chart tear-off and chart reroll. Chart can be reviewed and rerolled while recorder is operating. Sliding access window permits operator to make notations on chart. Die-cast aluminum case is finished in epoxy suede-like charcoal grey.

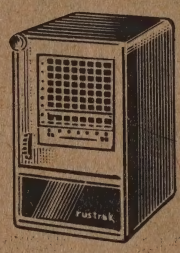
Thumbwheel on front panel facilitates precise setting of timing lines or chart paper and permits quick discharge of recorded data when using tear-off operation. **Usable chart width:** 2-5/16". **Accuracy:** ±2% of full scale. **Response time:** less than 1.0 sec. **Dimensions:** 5⅝"H, 3⅝"W, 4⅛"D. **Wt.:** 3½ lbs. approx. **Range:** 0-1 mA.

62F2193. NET **117.00**

As above except **Range:** 0-10 mV.

62F2195. NET **130.00**

DUAL CHANNEL RECORDER



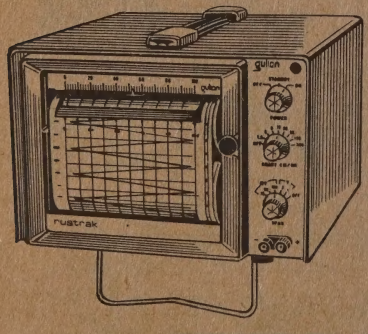
Model 291. Similar to Model 288 except two galvanometers enclosed in the same size housing. Permits recording from two individual information sources. Calibrated chart width for each channel is one inch. Both channels are independent. **Power Requirement:** 120 V, 50/60 Hz. **Sensitivity:** Channel 1—0-1 mA; Channel 2—0-1 mA.

62F2178. NET **168.00**

CHART PAPER (63 Foot Roll)

Stk. No.	Type	Description	NET
62F1262	WA	50 Divisions	2.85
62F1263	WB	75 Divisions	
62F1244	WD	20 Div. (Dual Channel)	
62F1329	EE	4-Channel Event	
62F2186	WH	40 Divisions	
62F2188	WK	60 Divisions	

4" SERVO RECORDER



Null balance potentiometric recorder uses disposable fiber tip cartridge pen. Supplied with red pen standard. Replacement pens can be ordered in any of five colors: Black, Blue, Green, Red or Violet. Manual pen lifter. Standard 2 RPM, single-speed synchronous motor drives chart at speed of 1 inch per hour. Chart speeds of 1.5, 3, 6, 15, 30, 60, 150 or 300 cm/hr. can be obtained by ordering the Multispeed Drive option, part no. TAC-256 (see below). Roll charts are 35 meters long, Z-fold charts are 20 meters long. Provides zero and span control. **Calib. width:** 100mm. **Sensitivity:** 100mV standard (for other sensitivities see options). **Response:** 0.5 seconds full scale. **Input Z:** 1 megohm. **Source Z:** 10,000 ohms. **Oper. Temp.:** 0-60°C. **Power:** 120V. 60 Hz. **Size:** 9"D x 5¾"H x 9"W. Weight: 9 lbs. approx.

62F2143. Model 500BZ. with Z-fold chart **399.00**
62F2144. Model 500BT. with tear-off **399.00**
62F2145. Model 500BR. with Re-roll **419.00**

PENS FOR SERVO RECORDER (Pkg. of 4)

62F2146. Type PA-500 RED **8.00**
62F2147. Type PA-500 BLUE **8.00**
62F2148. Type PA-500 GREEN **8.00**
62F2149. Type PA-500 BLACK **8.00**
62F2150. Type PA-500 VIOLET **8.00**

CHART PAPER (Pkg. of 6)

Stk. No.	Type	Description	Net
62F2151	A-500 R	Roll, 100', 100mm grid, no scale ident.	16.80
62F2152	A-500 Z	Z-Fold, 20M, 5cm fold, 100mm grid, no scale identification.	16.80
62F2153	A-501 R	Same as 500 R, except scales marked 0-20, 40, 60, 80, 100. Zero Left Hand Margin.	16.80
62F2154	A-501 Z	Same as 500 Z, except with scale marked as above.	16.80

OPTIONS (*Add to Cost of Recorder)

Stk. No.	Type	Description	Price*
62F2155	TAC-256	Multispeed drive.	60.00
62F2156	TAC-258	Multispan (10, 50, 100 mV, .5, 1V)	75.00
62F2157	TAC-260	Series plug-in range card (1, 10, 25, 50 mV)	75.00
62F2158	TAC-261	Series plug-in range card (5, 10, 50, 100 VDC)	20.00
62F2159	TAC-262	Series plug-in range card (1, 10, 100 mA or 1-5, 4-20, 10-50 mA)	20.00

Recording Tape and Accessories

3M COMPANY

LOW NOISE/DYNARANGE®

Offer highest realism, fidelity and sensitivity. Provides 4 to 6 dB improvement in signal-to-noise ratio compared to tapes with ordinary oxide. Clean, crisp response present across the audio spectrum. This superior oxide coating is placed on rugged, long-lasting polyester base. †Total time in minutes, both directions, at 7½ ips.

Stk. No.	Type	Mils	Reel	Length	Time†	1-11	12-Up
76F779	211-¼-R30	1.5	5″	600′	30	2.99	2.70
76F781	212-¼-R45	1.0	5″	900′	45	3.49	3.15
76F784	214-¼-R90	.5	5″	1800′	90	5.99	5.40
76F780	211-¼-R60	1.5	7″	1200′	60	4.49	4.05
76F782	212-¼-R90	1.0	7″	1800′	90	5.99	5.40
76F783	213-¼-R120	.5	7″	2400′	120	8.99	8.10
76F785	214-¼-R180	.5	7″	3600′	180	11.99	10.80

HIGH OUTPUT/LOW NOISE

Preferred for professional recording. Provides a 50% increase in output over premium low-noise tape, improving dynamic range 3 dB. New Posi-Trak backing offers toughness, scratch resistance and optimum head-to-tape contact.

Stk. No.	Type	Mils	Reel	Length	Time	1-11	12-Up
76F777	206-¼-R60	1.5	7″	1200′	60	5.99	5.40
76F778	207-¼-R90	1.0	7″	1800′	90	7.49	6.75

HIGHLANDER® LOW NOISE

Economical tape for voice and music recording has low-noise oxide coating and tough polyester base.

Stk. No.	Type	Mils	Reel	Length	Time	1-11	12-Up
76F786	228-¼-R60	1.5	7″	1200′	60	3.99	3.60
76F787	229-¼-R90	1.0	7″	1800′	90	5.49	4.95

TYPE 206/207 HIGH OUTPUT/LOW NOISE

Polyester with back treatment. Offers 3 dB more headroom or 3 dB more S/N. Reduced cinching, increased resistance and electrical conductivity. Has "Posi-Trak" backing.

Stk. No.	Type	Mils	Reel	Length	1-11	12-Up
76F250	206-¼-2500R0	1.5	10½″	2500′	12.52	11.27
76F251	207-¼-3600R0	1.0	10½″	3600′	17.64	15.88

TYPE 208/209 LOW PRINT/LOW NOISE

Polyester with back treatment.

Stk. No.	Type	Mils	Reel	Length	1-11	12-Up
13F3365	208-¼-600	1.5	5″	600′	2.80	2.52
13F3366	208-¼-1200	1.5	7″	1200′	4.60	4.14
13F3367	208-¼-2500R0	1.5	10½″	2500′	11.84	10.66
13F3368	209-¼-900	1.0	5″	900′	3.88	3.49
13F3369	209-¼-1800	1.0	7″	1800′	6.48	5.83
13F3370	209-¼-3600R0	1.0	10½″	3600′	16.60	14.94

"LIVING LETTERS"

Tape in plastic mailing container. Polyester, except *acetate. Total time both directions at 7½ ips.

Stk. No.	Type	Mil	Reel	Time	1-11	12-Up
76F732	211-¼-R7-5LL*	1.5	3″	7.5	1.49	1.35
76F788	214-¼-R30LL	.5	3″	30	3.49	3.15

8-TRACK CARTRIDGES

Low Noise Dynarange. Sufficient dynamic range for every recording application. Low rub-off lubrication system.

Stk. No.	Type	Time	1-11	12-Up
76F775	S-8TR-45	45 min.	2.49	2.25
76F776	S-8TR-90	90 min.	2.99	2.70

High Output/Low Noise. Provides 2 dB more signal than other quality cartridges, and cuts background tape hiss 4 dB. Suitable for Q-8 systems.

Stk. No.	Type	Time	1-11	12-Up
13F3375	S-8TR-45HO/LN	45 min.	2.99	2.70
13F3376	S-8TR-90HO/LN	90 min.	3.49	3.15

SCOTCH MAGNETIC TAPE CASSETTES

HIGHLANDER CASSETTE

SCOTCH TAPE CASSETTE

Highlander Low Noise. Good. Offers dependability with absolute economy. Low noise oxide and tough polyester base.

Stk. No.	Type	Length	1-11	12-Up
76F789	H-C-45	22.5 min. each side	1.29	1.17
76F253	H-C-60	30 min. each side	1.49	1.35
76F254	H-C-90	45 min. each side	2.19	1.98
13F3371	H-C-120	60 min. each side	3.49	3.15

Low Noise/High Density. Better. A high quality cassette normally compared with premium quality line of other brands.

Stk. No.	Type	Length	1-11	12-Up
76F790	S-C-45	22.5 min. each side	1.89	1.71
76F649	S-C-60	30 min. each side	2.19	1.98
76F743	S-C-90	45 min. each side	3.19	2.88
76F744	S-C-120	60 min. each side	4.49	4.05

TYPE 156 EXTERNALLY LUBRICATED TAPE

Single coated, with external lubrication on backing side only. High potency oxide coating on 1 mil polyester backing. Available in size ¼″ x 1800' on 7″ plastic reels. Designed for continuous loop cartridges. Shpg. wt. 11½ lbs.

76F728. 1-11 ..... 6.34 12-Up 5.83

SPLICING TAPE

No. 620 is required for splicing tapes with "Posi-Trak" backing (206, 207). It may also be used to splice all Scotch recording tapes.

Stk. No.	Type	Size	1-11	12-Up
76F652	41-½-66	½″ x 66′	1.59	1.44
76F656	41-7/32-66	7/32″ x 66′	1.39	1.26
76F334	620-7/32-66	7/32″ x 66′	2.99	2.70
76F335	620-½-66	½″ x 66′	4.19	3.78

NO. 51 ALUMINIZED SENSING TAPE

For recorders with automatic stop and reverse controls.

76F718	51-7/32S	7/32″ x 150″	1.59	1.44

NO. 24 LEADER AND TIMING TAPE

Stk. No.	Type	Color	Size	1-11	12-Up
76F713	24W-¼-100	White	¼″ x 100′	.89	.81

EMPTY SELF-THREADING REEL

Snap tight plastic collar. With label.

Stk. No.	Type	1-11	12-Up
76F730	PRST 7	1.99	1.80

EMPTY REELS IN BOXES

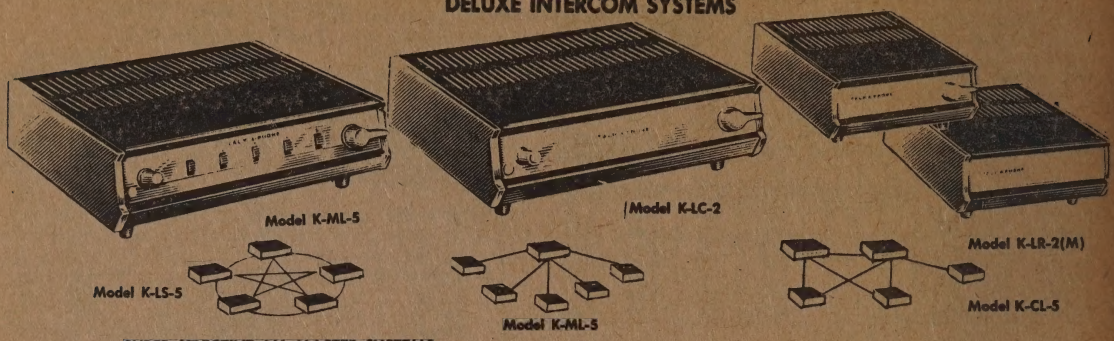
Stk. No.	Type	Size	Description	1-11	12-Up
76F661	RB-¼-5	5″	Plastic reel	.79	.72
76F660	RB-¼-7	7″	Plastic reel	1.09	.99
13F3377	RB-¼-10½ RPL	10½″	Plastic; 3″ NAB hole	4.19	3.77
76F669	RB-¼-10½ RPS	10½″	Plastic; ½″ EIA hole	4.69	4.22
76F667	ROB-¼-10½ M	10½″	Metal; 3″ NAB; 4-hole	6.59	5.93
13F3379	RB-¼-10½ M	10½″	Metal; 3″ NAB; 3-hole	6.59	5.93

EMPTY BOXES

Stk. No.	Type	Size	Description	1-11	12-Up
13F3380	PB-7	7″	Plastic	1.99	1.80
76F695	B-¼-5	5″	Paper box	.39	.36
76F696	B-¼-7	7″	Paper box	.49	.45
76F698	B-¼-10½	10½″	Paper box	1.19	1.08

TALK-A-PHONE Intercoms

DELUXE INTERCOM SYSTEMS



SUPER SELECTIVE ALL MASTER SYSTEMS

Intercom system consisting entirely of Masters. Permits several separate conversations to be carried on without interfering with each other. System provides privacy. Stations may be located up to 1000 feet apart. Operates on 110-120 volts, AC-DC. Complete with instructions. Transistorized. Charcoal gray and brushed chrome. Cabinet size, 10½"x8¾"x3⅛". Shpg. wt. 7 lbs.

95F406. Model K-LS-5. For 5 stations **NET** **67.60**

95F407. Model K-LS-10. For 10 stations. **NET** **83.30**

HI-VOLUME MASTERS

Operate the same as the above masters with the added feature of 10 times volume output. For 120 volts, AC only. Masters K-AC 510 and K-AC-505 may not be intermixed with any other Master.

95F437. Model K-AC-505. Hi-Volume, 5 station. **NET** **83.30**

95F438. Model K-AC-510. Hi-Volume, 10 stations. **NET** **98.80**

36FX441. 5506 (6-conductor) cable. For interconnecting K-LS-5 or K-AC-505. **NET per foot** ..... .14

36FX442. 9911 (11-conductor) cable. For interconnecting K-LS-10 or K-AC-510. **NET per foot** ..... .26

WIRELESS 6 AND 12-STATION SELECTIVE SYSTEM

Incorporates the exclusive "Sonic Gate" together with the "Squelch" circuit to effectively suppress line noises and hum. Simple to install. Requires no wiring, no cable. Use where any 110V AC or DC electrical outlets are available on the same transformer. Each Master Station equipped with a Six or 12-channel Selector. Any Master can transmit on any of its channels, and receive calls on the channel it elects to use. Each Master with tubes and instructions. Size 14½x8¾x3⅛". Wt. 10 lbs.

95F418. T-LCM-8906. 6 Channel Master **152.00**

95F441. T-LCM-8912. 12 Channel Master **171.00**

Where some Wireless locations need not originate calls, but must reply when called. Staff Stations are available. Size 10½x8¾x3⅛". Shipping weight 12 lbs.

95F419. T-LCS-901. For Channel 1 only. **NET** **87.00**

Note: Staff stations for channels 2 to 6 available on special order.

2-STATION WIRELESS SYSTEM

A quality intercom system for Office, Factory, and Farm. No installation. Plug into 110V AC or DC electrical outlet on the same transformer. Uni-Trans gives you dictation and supervisory control. Provides continuous transmission when set for Uni-Trans. Cabinets are charcoal gray and brushed chrome. 10½x8¾x3⅛". Two Master stations. With tubes and instructions. 16 lbs.

95F413. Model T-LC-33. Two station system. **NET** **152.00**

95F414. Model T-LC-17. Additional single station. 8 lbs. **NET** **76.00**

2-STATION INTERCOMMUNICATION SYSTEM

Model K-LC-2. Transistorized Master Station and Sub-Station. With 50 ft. cable. For 110-120 volts, AC-DC. Master size: 10½x8¾x3⅛". Sub size: 7½x8¾x2⅞". Shpg. wt., 12 lbs.

95F412. NET **69.95**

36FX440. Type 5303. Extra 3-cond. cable. **NET per ft.** ..... .06

36FX449. 6303. 3-cond. shielded cable. **NET per ft.** ..... .08

COMBINATION SYSTEMS

For the more flexible type of system requiring the operation of more than one Master, along with Sub-Stations which need not originate calls. Masters may talk to each other and to each Sub in the system selectively; or, one or more Subs can be exclusive to only one Master. Masters can switch themselves "private" so that other Masters cannot listen in to them, or "non-private" at will. Masters in charcoal gray and brushed chrome cabinets. 10½"x8¾"x3⅛". Sub-Stations; 7½"x8¾"x2⅞". With instructions. Transistorized. Masters operate on 110-120 volts AC-DC. Electric curr. not needed for Sub-Stations. Shpg. wt. 7 lbs. For 120 volts, AC only. Masters K-AC-610 and K-AC-605 may not be intermixed with any other Master.

95F408. K-CL-5. Master for 5 stations. **NET** **80.00**

95F409. K-CL-10. Master for 10 stations. **NET** **98.00**

95F410. K-LR-2. Sub-Station (in same deluxe finish as Masters) for use with either of above Masters. Shpg. wt. 4½ lbs.
NET **29.25**

95F411. K-LR-2M. Sub-Station (as above, but in grained, baked enamel finish) for use with either Master. Wt. 4½ lbs.
NET **23.20**

95F442. K-LR-2R. Sub-station for flush, wall mounting. **23.20**

95F443. K-SM. Surface mtg. accessory for K-LR-2R **5.95**

95F439. Model K-AC-605. Hi-Volume, 5 stations **NET** **98.00**

95F440. Model K-AC-610. Hi-Volume, 10 stations. **112.00**

36F438. 6210. 5 pair cable for interconnecting K-CL-5 or K-AC-605. **NET per foot** ..... .24

36FX439. 6226. 13 pair cable for interconnecting K-CL-10 or K-AC-610. **NET per foot** ..... .57

36FX446. 6902. 2 conductor cable for substation. **NET per ft.** ..... .04

36FX448. 6202. (1 pr.) cable for substation. Overall jacket. **NET per ft.** ..... .06

MASTER SELECTIVE INTERCOMMUNICATION SYSTEMS

A system consisting of one Master Station and one to ten Sub-Stations. Only the Master Station plugs into an electrical outlet. System has optional feature whereby Sub-Stations can be connected "privately," or "non-privately" and still originate calls to the Master under either application. Cabinets are charcoal gray and brushed chrome, 10½"x8¾"x3⅛". Subs measure 7½"x8¾"x2⅞". With instructions, Transistorized. For 110-120 volts, AC-DC. HIGH VOLUME OUTPUT MASTERS K-AC-5406 and K-AC-5411 operate as above with the added feature of up to 10 times volume, for large areas or noisy locations. Operate on 120 volts, AC only. Note: Only one master station can be used in each Master Selective System. Weight: Masters—7 lbs. Sub-Stations—4½ lbs.

95F400. K-ML-5 Master. For up to 5 Subs. **NET** **67.60**

95F401. K-ML-10 Master For up to 10 Subs. **NET** **83.30**

95F404. K-AC-5406. High Vol. Master. 5 Sub. capacity. **83.30**

95F405. K-AC-5411. Hi Vol. Master. 10 Sub. capacity. **NET** **98.80**

95F402. K-LR-3. Sub-Station (in same deluxe finish as Masters) for use with any of above Masters. **NET** **29.25**

95F403. K-LR-3M Sub-Station (as above, but in grained, baked enamel finish) for use above Masters. **NET** **23.20**

95F448. K-LR-3R. Sub-Station for flush wall mounting. **NET** **23.20**

95F685. K-SM-L. Surface mfg. accessory for K-LR-3R. **NET 6.90**

36FX440. 5303. Three-cond. indoor cable. **NET per ft.** ..... .06

36FX449. 6303. Three cond. shielded cable. **NET per ft.** ..... .08

KC-20V

ADDITIONAL ACCESSORIES FOR COMBINATION & MASTER SELECTIVE SYSTEMS

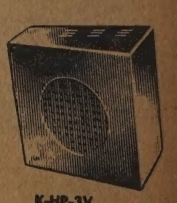
95F415. K-HP-3. Hi-Power Staff Station for wall mounting. Charcoal gray metal case. Wt. 9 lbs. Provides twice the volume of regular substation. **NET** **31.75**

95F444. K-HP-3V. Same as above, but with built-in volume control, adjustable to full output. Wt., 9 lbs. **NET** **38.20**

95F416. K-C-20. Nine inch weatherboard Re-entrant Horn. Charcoal gray color. Wt., 5 lbs. Provides over 4 times volume of regular substation.
NET **48.00**

95F446. KC-20V. Same as above, but with built-in weather resistant volume control, adjustable to full output. Wt., 5 lbs. **NET** **58.20**

95F417. K-S-100. Wall switch for origination of call through K-C-20 or K-HP-3 with Master Selective Systems. **NET** **7.35**

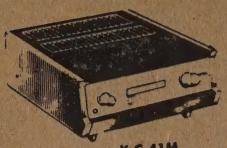


K-HP-3V

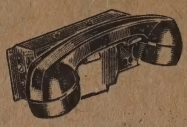
All Transistor Intercoms

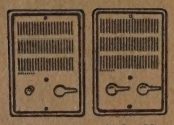
TALK-A-PHONE

MASTER STATION


K-C-41M

K-C-42


K-S-111


K-C-41R K-C-42R

"CHIEF" MASTER STATIONS

Can be used in any combination—with all Masters—one Master and Staff Stations—or a number of Masters combined with Staff Stations. 6, 12, and 20 Station Masters, together with Staff Stations can be intermixed in same system. Masters can talk with any other Master, as well as with Staffs. Staff Stations can answer all Masters and can originate calls to one or two "private" Masters, depending upon Staff's capacity. Staff Stations are not connected to electrical outlets.Exclusive Features: (1) Dynasonic Design enables stations to perform "privately" (so no one can listen in) or "non-privately" (for reply without use of controls). The same master can be "private" to one or more Masters and "non private" to others. (2) Monitoring signal visually indicates to a "non private" station that it is being monitored. (3) Busy signal visibly indicates when station you call is "busy". All units have facility to override "busy signal" for important calls. (4) Multi-magic station selector enables selection of up to 30 stations with only 12 push buttons. (5) Uni-trans dictation control. (6) External relay control enables Master to activate external relays for operating siren, gong, light, etc. (7) Reciprocal Power supply—Each Master operates on 120 volts AC only and should be plugged in. Where no electrical outlet is available up to 30% of the "Chief" Masters in the system can operate without being plugged in. (8) Noise-free voice range power. The exclusive patented circuit enables performance without noise, hum or distortion, when used with Talk-A-Phone cable. (9) Hi power staff stations and horns. K-HP-3 provides more than twice the volume of universal Staff. K-C-20 provides about 4 times greater volume . . . more with Redi Power Master. (10) Wall switch combines with Talk-a-phone Horn or Hi Power staff to add origination of call feature. (11) Incoming call chime. All "Chief" Master Stations come complete with junction box and built in power supply attached by 6' flexible cable. Master size: 14½" width, 3⅛" height, 8¾" depth. For 120 volts AC only. U.L. listed.

Model K-C-4906 Master for 6 Stations. Shpg. wt., 15 lbs.
95F425. NET PER STATION **152.00**
Model K-C-4912. Master for 12 Stations. Shpg. wt. 15 lbs.
95F426. NET PER STATION **171.00**
Model K-C-4920. Master for 20 Stations. Shpg. wt., 16 lbs.
95F427. NET PER STATION **201.00**

CHIEF STAFF STATIONS ACCESSORIES

For use with "Chief" Master. Staff Stations may be connected "privately"* or "non-privately". Connected "non-privately", Master can be answered at a distance from the Staff without operation of any controls. "Non-private" Staff may reply to all Masters in the system (whether connected directly to them or not) and can originate calls to one or two "Private" Masters, depending upon its capacity. Connected "privately" no one can "listen-in", but any Master can call. Private Staff can originate calls and reply to 1 or 2 "Private" Masters depending on its capacity. Staff Stations do not need electrical outlets.

Model K-C-41. Staff Originates calls to 1 Master. Gray leatherette and brushed chrome. Size 7½x8¾x2⅞". 5 lbs.
95F428. NET PER STATION **39.95**
Model K-C-41-M. Same as K-C-41 but with painted finish. 5 lbs.
95F429. NET PER STATION **33.50**
K-C-41R. Same as K-C-41, but for flush wall mounting. Stainless steel front panel. 4 lbs.
95F433. NET PER STATION **33.50**

CABLE FOR CHIEF SERIES

36F447. Type 6206. 3-pair cable for connecting K-C-20, K-C-41, K-C-42, and K-HP-3 with call origination. **Net per foot** 14
36F437. Type 6214. 7-pair cable to interconnecting K-C-4906 Masters. **Net per foot** 29
36FX439. Type 6226. 13-pair cable for interconnecting K-C-4912, K-C-4920 for K-CRP-5912 Masters. **Net per foot** 57
36FX446. Type 6902. Cable 2 cond. for connecting K-C-20, and K-HP-3 without origination of call. **NET per foot** 04
Model K-C-42. Staff originates call to 2 Masters. Gray leatherette and brushed chrome. Wt. 5 lbs. Size 7½x8¾x2⅞". 5 lbs.
95F430. NET PER STATION **49.50**
Model K-C-42-M. Same as K-C-42 but with painted finish. 5 lbs.
95F431. NET PER STATION **43.50**
Model K-C-42R. Same as K-C-42 but for flush wall mtg.
95F445. NET PER STATION **43.50**
Model K-HP-3. Hi-Power Staff Station for wall mounting. Charcoal gray metal case. Size: 12x8x12". 5 watt capacity. Provides twice volume of regular staff. Shpg. wt. 10 lbs.
95F415. NET PER STATION **31.75**
Model K-HP-3V. As above, but with built-in volume control, adjustable to full output.
95F444. NET PER STATION **38.20**
Model K-C-20. Nine-inch Weatherproof Re-Entrant Horn. 15 watt capacity. W mounting bracket. Charcoal grey. Provides over 4 times volume of reg. staff. Shpg. wt. 6 lbs.
95F416. NET PER STATION **48.00**
Model K-C-20V. As above, but with built-in weather resistant volume control, adjustable to full output.
95F446. NET PER STATION **58.20**
Model K-S-101. Wall Switch for originating calls to one Master through K-C-20, or K-HP-3 in Chief Systems. Gray. Wt., 1 lb.
95F434. NET **14.10**
K-S-102. Same as K-S-101, but for call origination to 2 Masters.
95F435. NET **22.90**
K-S-111. Wall Mounted Cradle Phone. For use with K-HP-3(V) or K-C 20(V).
95F477. NET **69.25**
K-W-1. Wall mounting brackets for K-C-41, K-C-41M, and K-C-42, and K-C-42M.
95F436. NET per pair. 60

BOGEN INTER-OFFICE TELEPHONES

Series TQ. Common line system. Selective ringing w/common talk line for single conversation or conference call, provision for paging thru PA sys. **TQ-12A:** up to 13 stations, 4 lbs. **TQ-6A:** up to 7 stations, 4 lbs. **TQ-1A:** twin phones, 2 stations, 6 lbs.(pair). **PRS-1A** power supply: use w/any AC outlet. 4 lbs. **(*) Priced per pair.**

Stk. No.	Type	Size(inches)	Each
96F776	TQ-12A	9½ x 3¼ x 3¼	38.65
96F775	TQ-6A	9½ x 3¼ x 3¼	34.50
96F783	TQ-1A	9½ x 3¼ x 3¼	58.25*
96F777	PRS-1A	6 x 4½ x 2	27.70

Series TSL-X. Selective ring/selective talk. Up to 8 simultaneous conversations. Provision for conference calls. Paging button and ring button. **TSL-16X,** 15-station selector buttons, wt. 4lbs.; **TSL-8X,** 7-station selector buttons, wt. 4 lbs.; **TSL-1X,** can call or reply to one master, secretarial intercept, common line reply to a page; **PRS-16A,** power supply.

Stk. No.	Type	Size(inches)	Each
96F779	TSL-16X	9½ x 3¼ x 3¼	62.85
96F780	TSL-8X	9½ x 3¼ x 3¼	47.25
96F784	TSL-1X	9½ x 3¼ x 3¼	29.15
96F781	PRS-16A	6 x 2 x 4½	43.65

Series TCP-3. Built-in paging, up to 60 stations (one pwr. supply per 30 stations). 3 channels, background music provision. Paging and ring buttons. Wt. 3½ lbs. **PRS-3,** power supply.

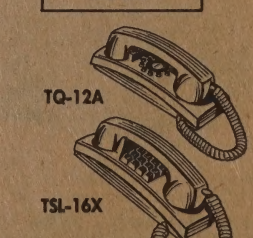
Stk. No.	Type	Size(inches)	Each
96F785	TCP-3	9½ x 3¼ x 3¼	59.20
96F786	PRS-3	13 x 4 x 6	134.95

CABLE

Wiring Requirements. System **TQ:** type of cable to be used depends on number of stations in system. **TCP-3:** common to all stations, use TC-15. **TSL-X:** 8-station/all-master common to all masters, use 12SC; 16-station common to all masters use 20SC. To incl. common line paging in either system, use 7SC to nearest master. 100 foot/spool.

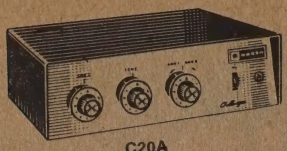
Stk. No.	Type	System	Per Spool
96F787	7SC	TQ 2-station Comm. Line paging	16.50
96F788	12SC	TQ 7-station TSL-X master	19.10
96F789	16SC	TQ 13-station	26.95
96F790	TC-15	TCP-3 common	37.50
96F791	20SC	TSL-X 16-station	33.75

BOGEN



BOGEN

Amplifiers, Preamplifiers



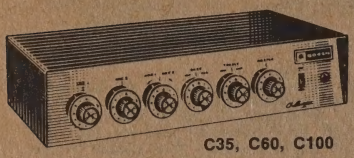
C20A

"C" SERIES SOLID STATE AMPLIFIERS

C-20A, C-35, C-60, C-100; 20, 35, 60, 100 watts:

2 microphone inputs high impedance—MCIF connector
C10, C20A have one mike input and one aux
2 auxiliary inputs on fader control
Outputs balanced 25 and 70 volts, 4, 8, 16 ohms, tape booster
2 loudspeaker quick connect sockets
All silicon solid state, special circuits protect amplifier against overload or short circuits

97F802 C-35 35 watt amp. **Net**.....134.85
97F801 C-60 60 watt amp. **Net**.....155.25
97F800 C-100 100 watt amp. **Net**.....185.85
97F803 C-20A 20 watt amp. **Net**..... 97.35

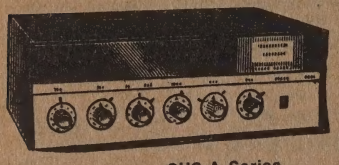


C35, C60, C100

FLEX-PAK CHS-A SERIES

Four popular priced P.A. amplifiers offer advanced operating features.
2 microphone inputs, high impedance low impedance unbalanced-XLR-311 connector. (CHS-20A has one microphone input)
PMM-2 optional panel mounting preamp adds 2 mic inputs to any CHSA amp.
Microphone inputs convertible to low impedance balanced with plug in transformer
1 mic. channel convertible to mag phono (two with optional PMM-2)
1 microphone can be remotely controlled (2 with optional PMM-2)
Outputs: 8, 16 ohms, 25 and 70 volts balanced lines, tape booster

96F500 CHS-20A 20 watt amplifier. **Net**.....145.35
96F501 CHS-35A 35 watt amplifier. **Net**.....161.85
96F510 CHS-60A 60 watt amplifier. **Net**.....193.35
96F503 CHS-100A 100 watt amplifier. **Net**.....223.35

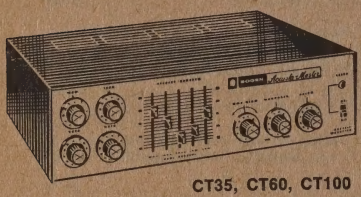


CHS-A Series

ACOUSTA MASTER CT SERIES

4 microphone inputs high impedance convertible to low with plug in transformer
Five equalizer filters provide anti-feedback and tone control circuit
Built in adjustable electronic compressor
3-conductor broadcast type connectors for each mic input
Remote control 2 mic and one aux
Outputs: balanced 25 and 70 volts, tape, booster, bridging, 4, 8, 16 ohms
Auxiliary input for record player, tuner or tape recorder

96F511 CT35. 35 watt amplifier. **Net**.....236.25
96F512 CT60. 60 watt amplifier. **Net**.....266.30
96F513 CT100. 100 watt amplifier. **Net**.....299.90

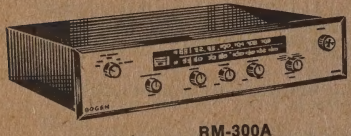


CT35, CT60, CT100

RM-300A 35 WATT BACKGROUND MUSIC RECEIVER

FM-AM high fidelity monophonic broadcast reception
Microphone input for paging converts to low impedance with TM-200
Automatic mic precedence over music (requires SPST switch in mic)
Facilities for connecting tape or record player
25 and 70 volt outputs 4, 8, 16 ohms
Telephone input for paging Bogen phones (requires power supply and paging adapter)
All solid state circuitry
Radio Frequency Range: FM 88-108 MHz, AM 550-1640 KHz

96F514. Net 299.90

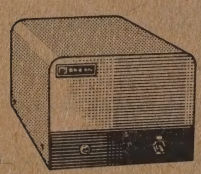


RM-300A

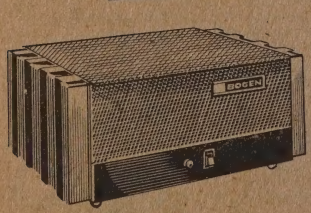
BOGEN BOOSTER AMPLIFIERS

Designed for use in quality sound reinforcement systems.

TYPE	MT250*	MT125A	MT60
Power Output	250 watts	125 watts	60 watts
Freq. Response	±2 db, 20 Hz to 20kHz.	±2 db, 40 Hz to 20 kHz.	±2 db, 30 Hz to 20 kHz.
Rated Sensitivity (for rated Output)	Hi Z: 0.3 v. Lo Z: Balanced with TL600 Xfmr: .075 v.	Hi Z: 0.2 v. Lo Z: Balanced with TL600 Xfmr: .045 v.	Hi Z: 0.2 v. Lo Z: Balanced with TL600 Xfmr: .045 v.
Output Connections	1Ω,25v.(2.5Ω,4Ω,8Ω,16Ω, 70v.(20Ω),120v.(57.5Ω).	8Ω,25v.c.t.,25v., 16Ω,70v.,120v.	8Ω,25v.c.t.,25v., 16Ω,70v.
Power Consumption	120 v AC, 50/60 Hz, 600 w, ±24 v DC, 10 amps.	120 v AC, 50/60 Hz, 300 w, 48-56 v DC, 2.25 amps.	120 v AC, 50/60 Hz, 168 w, 48-56 v DC, 1 amp.
Dimensions	17"W x 12¼ "D x 7"H	8"W x 13"D x 6½"H	8"W x 13" D x 6½"H
Shipping wt.	60 lbs.	28 lbs.	22 lbs.
Stock No.	96F551	96F837	96F515
Price	510.05	262.55	195.00



MT 125



MT250

ACCESSORIES FOR BOGEN AMPLIFIERS

Models TM50, TM200, TM500 low impedance plug in mike transformers for CHSA, CT Series, 500 ohms, 200 ohms, 50 ohms.
TM-500. 500 ohm impedance.
95F539. Net 16.20

TM-200. 200 ohm impedance.
95F538. Net 14.65

TM-50. 50 ohm impedance.
95F542. Net 15.75

WMT-1—connects any Bogen amplifier to telephone line through aux input mic input.
96F516. Net 13.45

IT-1—for "C" series amplifiers converts microphone input to low impedance complete with all connectors.
96F517. Net 14.25

PMM-2—provides 2 additional mic channels for CHSA line. Panel mounted complete with all mounting hardware.
96F518. Net 38.95

LPC-4A—Three speed AC operated phono top complete with all hardware, tone arm and cartridge. Will mount on all Bogen amplifiers except C10, C20A.
96F519. Net 42.75

CON-1—microphone connector for CHSA and CT amplifiers.
96F520. Net 2.80

MC1F—microphone connector for "C" amplifiers.
39F000. Net 1.45

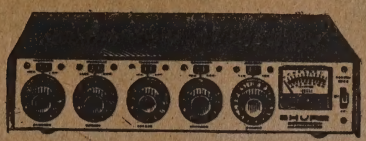
Audio Accessories

SHURE

M-68

MICROPHONE MIXER

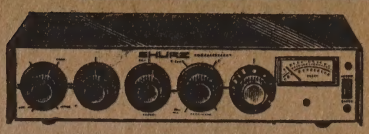
Model M68. Four microphone inputs, one auxiliary input. Outputs: high or low impedance microphone level and high impedance, high level output for power amplifier requiring .5 to 2 V. Comes with Cannon XLR-3-14 type input connectors.
61FX171. NET **100.20**
Model M68FC. Same as M68 but with female input connectors.
61FX774. NET **108.00**



M-67

PROFESSIONAL MICROPHONE MIXER/REMOTE AMPLIFIER

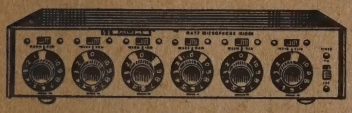
Model M67. Individual gain controls for 4 microphone inputs, master volume control, tone oscillator, headphone jack illuminated VU meter. 600 ohm balanced line output (+18 dbm), 150 ohms low impedance balanced line. Microphone level output. Freq. resp. ±2dB 20-20,000 Hz. Gain: 90dB Max. Noise: —126dBv. Distortion: under 1%, 20-20,000 Hz. Size: 11⅜"w. x 7½"d. x 2⅝"h. Wt. 4 lbs., 3 oz.
61FX191. NET **193.80**



M-63

AUDIO MASTER

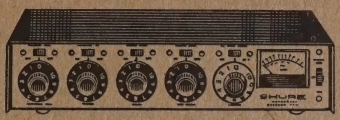
Model M63. Provides means to shape freq. resp. to equalize sound systems. VU meter to monitor audio level. 5 types of outputs: 600 ohms bal. line; High impedance, high level; high imped. microphone level; low imped. microphone level; headphone jack. High pass and low pass 6 db/octave filters. Bass & treble tone controls. Two 30 VDC jacks and an AC receptacle. Freq. resp. 20-20,000 Hz. Size: 2½"x11"x5¾". Shipping wt. 5½ lbs.
61FX192. NET **115.20**



M64

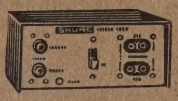
M677 ACCESSORY MIXER

Six input accessory mixer adds extra inputs to models above. Obtains power from associated mixer or battery power supply. Freq. Resp. ±2 dB from 30-20,000 Hz. Six switch-selectable inputs: low imped. mic. or line-level. Microphone output with professional three-pin connector and high-low impedance selection. Switchable lo-cut filters on each channel.
61FX105 NET **181.20**



SE30 GATED COMPRESSOR/MIXER

Combines a mixer with 600 ohm line output with a "hands-free," gain riding compressor in a single, portable unit. 40 dB compression range with compression ratio of 15 to 1. Once set it rides gain automatically. 108-132 v. ac, 50/60 Hz. "Gated Memory Circuit" puts hold on compression level until desired signal is present.
61FX106 NET **355.20**



M64 STEREO PREAMPLIFIER

Fully transistorized. Inputs for tape heads and magnetic phono cartridges. Outputs for high or low level auxiliary. Freq. Resp.: ±2 dB from 20 Hz to 20 kHz. Less than 1% total harmonic distortion for 2 volts output at 1 kHz. Operating voltage: 120 v ±10%, 50/60 Hz or 30 VDC. Size: 2⅛" x 5⅝" x 4½". Shpg. wt. 2½ lbs.
61FX173. NET **57.50**

PHONOGRAPH CARTRIDGES

V15III

M93E

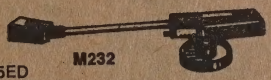
M24H

SC35C

M91ED

M44-7

M95ED



M232

MODEL V15 TYPE III CARTRIDGE
Max. trackability 38cm/sec. @ 1,000 Hz. Tracking range ¾ to 1¼ gms. Separation: 28 dB @ 1 kHz; 20 dB @ 10 kHz. Stylus not included; order VN35E diamond stylus separately.
61FX218 NET **85.00**

MODEL VN35E DIAMOND STYLI
For V15III. .0007" elliptical diamond stylus. Tracking force range ¾ to 1¼ gms.
61FX220 NET **31.00**

MODEL M93E CARTRIDGE
Biradial elliptical stylus. Tracks 1½ to 5 grams.
50FA547 NET **44.95**

MODEL M24H CARTRIDGE
Designed for stereo, matrix four-channel, discrete four-channel playback. 1-1½ gm trackability. 8 x 18 micron hyperbolic diamond stylus.
50FA548 NET. **74.95**

MODEL SC35C CARTRIDGE
.0006" spherical diamond stylus. Tracking force 4-5 gms.
61FX221. NET **26.00**

MODEL M91ED "HI-TRACK"
¾ to 1½ gm tracking force.
50FA549. NET **59.95**

MODEL M44-7 STEREO CARTRIDGE
1½ to 3 gm. tracking force.
50FA523. NET **24.95**

MODEL M95ED DELUXE CARTRIDGE
¾ to 1½ gm trackability. Biradial elliptical stylus.
50FA550. NET **64.95**

Model M44E. Tracking at 1¾ to 4 gms.
50FA539. NET **29.95**

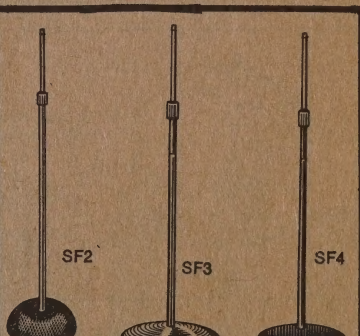
Model M44C. 3-5 gm. trackability.
50FA503. NET **22.95**

Model SS35C. Stereo Diamond Stylus.
61FX222. NET **8.60**

MODEL M232 TONE ARM
Arm Length: 12⅛. Wt., 1 lb.
50FA514. NET **42.50**

SHURE REPLACEMENT STYLI

Stock No.	Stylus No.	For Dynetic Cartridge No.	NET
50FA536	VN15E	V15, Type II	29.00
50FA541	N91E	M91E	25.50
50FA543	N93E	M93E	20.30
50FA530	N55E	M44, M55, M80 series.	15.55
50FA540	N44E	M44E	13.00
50FA529	N44-7	M44-7, M98/A	10.15
50FA545	N44C	M44C	10.10
50FA525	N21D	M21, M7-N21D M3-N21D; M3D, M7D, upgrades M3D	11.45
50FA511	N3D	Upgrades M7D, M8D	8.30
50FA551	N91ED	M91ED	27.05
50FA552	N95ED	M95ED	28.10
50FA553	N24H	M24H	31.00



BOGEN FLOOR STANDS

Locking control, bases weighted toward outer rim for stability, standard ⅝"-27 threads for mic. attachment. Bright chrome stem assembly. Base: 10" diameter.
Model SF-2. Ht.: 35" to 63". Charcoal wrinkle base. Wt. 10 lbs.
96F521. NET **12.00**
Model SF-3. Ht.: 34" to 62". Bright Chrome base. Wt.: 13 lbs.
96F522. NET. **14.90**
Model SF-4. Ht.: 34" to 62". Charcoal wrinkle base. Wt.: 13 lbs.
96F523. NET **12.35**

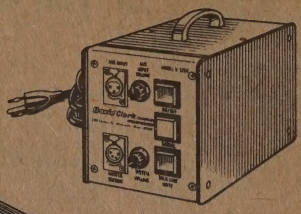
BOOM ATTACHMENT

Model MB-1. For use with standard ⅝"-27 threaded mic. stand. 31" long chrome tube, black counterweight. Wt.: 3½ lbs.
96F524. NET **9.25**

DAVID CLARK Communication Systems

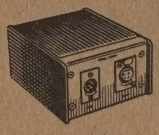
SERIES 3200 SYSTEM

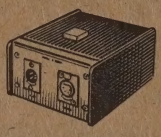
U3210


U3200

C32

M3241


U3202


U3203

M3243

M3242

High impedance carbon systems utilizing David Clark Company amplified headsets and intercom components to custom design a amplified communication system. System can be designed for portable, fixed or semi fixed applications. Allows for system of up to 32 headset stations for flexibility with clear, crisp voice reproduction. Portable systems designed for rugged field use.

The Master Control Station provides main power supply, operated on 110VAC, system ON/OFF switch, impedance selector, talk line override (mutes all remote stations), visual signaling light, auxiliary input connector, auxiliary input volume control, system volume control and connectors for 5 headset stations.

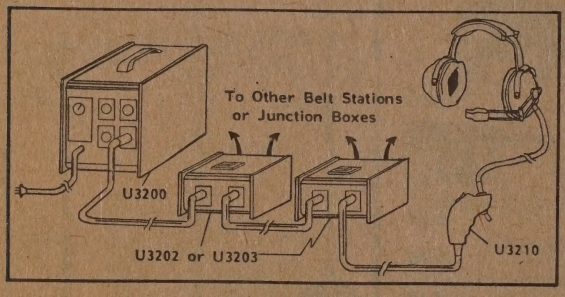
35F2416 Type U3200 Master Station. NET **577.00**

HEADSET BELT STATIONS

Belt Station has push-to-talk button and volume control.

35F2417 Type U3210. NET **95.50**

TYPICAL SERIES 3200 HOOK-UP



HEADSETS FOR ABOVE SYSTEMS

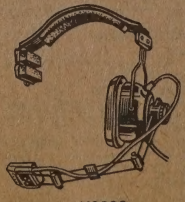
H3010

H3020

H3030

H3040

H3070


H3090

REMOTE JUNCTION MODULES

Each remote junction module has one input and three outputs for system expansion. Type U3202 is for connection only; Type U3203 is for connection and push-to-signal/visual; Type U3204 is for connection and push-to-signal/visual and audible.

Stock No.	Type	Description	Each
35F2418	U3202	Connection only	125.00
35F2419	U3203	Connection & push-to-talk/visual	169.00
35F2420	U3204	Connection & push-to-talk/audible-visual	198.00

EXTENSION CABLES

Stock No.	Type	Length (feet)	Net Each
35F2421	C32-12	12	34.75
35F2422	C32-25	25	44.75
35F2423	C32-50	50	63.50
35F2424	C32-100	100	101.25

WALL MODULES

For fixed or semi-fixed applications.

Stock. No.	Type	Description	Each
35F2425	M3240	Input for connecting master control station	22.25
35F2426	M3241	Same function as U3202 but single output	23.50
35F2427	M3242	Two outputs for belt stations	50.50
35F2428	M3243	Visual signaling light, one output	60.00

HEADSETS FOR SERIES 3200 CONNECTIONS

Types H3010 and H3020. Shielded microphone with push-to-talk switch. For high level noise to 135 dB. M6A/UR carbon microphone. Foam filled ear seals. 30" three-conductor cord with PJ-051 plug.

22F1050 Type H3010. NET **133.50**

35F2430 Type H3020. NET **133.50**

Types H3030 and H3040. Adjustable boom mounted M-6A/UR noise cancelling microphone. For use in noise to 120 dB. Foam filled ear seals. 30" three-conductor cord with Switchcraft No. 267 plug.

22F1051 Type H3030. NET **121.00**

35F2432 Type H3040. NET **121.00**

Type H3070. Lightweight headset for noise to 100 dB. Adjustable boom mounted M-6A/UR noise cancelling microphone. 30" three-conductor cord with Switchcraft No. 267 plug.

22F1052 NET **94.75**

Type H3090. Single ear version of Type H3070 for use in noise to 85 dB. 30" three-conductor cord with Switchcraft No. 267 plug

35F2434 NET **82.50**

NEWARK carries complete lines of Top Quality Electronic Equipment. One Purchase Order to One Source for All Your Electronic Needs.

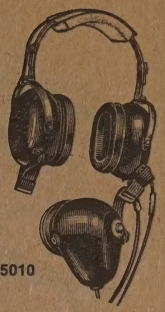
DAVID CLARK SOUND-POWERED SYSTEMS

H5020

H5040

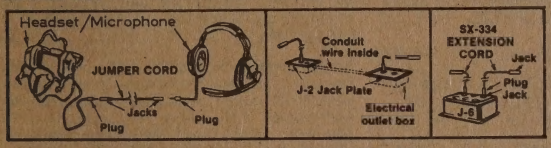
H5090

H5030


H5010

Type H5010. Noise shielded microphone held in talking position by straps for ease of use. Push-to-talk switch on microphone shield. Clear, reliable communication to 130 dB. Padded headband to ensure comfort. Replaceable foam filled ear seals. Adjustable to fit any head contour. Two conductor 30" cord with PJ-055 plug.
35F2402 NET **152.50**

Type H5030. Lightweight acoustic boom rotates to allow easy adjustment. Eliminates heavy microphone element. No push-to-talk switch, your voice activates system. Clear reliable communications in noise to 100dB. Padded headband and replaceable foam filled ear seals ensure comfort. 30" two conductor cord with PJ-055 plug.
35F2400 NET **133.50**



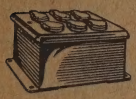
Type H5090. Single ear model used in low noise area to 70dB. Lightweight, durable construction for maximum comfort. Boom microphone rotates to permit wearing on either left or right side. No push to talk switch necessary. Foam filled ear seal. 30" two conductor cord with PJ-055 plug.
35F2435 NET **97.50**

Type H5020. Has all the features of the 15SM-A but designed to be worn in the behind the head position so as not to interfere with safety hats or face shields. Has soft, pliable, adjustable overhead strap to allow proper fitting. Two conductor 30" cord with PJ-055 plug.
35F2403 NET **152.50**

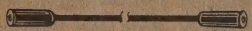
Type H5040. Has all the features of the 10SB-A but is in the behind the head configuration. Adjustable overhead strap and nape spring for firm comfortable fit under safety headwear. Lightweight, durable and recommended for use in noise areas to 90dB. 30" two conductor cord with PJ-055 plug.
35F2401 NET **133.50**

ACCESSORIES FOR SOUND POWERED COMMUNICATIONS GEAR

M5002. Jack Plate. Has two jacks with weatherproof covers in standard outlet faceplate.
35F2405. NET **14.25**



M5006. Junction Box. 6 weatherproofed jacks in 2x4x2" heavy-duty box.
35F2404. NET **69.25**



C52-12/C52-25. Jumper Cord. Headsets plug directly into #88 jack at each end.
35F2410. 12 feet. **NET** **14.75**
35F2411. 25 Feet. **NET** **20.00**

C51-12/C51-25. Extension Cord. Has #88 phone jack one end, PJ-055 plug other.
35F2406. 12 Feet **14.75**
35F2407. 25 Feet **20.00**

ARGOS

WALL BAFFLES

Type WB-4/5D. For 4/5" speaker, max. speaker depth 2¾". Capacity 100 cubic in. Wt. 1½ lb. Walnut vinyl finish.
86F401 NET **5.40**
Type WB-8D. For 8" speaker, max. speaker depth 4⅜". Capacity 400 cubic in. Wt. 4 lb. Walnut vinyl finish.
86F402 NET **6.45**
Type WB-12D. For 12" speaker, max. speaker depth 6⅜". Capacity 1180 cubic in. Wt. 6¾ lb. Walnut vinyl finish.
86F403 NET **9.75**

"THINLINE" SPEAKER SYSTEMS

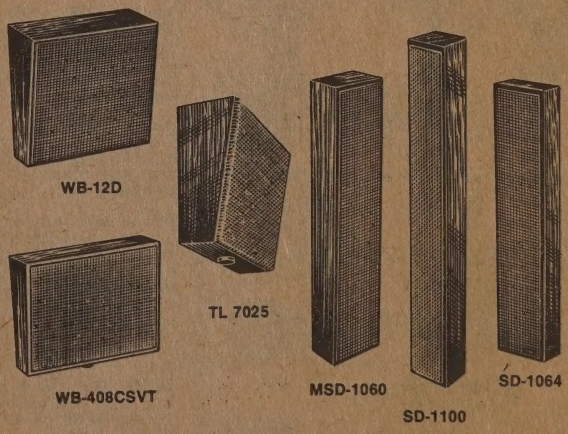
Type WB-408CS. 4.8 oz. ceramic magnet, 10 W capacity, 8 ohm imped. 9¾x12¼x4¾". Wt. 4½ lb. Walnut vinyl finish.
86F404 NET **13.95**
Type WB-408CSVT. Same as WB-408CS, except has volume control and 70.7 V transformer. Wt. 5¼ lb. Wlanut vinyl finish.
86F405 NET **20.40**
Type WB-212CS. 12" speaker w/10 oz. ceramic magnet. 18W capac. 8 ohm imped. 14x16¼x6¼". Walnut vinyl finish.
86F406 NET **21.90**
Type WB-212CSVT. Same as WB-212CS, except has volume control and 70.7 V transformer. Wt. 9¾ lb. Walnut vinyl finish.
86F407 NET **27.95**

8" BAFFLE/SPEAKER WITH DUAL VOLTAGE TRANSFORMER

General purpose music/PA speaker for both 25 and 70V systems. Walnut finish on white birch cabinet. Prewired to 7 tap terminals for instant installation. 8" speaker, 4.8 oz. magnet, 10W impedance. Walnut vinyl finish. Size 12¼"x9¾"x4¾". Shipping weight 4¾ lbs.
86F408 TL-7025(ST). Baffle, speaker, transformer. **NET** **20.75**
86F409 TL-7025(SVT). As above, w. volume control. **NET** **22.70**

MSD-1060 SOUND COLUMN

Provides uniform sound level and intelligibility in areas where baffles, horns, or ceiling speakers fail. Response: 70 to 15,000 Hz, power 60 watts. Six 8" speakers, 16 ohms. Vertical sound projection angle is 30°. Two 1060's will cover the largest indoor areas with ease. Includes mounting clips for instant installation. Walnut wood grain vinyl finish, cane grill. Dimensions: 10¾" wide x 50½" high x 8¼" deep. Shipping weight 48 pounds.
86F400 MSD-1060. NET **99.95**



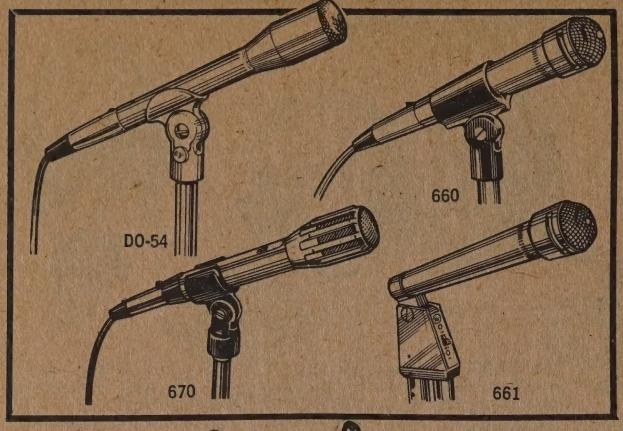
SD-1064 SOUND COLUMNS

Designed for use in areas where feedback or reverberation is a problem. Has six 5½" 30 watt speakers, for small rooms up to 60 feet long. Input impedance 16 ohms, freq. response 200-10,000 Hz. Vertical sound projection angle 30°. Size 30¼"x7"x3⅛". Ship. wt. 9 lbs.
86F410 SD-1064. NET **49.95**

SD-1100 SOUND COLUMNS

Designed to work under adverse acoustic conditions. Ten 5½" 50-watt speakers prevent high frequency beaming and control feedback. Vertical angle adjustable from 15° to 25°. Walnut wood grain vinyl finish; cane grille. Response 200-10,000 Hz. Impedance 16 ohms. Size 49¼"x7"x6". Wt. 22 lbs.
86F411 SD-1100. NET **89.95**

Microphones



Model DO54. Omnidirectional. Dynamic element. 50-18,000 Hz. –58 dB.
61F783. NET **82.50**

Model 670. Cardioid directional. Dynamic element. 60-14,000 Hz. –61 dB. Hi-Z or Lo-Z selectable.
61FX614. NET **78.00**

Model 631A. Omnidirectional. 4 stage filter allows close-up use without distortion. 80-13,000 Hz. 6″ x 1⅜″ dia. –55 dB. Wt. 6 oz.
61FX593. 631AH. Hi-Z. **NET**..... **51.00**
61FX594. 631AL. Lo-Z. **NET**..... **51.00**

Model 644. Directional P.A. High rejection of noise. 40-12,000 Hz. –53 dB. Dual Lo-Z and Hi-Z. Wt. 2 lbs., 9 oz.
61FX567. NET **120.00**

Model 647A. Lavalier delivers big microphone performance. 60-12,000 Hz. –60 dB. Accoustalloy diaphragm. Rugged construction assures long life. Non-reflecting gray finish. Wt. 2 oz.
61FX535. 647AH. Hi-Z. **NET**..... **69.00**
61FX536. 647AL. Lo-Z. **NET**..... **69.00**

Model 602F. Noise cancelling dynamic. Rejects sounds originating more than ¼″ away. Cycolac case. 200-5,000 Hz. –60 dB. 2½″ x 4″ H x 1¾″ D. Wt. 10 oz.
61FX537. 602FH. Hi-Z. **NET**..... **48.00**
61FX538. 602FL. Lo-Z. **NET**..... **48.00**

Model 634A. Dynamic paging. Fits any stand, boom, or gooseneck. Less stud and on/off switch. 70-10,000 Hz. –57 dB.
61FX586. 634AH Hi-Z. **NET**..... **30.00**
61FX587. 634AL Lo-Z. **NET**..... **30.00**

Model 607. Noise cancelling dynamic. For use in areas with exceptionally high background noise. 200-4,000 Hz. –54 dB. Stud mount with built-in connector. With cable. 4⅛″x1¾″x3¼″. Wt. 12 oz.
61FX603. 607H. Hi-Z. **NET**..... **51.00**
61FX609. 607L. Lo-Z. **NET**..... **51.00**

Model 660. Super Cardioid directional. Dynamic element. 90-13,000 Hz. –56 dB.
61F784. NET **75.00**

Model 661. Same as 660 except stud mounted w/impedance selection switch.
61F785. NET **78.00**

Model DS35. Single-D cardioid dynamic recording mike. "Volumetric" hologram-developed foam diaphgram provides exceptionally wide linear response. Built-in pop filter. Cable and mounting clamp included. 60-17,000 Hz. Lo-Z. –60 dB.
61FX616. NET **99.00**

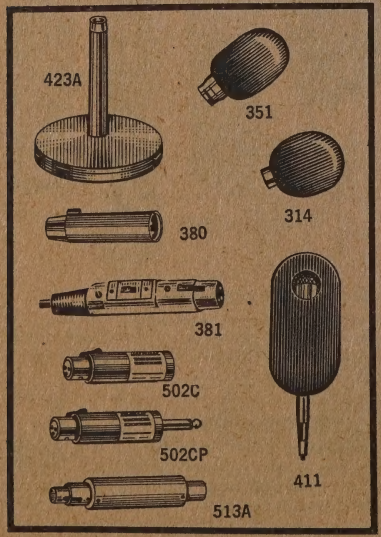
Model RE10. Lo-Z output. 90-13,000 Hz. –56 dB. 2-cond. broadcast cable and Switchcraft A3F contacts furnished. 6⅝″ long. Wt. 6 oz.
61FX601. NET **114.00**

Model RE11. Similar to RE10 except with integral blast and pop filter around head. Metal screen on filter. 7⅜″ long. Wt. 6 oz.
61FX602. NET **126.00**

Model 635A. Omnidirectional microphone for hand and stand. Built-in four stage pop and breath blast filter eliminates need for wind screen. 80-13,000 Hz. Lo-Z output. –55 dB. 5 15/16″x1 3/32. Wt. 6 oz.
61FX504. NET **63.00**

Model 619. Press to talk dynamic. For base station paging and two-way. Switch in base movable to upper stand for grip-to-talk. Has locking "on" position. 70-10,000 Hz. –57 dB. Wt. 2 lbs., 4 oz.
61FX512. 619H. Hi-Z. **NET**..... **51.00**
61FX513. 619L. Lo-Z. **NET**..... **51.00**

Model 620L. Noise cancelling base station. Switch shorts microphone in "off" positon and provides for relay operation. 200-4,000 Hz. –57 dB. With integral cable. 9¾″Hx4½″Wx4¾″D. Wt. 2 lbs., 4 oz.
61FX610. Lo-Z. **NET**..... **60.00**



ACCESSORIES

Model 423A. Desk stand with 5⅛″ diameter base and 5″ riser. ⅝″-27 mounting thread. Rests on rubber feet. Gray.
83F013. NET **9.90**

Model 314. Windscreen for RE10 and RE15 mikes. Zippered for easy installation. Rear portion can be used on RE11 for wind protection.
83F011. NET..... **10.80**

Model 351. Windscreen for 670 microphone.
83F012. NET..... **5.40**

Model 411. Floor-mount "mike-mouse" for medium and long-distance pickup. Uses reflected sound wave for increased gain before feedback. Recommended for use with RE10, RE15 mikes.
86F666. NET..... **11.40**

Model 380. Attenuator for use in mike line. Reduces signal 10 dB, does not affect response. Mates with A3 Type, professional connectors.
86F663. NET..... **18.90**

Model 381. Switch/connector and cable. SPST switch built-in. Mates with all E-V professional hand-held mikes. 15′ cable.
86F664. NET..... **21.00**

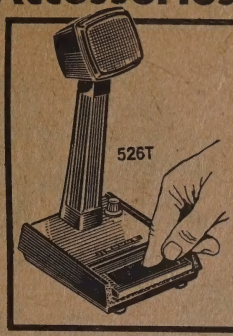
Model 502C. Matching transformer Lo to Hi Z.
61FX617. NET..... **18.60**

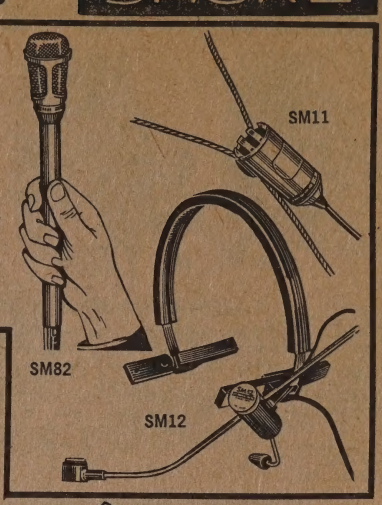
Model 502CP. Same as 502C but with ¼″ phone plug output.
61FX618. NET..... **18.60**

Model 513A. Low-frequency cutoff filter.
61FX619. NET..... **56.10**

Microphones and Accessories

SHURE





Model 526T. Dynamic base station microphone with battery powered transistor preamplifier. 200-6,000 Hz; optimized for maximum vocal punch and intelligibility with AM and sideband rigs. Push-to-talk switch.
61FX775. NET.....**42.00**

Model SM82. Self-contained, unidirectional microphone with its own line level amplifier, peak limiter, and 9.8V battery. Ideal for applications involving long cable runs, even using unshielded cables. Built-in "pop" and wind filter. 40-15,000 Hz.
61FX776, NET.....**176.40**

Model 565. Unisphere I. Unidirectional dynamic. Wind and pop filter. Solves feedback problems. Dual impedance. 50-15,000 Hz.
61FX196. 565SD. **NET**.....**81.00**
61FX162. 565 No switch. **NET**.....**77.40**

Model 588. Unisphere "B". Lockable On-Off switch. 50-13,000 Hz. High impedance. —58 dB. 6½"x2" diameter. Wt. 1½ lbs.
61FX181. 588SA Hi-Z. **NET**.....**46.65**
61FX182. 588SB Lo-Z. **NET**.....**46.65**

Model 515. Unidyne B. Includes On-Off switch. Ideal for low-budget sound systems. 80-13,000 Hz. High impedance. —58 dB. 1½" diameter. 6 7/16" long. Includes 15-foot one-conductor non-detachable cable.
61FX112. 515SA Hi-Z. **NET**.....**32.40**
61FX113. 515SB Lo-Z. **NET**.....**32.40**
515SB-G18. Same as above except 18' gooseneck, 51" cable.
61FX195. 515SB-G18. **NET**.....**38.10**

Model 450. For dispatching and paging use. Telescoping height adjustment. Hi or Lo-Z. Push-to-talk switch bar activates both microphone and relay circuits. 100-10,000 Hz.
61FX172. NET.....**40.20**

Model 414. Switch controls microphone and external relay. Ideal for miniaturized or portable communications systems. 400-4,000 Hz.
61FX216. 414B Lo-Z. **NET**.....**27.30**
61FX217. 414A Hi-Z. **NET**.....**27.30**

Model 404. Hand-held. Ideal for outdoor use. Designed for high speech intelligibility. Push-to-talk leaf switch. 400-4,000 Hz.
61FX103. 404B Lo-Z. **NET**.....**27.30**
61FX104. 404A HI-Z. **NET**.....**27.30**

Model SM11. Dynamic miniaturized lavalier microphone. Flat natural frequency response ideal for broadcasting, motion pictures, and sound reinforcement. 50-15,000 Hz.
61FX777. NET.....**57.00**

Model SM10 and SM12. Lightweight, unidirectional, head-worn microphone. Minimizes stray sounds. Windscreen. Lo-Z. 50-15,000 Hz.
61FX778. SM10. **NET**.....**72.00**
61FX779. SM12 With monitor. **NET**..**96.00**

Model 575S and 575SB. Versadyne Dynamic Microphones. Lightweight for tape recording, general public address, etc. Built-in filters. Slide-to-talk locking switch, lavalier cord, and stand adapter are included. 40-15,000 Hz.
61FX148. 575S Hi-Z. **NET**.....**19.80**
61FX149. 575SB Lo-Z. **NET**.....**18.00**

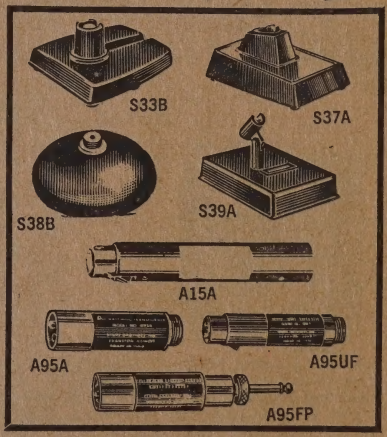
Model 420. Commando Microphone. Omnidirectional, magnetic lavalier microphone. Polar pattern. 60-10,000 Hz. Dual impedance.
61FX128. NET.....**24.90**

Model 579SB. Vocal Sphere. Omnidirectional dynamic. Very natural and intelligible voice reproduction. Ideal for public address and entertaining. Built in wind and breath noise filters. 50-15,000 Hz. Low impedance.
61FX184. NET.....**54.45**

Model SM54. Unidirectional dynamic microphone. Designed for both stand and hand-to-hand use. 70-16,000 Hz.
61FX214. NET.....**193.80**

Model 401. Controlled magnetic microphone ideal for outdoor-indoor communications activity. Free from undesirable peaks. 200-4,000 Hz.
61FX215. 401A. Hi-Z. **NET**.....**18.00**
61FX153. 401B. Lo-Z. **NET**.....**18.00**

Model 522. Base station microphone suppresses unwanted background noise and eliminates feedback. Dual impedance. Press-to-talk switch. Locking or nonlocking, actuates microphone and external relay. 60-10,000 Hz.
61FX186. NET.....**50.85**



STANDS

Model S33B. Modern desk stand. Black.
83F078. NET.....**12.90**

Model S37A. For use with microphones with swivel connector assemblies or swivel adapters. Non-reflective, textured gray finish.
83F077. NET.....**6.60**

Model S38B. Round stand. Black.
83F066. NET.....**3.75**

Model S39A. Vibration-isolation stand.
83F079. NET.....**20.10**

ADAPTER

Model A15LA. Line input adapter. Converts balanced low impedance microphone input to bridging line level input.
83F076. NET.....**18.00**

ATTENUATOR

Model A15A. Microphone attenuator. Inserts a 15 dB loss.
83F069. NET.....**18.00**

FILTER

Model A15HP. High pass filter. Reduces unwanted low frequency noises.
83F072. NET.....**18.00**

LINE TRANSFORMERS

Makes it possible to connect low impedance lines to high impedance, or vice versa. Designed to mate with Cannon XL, Switchcraft X3, equiv.

Model A95U. Three-pin Male input.
83F080. NET.....**16.50**

Model A95UF. Three-pin Female input.
83F081. NET.....**18.75**

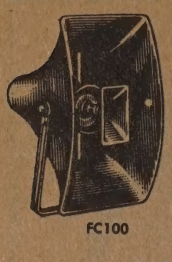
Model A95A. Three-pin Male input.
39F950. NET.....**15.15**

Model A95F. Three-pin Female input.
83F070. NET.....**17.10**

Model A95P. Three-pin male input. High impedance output terminates in removable locking phone plug adapter.
83F055. NET.....**16.50**

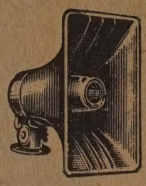
Model A95FP. Three-pin female input. High impedance output terminates in removable locking phone plug adapter.
83F068. NET.....**18.75**

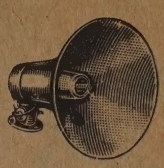
Electro-Voice® Sound Projectors and Speakers

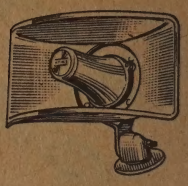

FC100

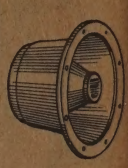
848A

PA12


PA30A


PA30R


PA15A


PA12F

COMPOUND DIFFRACTION PROJECTOR

Model FC-100 Projector Horn. Provides two diffraction horns for uniform wide-angle coverage. Uses any E-V convertible driver. Mouth size 10½"x20½", depth 20". Shpg. wt. 13 lbs.
88F180. NET **52.00**

Model 848A. Combines FC100 compound diffraction horn plus 1828C compound driver for fine wide angle sound, low distortion, and highest quality of any projector. Freq. response 150-10,000 Hz.; Imp., 8 ohms; Dispersion, 90°x120°. Power Cap. 30 watts. Size, 10½"x20½"x20". NET WT. 15½ lbs.
88F152. NET **79.50**

CONVERTIBLE DRIVERS

1828C

1828T

1829

1829T

1823

Peak free response with max. efficiency. Easily adapted for use with all Re-entrant-type horns.

Stk. No.	Type	Dim.	Watts	Imp. Ohms	Freq. Resp. Hz.	NET
88F195	1828R	4"x2¾"	30	8	190-8,000	28.50
88F184	1828C	4"x3¼"	30	8	150-10,000	28.50
88F185	1828T	5"x4"x5¼"	30	8	150-10,000	36.60
88F191	1829	5 15/16"x4 1/16"	60	16	140-11,000	46.80
88F192	1829T	5 15/16"x6 3/16"	60	16	140-11,000	60.00
86F668	1823	4 x3	110	7	200-8000	47.00

PAGING SPEAKERS

Model PA12. Power handling capacity 12 watts, with voice coil impedance 8 ohms. Wide dispersion of 130°. Frequency response: 325 to 14,000 Hz. Swivel bracket easily removable from horn for convenient mounting. 7½" Dia. x 7⅛" Deep. Shpg. wt. 5 lbs.
88F196. NET **20.00**

Model PA30AT-7. This 30 watt paging projector features easily selected line power taps at 30, 15, 8, 4, and 1 watts. Rectangular horn designed for wide dispersion. Frequency resonse: 250-14,000 Hz. Dispersion: 120° by 90°. E1A sensitivity: 63 db. Sound pressure level: 125 db. 11" x 6½" x 8½". Wt. 7¾ lbs.
88F190. NET **44.90**

Model PA30A. Same as above, without line matching transformer.
88F173. NET **35.00**

Model PA30R. Similar to the PA30A, except that this model features a round spun-aluminum bell, instead of the rectangular horn. Shipping wt. 6½ lbs.
88F194. NET **35.00**

Model PA15A. Rectangular projector. Handles 15W program power. Tan, die-cast aluminum. Speech/music. Universal bracket. Freq. Response: 275-14,000 Hz. Sound Pressure Level: 117 dB. Dispersion: 80° Horizontal.
83F015. NET **28.20**

Model PA12F. Paging projector rated at 12 watts. Frequency response: 500-14,000 Hz. 180° dispersion, with voice coil impedance of 8 ohms. Sound pressure level: 115.5 db. Dimensions: 6"x3-5/8"x3½".
86F669. Wt: 1 lb, 10½ oz. **NET** **25.00**

P.A. TRANSFORMERS

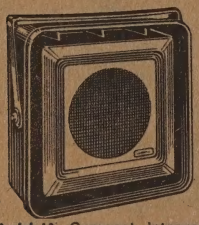
Model TR30-2. 30-Watt 25-Volt Line Transformer. For use with PA30 Series. Shpg. wt., 2 lbs.
88F174. NET **16.50**

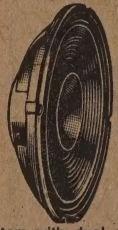
Model TR30-7. 70.7 Volt Transformer. For use with PA 30 Series. Shpg. wt. 2 lbs.
88F175. NET **16.50**

Model TR 12-7 Power selectable at 12, 6, 3, 1.5, and ¾ watts for 70 Volt lines. By removing snap-off housing, transformer mounts on rear of PA12.
88F197. NET **9.60**

Model TR12-2. Same as TR12-7, except for 25 Volt lines.
88F198. NET **9.60**

LOUDSPEAKERS AND SPEAKER SYSTEM


IA & IIA


12A

Model IA. Compact, integrated loudspeaker system with dual cone 12" driver. Frequency response: 80-10,000 Hz. Dispersion: 120°. Power handling capacity: 30 watts continuous, 60 watts peak. EIA pressure rating: 49 db and sound pressure level 111 db (500 to 1500 Hz at 4' on axis with 30 watts input). Nominal impedance: 8 ohms. Mechanical crossover at 4,000 Hz. Mounting bracket is a Universal "U" bracket (housing designed to stand stably on any flat surface) and easily converts to a carrying handle. Rugged construction uses a one-piece compression molded housing of highly resilient glass-filled polyester. Dimensions: 21½H.x21½W.x8½D.
80W404. Wt. 29 lbs **NET** **120.00**

Model IIA. Same as Musicaster IA with addition of Model T35A VHF compression driver. Frequency response: 80-16,000 Hz. Electrical crossover at 5,000 Hz. Dimensions are 21½"x21½"x8½". Shipping wt. 29 lbs.
80W403. NET **150.00**

Model MC12A. 12" Loudspeaker. Frequency response in recommended vented enclosure: 32-11,000 Hz. 8 ohms impedance.
86F339. NET **31.50**

Model MC8A. 8" diameter. Frequency response 42-20,000 Hz. 8 ohms impedance.
86F338. NET **23.50**

Model LR4SA

ELECTRO-VOICE LINE RADIATOR SPEAKER SYSTEM

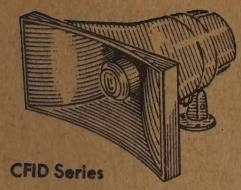
Model LR4SA. Straight line radiator utilizing six 5x7 cone speakers. Feedback resistant. Freq. resp. 200-10,000 Hz with 8 ohms nominal impedance. Power handling capacity of 40 watts for program material and 80 watts peak. With line radiator mounted on long vertical dimension, dispersion is 160° horizontal and 30° vertical. EIA pressure rated at 53 db and sound pressure level at 116 db (at 4' with 40 watts input between 750 and 1250 Hz.). With 460 stand mount and universal bracket with chain. Weatherproof. Size: 48-3/8"x6-5/16"x4-1/16". Wt. 25 lbs
80W405 NET **122.50**

Model LR2SA

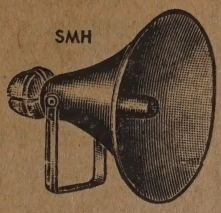
ELECTRO-VOICE PORTABLE LINE RADIATOR SPEAKER SYSTEM

Model LR2SA. All-weather speaker system designed to solve the more difficult sound reinforcement problems where the substantial length and weight of other Electro-voice Line Radiators is not acceptable. 20-watt power handling capacity: 40 watts peak at 8 ohms impedance. Smooth frequency response from 200 to 10,000 Hz, with dispersion of 45° vertical and 160° horizontal (line radiator mounted with long dimension vertical). Two Model 460 mtg. brackets and hardware incl.; Self supporting. Size: 24½"x6-5/8"x4-7/8" Wt.: 11 lbs.
86F327. NET **73.00**

UNIVERSITY SOUND Speakers


CFID Series

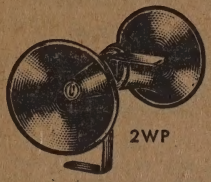
SH


SMH

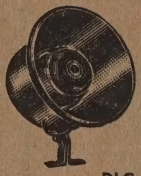
MIL Series

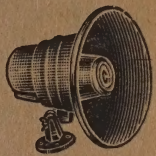
IB Series

COBREFLEX


2WP

DRIVER


DLC Series


FID Series

TRUMPETS, PROJECTORS AND DRIVERS

Reflex Trumpets, Wide-Angle Horn. Weatherproof. Model SMH is directional type. Model SH is high power, compact unit. Cobreflex features high efficiency, wide dispersion.

Stk. No.	Type	Cutoff	Bell Dia.	Horn Lgth.	Wt.	Net
88F103	SMH	200 Hz	16¼"	12"	8	37.80
88F075	SH	350 Hz	8¾"	7"	3¼	33.60

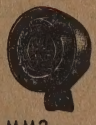
Radial Reflex, Bi-Directional Projectors. Provides 2 120° horizontal dispersion areas with one driver.

88F139	2WP	350 Hz	8½"	20½"	4½	36.60

Drivers. For all of above. All have 16 ohm imp. except ID-30T, ID-60T & ID-40T which have multi-impedance line matching transformers built-in. ID-40T matches 45/122/250/500/1000/2000 ohms. ID-60T with 16/80/165/250/500/1000/2000 ohms. ID-30T matches 167/335/500/1000/2000/4000 ohms. Each with 70 V power taps: ID-40T—40/20/10/5/2.5 watts, ID-60T—50/30/20/10/2.5 watts, ID-30T—30/15/10/5/2.5/1.25.

Stock No.	Type	Range Hz	Power Rating	In. Dia.	Wt. Lbs.	Net Each
88F141	ID-20	120-6500	20 watts	3½	2½	24.00
88F142	ID-30	85-7500	30 watts	4⅛	3	28.80
88F136	ID-30T	85-7500	30 watts	4⅛	4	39.00
88F143	ID-40-A	80-12000	40 watts	4½	4¼	34.20
88F144	ID-40T	80-12000	40 watts	5	5¼	48.00
88F145	ID-60	70-12000	60 watts	4 11/16	5¾	46.80
88F146	ID-60T	70-12000	60 watts	6¾	6½	63.60
88F138	ID-75	150-7000	75 watts	4¼	5	48.60

MLC


MM2

MULTI-DUTY SPEAKERS

Model MLC. Weatherproof, hi-fi, 2-speaker system with high SPL output. 150-15,000 Hz. 15 watts. 8 ohms. 120° dispersion. Size: 12¾x 9⅛x10¾". Wt.: 10¾ lbs.
88F135. NET **63.60**

Model MLC-T. Same as MLC above with built-in 70.7 Volt line transformer.
88F228. NET **71.40**

Model MM-2. Rugged speaker immune to salt spray, gases, live steam, fungus and harmful dusts. 350-10,000 Hz 25 watts. 16 ohms. 150° dispersion. 6" o.d., 5" deep. Wt., 5¼ lbs.
88F108. NET **49.80**

LINE-MATCHING TRANSFORMERS

Model 5433 Transformer. 30 watt capacity. Wide selection of impedances and constant voltage power taps. 1 lb.
88F128. NET **9.00**

Model 5434 Transformer. 15 watt capacity. ¾ lb.
88F129. NET **7.20**

Model CTR. Weatherproof transformer/junction housing for use with 5433 or 5434.
88F126. NET **12.00**

PAGING/TALKBACK SPEAKERS

Model IB-A8. 105° dispersion angle. With adjustable wall mounting bracket. Wt., 4½ lbs.

Model MIL-A8. Reflex type speaker for low-power use. High efficiency and intelligibility at speech frequencies. Dispersion angle, 120°. Wt. 3¼ lbs.

Model MIL-T. Same as above except has built-in 70.7 Volt line transformer.

Model MIS-8. Compact, weatherproof low-power reflex speaker. Dispersion: 150°. Wt., 2½ lbs.

Model DLC-8. Low cost reflex speaker for indoor/outdoor paging. Dispersion: 120°. **DLC-45** has 45-ohm voice coil impedance. Wt., 1¾ lbs.

Model FID15-8. Reflex horn speaker. Dispersion: 120°—all planes. Weatherproof, virtually indestructible. Easy installation with Uni-Lok swivel mount. Wide frequency response and unusually low distortion. Shpg. wt. 3¼ lbs.

Model FID15-T. Similar to FID15-8, but includes a built-in 70V and 25V transformer, 6 screwdriver selectable taps. 3¾ lbs.
Unless noted otherwise, all the above units have 8-ohm impedance voice coils. Units listed below with "T" suffix have built-in transformer.

Model FID32-8. Round, reflex, exponential horn with matched throat and driver. Standard 8-ohm impedence. Dispersion: 100° in all planes. Lower distortion than any comparable speaker tested. High-fidelity quality. Made of non-resonant Cycolac horn material. Wt. 5.5 lbs.

Model FID32-T. Similar to Model FID32-8, but includes a built-in 70V and 25V line transformer with six screwdriver selectable wattage taps. Wt. 6 lbs.

Model CFID15-8. Rectangular, reflex exponential horn, with matching throat and driver unit. 8 ohm impedance. Dispersion: 120°H x 80° V. Non-resonant cycolac material. Wt. 3.75 lbs.

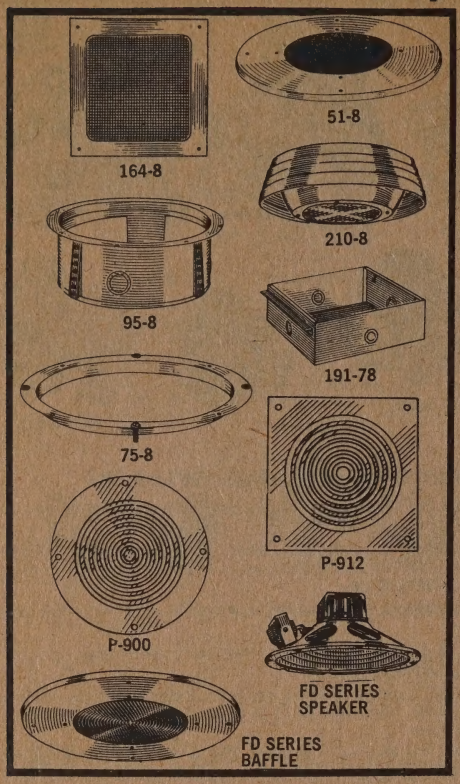
Model CFID15-T. Similar to CFID15-8, but includes a 70V and 25V line transformer w/6 screwdriver selectable wattage taps. Wt. 4.25 lbs.

Model CFID32-8. Rectangular, reflex, exponential horn with matching throat and driver unit. 8-ohm impedance. Dispersion: 120°H x 80°V. Non-resonant Cycolac material. Wt. 6 lbs.

Model CFID32-T. Similar to Model CFID 32-8, but includes a built-in 70V and 25V line transformer w/six screwdriver selectable wattage taps. Wt. 6.5 lbs.

Stk. No.	Type	Response	Mic. Sens.	Power	Size	Net
88F110	IB-A8	250-13K	—20 DBM	30W	10½ x9"	34.80
88F079	IB-T	250-13K	—20 DBM	30W	10¼ x11 1/16"	48.60
88F111	MIL-A8	350-13K	—23 DBM	10W	7 13/16 x6⅞"	30.00
88F080	MIL-T	350-13K	—23 DBM	10W	7 13/16 x9⅞"	45.00
88F220	MIS-8	500-13K	—22 DBM	7.5W	5½ x4 7/16"	30.60
88F221	DLC-8	400-10K	—30 DBM	7.5W	5⅞ x4"	19.20
88F222	DLC-45	400-10K	—30 DBM	7.5W	5⅞ x4"	20.40
88F223	DLC-T	400-10K	—30 DBM	7.5W	5⅞ x6½"	33.60
88F082	FID15-8	260-14.5K	—28 DBM	30W	9x8¾"	28.20
88F083	FID15-T	260-14.5K	—28 DBM	30W	9x8¾"	38.40
88F112	FID32-8	220-14.5K	—26 DBM	32W	10½ x10⅞"	36.00
88F113	FID32-T	220-14.5K	—26 DBM	32W	10½ x10⅞"	45.00
88F226	CFID15-8	220-14.5K	—26 DBM	15W	6¾ x11⅞ x10⅜"	29.40
88F227	CFID15-T	220-14.5K	—26 DBM	15W	6¾ x11⅞ x10⅜"	38.40
88F114	CFID32-8	220-14.5K	—26 DBM	32W	7⅛ x14⅜ x12½"	37.80
88F115	CFID32-T	220-14.5K	—26 DBM	32W	7⅛ x14⅜ x12½"	51.60

Baffles, Speakers, Headsets



SOUNDOLIER SPEAKERS AND BAFFLES

MODEL 164-8 BAFFLE

Accommodates 8″ speaker. Baffle is 12⅝″ square. Projects ½″ from surface. Finished in hard baked semi-gloss white enamel.

80W477 NET **7.80**

MODEL 210-8 BAFFLE

14⅜″ dia. Accommodates 8″ speaker. Wide-angle surface baffle projects 4¼″ from surface. Outer enclosure is baked semi-gloss white enamel, inner is brushed aluminum.

80W478 NET **18.46**

ENCLOSURES

191-78. 11 1/16″ square, 4″ deep. Adjustable mtg. flange 1/16-¾″. Made of heavy gauge CRS, rust-preventative ctg.

80W479 NET **6.94**

198-8. 10 1/16″ square, 3¾″ deep. Undercoated to prevent metallic resonance.

80W480 NET **5.41**

95-8 ROUND RECESSED ENCLOSURES

Upper enclosure: 10⅛″ dia; lower rlng 9 3/16″ inner dia, 11¾″ outer dia. Undercoated and patch jute lined. Rust preventative coating.

80W481 NET **5.41**

TRIM-RING BAFFLES

Baffles are one-piece recessed. 12¾″ dia, accommodate 8″ speaker. Project ¼″ from surface. Use 95-8 enclosure. 51-8 is steel. **51-8** Finished in hard baked semi-gloss white enamel. 60-8 Aluminum.

80W489 Type 51-8 NET..... **3.04**
80W490 Type 60-8 NET..... **3.43**

PLASTIC TRIM RINGS AND SQUARES

Model P900 trim ring. 12¾″ dia, accommodates 8″ speaker. Uses 95-8 enclosure. **Model P912 trim square.** 12½″ square, accommodates 8″ speaker. Uses 198-8 enclosure. Both project ⅜″ from surface. Molded in polar white high impact polystyrene plastic. Acoustical louvers provide maximum sound transmission and dispersion. Speaker mounting screws are hidden for cleaner appearance.

80W491 Type P900 NET..... **2.58**
80W492 Type P912 NET..... **2.74**

75-8 PLASTER RINGS

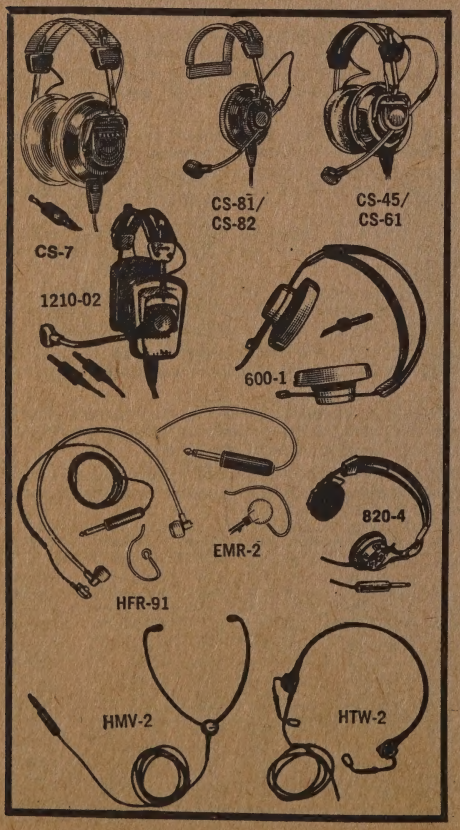
Outer dia. 11¾″, inner 9⅞″.

80W482 NET **1.97**

FD SERIES — PRE-ASSEMBLED

Baffle, speaker, and transformer preassembled. Speaker 8″ round. 3.16-oz. alnico V magnet. V.C dia. ¾″. Impedance 8 ohms. Flux density 9,200 gauss. Sensitivity 96 dB. Power handling capacity 15 W. program. Freq. response 30-15K Hz.

Stk. No.	Type	Trim Ring	Xfrmr. Volts	Each
80W483	FD70A	60-8	70.7	9.87
80W484	FD25A	60-8	25	9.87
80W485	FD70W	51-8	70.7	9.87
80W486	FD25W	51-8	25	9.87
80W487	FDP900-70	P900	70.7	9.87
80W488	FDP900-25	P900	25	9.87



TELEX HEADSETS

Type CS-7. Dual 600 ohm phones. No mike.

27F388, NET **33.00**

Type CS-78. With 50 ohm carbon mike and single 600 ohm receiver. 2 plugs.

27F389. NET **39.30**

Type CS-75. As above, but with 150 ohm noise-cancelling dynamic mike.

27F1063. NET **39.30**

Type CS-11. As above, but with no mike. Single 2-circuit plug.

27F1064. NET **24.15**

Type CS-45. Carbon boom mike. Imp: 600 Ohms; mike 20-50 Ohms. Sens. 105 ±5 dB at 1 kHz; mike −18 dB. Freq.: 20-20,000 Hz: mike 500-6000 Hz. 5′ cord. Shpg. wt. 12 oz.

27F 1066. NET **46.85**

Type CS-61. Dynamic noise cancelling boom mike. Imp: 600 ohms; mike, 150 ohms.

27 F 1065. NET..... **46.85**

Type CS-83. Imp. 275 ohm. Sensitivity 113 dB above .0002 dynes/cm² @ 1kHz. Carbon boom mike, imp. 20 ohm.

27F421. NET **52.00**

Type 2400-22. 300 ohm mike, 600 ohm hdst.

27F442. NET **39.95**

Type 600-1. 600-ohm dual phones w/ mike.

27F1062. NET **23.75**

Type 610-1. 600-ohm dual phones, no mike.

27F426. NET **7.50**

Type 610-2. 600-ohm dual phones, no mike.

27F427. NET **7.50**

Type HTX-2. 1000 ohms.

27F406. NET **17.15**

Type HTW-2. 500 ohms. Std. phone plug.

27F404. NET **17.15**

HF Series. Freq. response 60-4000Hz. With 5 foot cord and phone plug.

Stk. No.	Type	Ohms	NET
27F390	HFR-91	15	6.95
27F437	HFV-91	125	
27F376	HFX-91	1000	
27F391	HFY-91	2000	

HM Series. Featherweight under-the-chin headset. Complete with 5′ cord with ¼″ phone plug. Features adjustable tonearms and removable eartips. 5 oz.

Stk. No.	Type	Ohms	NET
27F373	HMV-2	125	10.70
27F374	HMY-2	2000	

EM Series Earsets. Complete with nylon earloop, 5 ft. cord and std. phone plug. 4 oz.

Stk. No.	Type	Ohms	NET
27F379	EMR-2	15	6.60
27F381	EMW-2	500	
27F383	EMY-2	2000	

Model 820-4. Made of high impact plastic with vinyl protected steel headband. High-flex cord, 6′-2 circuit molded plug. Wt., 12 oz. 600 ohms impedance.

27F444. NET **14.95**

Type CS-82. Imp. 275 ohm. Sensitivity 113 dB @ 1kHz. Has PTT switch. Carbon boom mike. 12′ unterminated cord.

27F422. NET **56.70**

Type 1210-02. No mike, 600 ohm headset.

27F412. NET **26.95**

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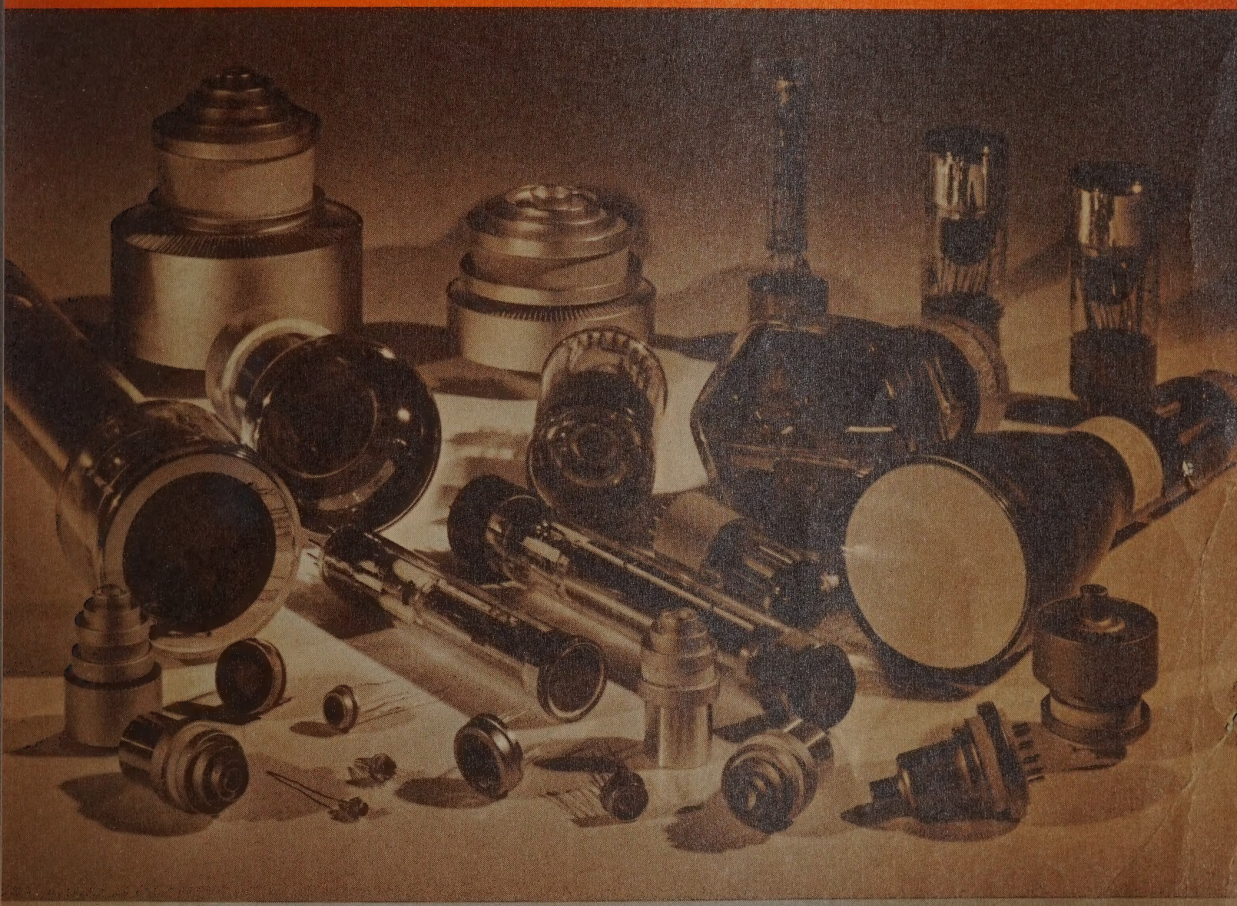

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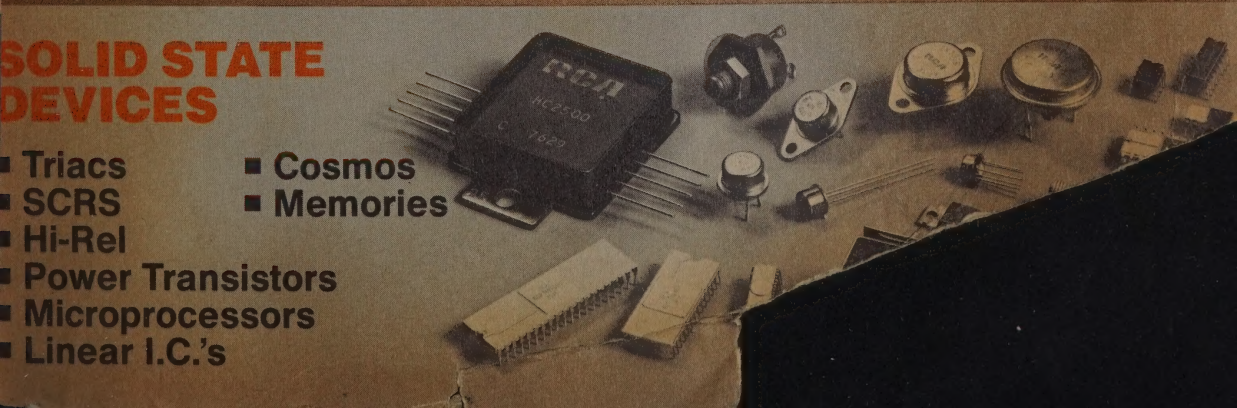

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